

Smithfield
Good food. Responsibly.

2017 Sustainability Report



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Welcome to Our 2017 Sustainability Report

The first three installments of this report provide comprehensive information on Smithfield's¹ sustainability progress and performance.

We are releasing our report in sections so that we can engage more deeply with stakeholders on a variety of topics. The full report has been prepared in accordance with the Global Reporting Initiative Standards: Core option.

Our sustainability strategy is organized by pillars that represent our key areas of sustainability focus: animal care, environment, food safety and quality, helping communities, and people. The concept of value creation is an overarching focus of our sustainability strategy, underpinning these pillars.

Unless otherwise indicated, this report pertains to our U.S. and European operations and to investments in which we have a majority (51 percent or more) interest. We do not provide performance data for contract farms because they are independent businesses. We primarily use American measurement metrics and American numbering when reporting the performance of our U.S. and international operations.

We note changes in the scope of reporting or reclassifications of data previously reported, as well as other assumptions and bases for calculations in the relevant data sections. The content in this report primarily covers 2017.

Forward-Looking Information

This report contains “forward-looking” statements within the meaning of the federal securities laws. The forward-looking statements include statements concerning our outlook for the future, as well as other statements of beliefs, future plans and strategies or anticipated events, and similar expressions concerning matters that are not historical facts. Our forward-looking information and statements are subject to risks and uncertainties that could cause actual results to differ materially from those expressed in, or implied by, the forward-looking statements.

These risks and uncertainties include, but are not limited to, the availability and prices of live hogs, feed ingredients (including corn), raw materials, fuel and supplies, food safety, livestock disease, live hog production costs, product pricing, the competitive environment and related market conditions, risks associated with our indebtedness, including cost increases due to rising interest rates or changes in debt ratings or outlook, hedging risk, adverse weather conditions, operating efficiencies, changes in foreign currency exchange rates, access to capital, the cost of compliance with and changes to regulations and laws, including changes in accounting standards, tax laws, environmental laws, agricultural laws and occupational, health and safety laws, adverse results from litigation, actions of domestic and foreign governments, labor relations issues, credit exposure to large customers, the ability to realize the anticipated strategic benefits of the acquisition of Smithfield Foods, Inc. by WH Group, the ability to make effective acquisitions and successfully integrate newly acquired businesses into existing operations and other risks and uncertainties described under “Item 1A. Risk Factors.” Readers are cautioned not to place undue reliance on forward-looking statements because actual results may differ materially from those expressed in, or implied by, the statements. Any forward-looking statement that we make speaks only as of the date of such statement, and we undertake no obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise. Comparisons of results for current and any prior periods are not intended to express any future trends or indications of future performance, unless expressed as such, and should only be viewed as historical data.

¹ All references to “Smithfield,” “we,” “us,” and “our” are terms of convenience used to refer collectively to Smithfield Foods and all of its subsidiaries. Similarly, the terms “division,” “segment,” and “business unit” may be used to refer to one or more subsidiaries, which are independent operating companies.

Dear Smithfield Foods Stakeholder,

It is with great pride that I introduce our 2017 Sustainability Report. In it you will find a wealth of information about our industry-leading sustainability program. This report reflects our unwavering commitment to doing business the right way—the sustainable way.

Sustainability is firmly ingrained in our company's culture. One of the greatest things about doing business sustainably is that it is not just the right thing to do for our planet and its people; it is also the right thing to do for our own success as a company.

Our sustainability program truly sets us apart from our competitors. It is a differentiator like no other, both for our company and products. The things we do to strengthen our sustainability efforts also strengthen our position in the marketplace.

We are also incredibly proud of our agricultural roots and our role in feeding a growing population. But, because we are an animal agriculture company, we are targeted by a small, but vocal, minority who simply do not like our business. To be blunt, these groups sometimes spread falsehoods about our industry and either intentionally ignore or do not understand the increasing challenge of feeding a growing world population.

As someone who bears witness to the selfless dedication of the tens of thousands of Smithfield employees who work tirelessly every day to do things the right way, it is disappointing and frustrating to hear these claims. The fact is, I am proud of the role modern agriculture and our company play in providing safe and nutritious food to our growing world population.

A Year of Many Achievements

Indeed, with the release of each year's sustainability report, I find myself ever prouder of our accomplishments in honoring and caring for our animals, the environment, our communities, and our people. I also become more thankful for the remarkable efforts of our more than 50,000 employees who bring our sustainability program to life, making us a better company. In 2017, we continued to grow and innovate, resulting in a wide range of accomplishments:

- We delivered on our 10-year promise of group housing for pregnant sows on company-owned farms. Today, all pregnant sows on company-owned farms globally, including our joint ventures in Mexico, are housed in groups. We were the first in the industry to make this commitment in 2007 and, since then, we have invested more than \$360 million to complete the transition.
- We launched Smithfield Renewables, a platform that unifies and accelerates our industry-leading carbon reduction and renewable energy efforts. Smithfield Renewables will lead us to achieving our ambitious goal of reducing greenhouse gas emissions 25 percent by 2025.
- We formed Smithfield Bioscience, taking a leadership position in leveraging byproducts from the meat production process for the development of pharmaceuticals, nutraceuticals, and medical devices. Over the last year, we have built relationships with pharmaceutical companies and several universities to further research and develop new biomedical technologies.
- We rolled out new programs to enhance and support employee safety as well as empower production employees to immediately report concerns or ideas for how to improve food safety and quality.

These achievements and others are the result of significant investments in our people and in the technologies and innovative processes that strengthen our position as the industry leader in sustainability.

A Company of Purpose and Principles

Guided by principles of responsibility, operational excellence, and innovation, we are rapidly advancing on our vision of becoming a world-class consumer packaged goods and protein company known for producing "Good food. Responsibly.®" We have found that success follows naturally when these principles are firmly upheld in everything we do.

And, we want to use our success to drive real change—change that can help solve local and global issues. We have remained steadfast in our social purpose of helping improve food security and end hunger by donating high-quality, nutritious food through our Helping Hungry Homes® initiative. We also provide philanthropic support for causes including education, veterans, and those that align with our sustainability program.

- **Hunger Relief**—Hunger and food insecurity unfortunately remain serious and often overlooked problems in the United States. As one of the nation's leading food producers, we are especially well-positioned to contribute to hunger relief. Smithfield donated 21.1 million servings of protein to food banks and hunger relief organizations nationwide in 2017, contributing more than 100 million servings in total since 2008.
- **Education**—At Smithfield, we believe that education has the power to dramatically strengthen communities over the long run. Since its founding in 2002, the Smithfield Foundation, a nonprofit organization that serves as our company's philanthropic arm, has focused on funding educational scholarships for children and grandchildren of employees, as well as other educational partnerships. In 2017, we provided scholarships for 144 students, totaling nearly \$660,000.
- **Supporting Veterans**—Part of Smithfield's social purpose is to honor the service and sacrifice of American veterans and their families, mainly through partnerships with nonprofits that work directly with military families, as well as employee-led events that celebrate and support local veterans. We have stepped up our commitment to veterans with Operation 4000!—a Smithfield Foods initiative to employ 4,000 military veterans, or 10 percent of our domestic workforce, by 2020. Also in 2017, Smithfield donated \$68,000 to the Virginia Veterans Services Foundation to support state programs for homeless veterans in our headquarters state. The funding is going toward a unique private-public partnership that provides one-time gap assistance for homeless veterans in the process of being housed.

Always Looking Ahead

Our sustainability successes of 2017 fuel Smithfield for even greater things in the future. That is why we are continuing to dedicate our time, talent, and resources to these important efforts.

In the coming year, we will continue making significant investments that amplify our sustainability efforts, nearly tripling what we have spent historically in capital projects designed to optimize our operations.

In short, we will continue our relentless pursuit of new opportunities to improve the way we do business—both responsibly and profitably. As we persistently innovate to maintain our leadership position in sustainability, we remain committed to producing “Good food. Responsibly.”[®]

None of our achievements in sustainability would have been possible without the hard work and passion from our Smithfield family—our dedicated employees. They work daily to ensure we are making progress, meeting our goals, and fulfilling our commitments. To each of them, I offer my deepest appreciation and admiration. Thank you.

Sincerely,



Kenneth M. Sullivan
President and Chief Executive Officer

April 30, 2018

Dear Smithfield Foods Stakeholder,

I couldn't be more pleased to share Smithfield's 2017 Sustainability Report, which highlights the progress we've made as a company through our industry-leading sustainability efforts.

Smithfield was among the first in our industry to embrace sustainability. We don't do it because it's trendy; we do it because it's the right thing to do, it's good for business, and because we genuinely care for our animals, the environment, our communities, and our people.

Now more than ever, sustainability is top of mind to our customers. More and more individual consumers want to understand how food companies are helping to solve pressing environmental and social challenges.

This year, when it comes to animal care, we are particularly excited to report that we met our 10-year commitment of transitioning all pregnant sows on company-owned farms to group housing systems.

To lessen our environmental impact, we are making great strides in reducing our demand for water, energy, and solid waste. On top of that, eight of our facilities are certified zero waste to landfill. More are coming in 2018.

Our "25 by '25" initiative is well underway to reduce our greenhouse gas emissions across our company and supply chain 25 percent by 2025. To further this effort, we launched Smithfield Renewables, our new platform which unifies and accelerates our carbon reduction and renewable energy efforts including pioneering projects that transform manure into renewable natural gas.

In food safety, we formalized an initiative that empowers all employees—regardless of their specific job responsibilities—to report any food safety or quality concerns through our "Raise Your Hand" program. In our company, we all have a responsibility for food safety, and we take that very seriously.

We are also accelerating our leadership in worker safety. Our injury rates are significantly better than the industry average, and we have now adopted new global benchmarks for our safety program to get even better.

Sustainability is our culture. None of these accomplishments—or the many others profiled in our 2017 Report—would be possible without the efforts of thousands of individuals working on our farms and in our facilities and offices across the company.

I am tremendously proud of our accomplishments, our progress, and our leadership in sustainability, and how hard our Smithfield family works every day to help us achieve our sustainability goals and makes us a better company. Together, we are pitching in to help our local communities, including food drives, volunteering at local schools and organizations, and participating in environmental cleanups and beautification projects. Last year alone, we donated more than 21.1 million servings of protein to food banks and hunger relief organizations through our Helping Hungry Homes® initiative. These efforts strengthen the communities we all call home.

From our pursuit of ambitious sustainability goals, to our support of local ecosystems and investment in tomorrow's leaders, we are making a lasting and positive impact on issues that are important to our stakeholders. We believe that the future belongs to those who are bold enough to seek out new ideas, to innovate, and to make ambitious goals—and to meet them. That's exactly what we are doing.

Smithfield's sustainability program is exceedingly dynamic. Our relentless pursuit of innovative solutions is what made us leaders in sustainability long ago. With the exponential pace of change in today's world, we embrace new technologies, ideas, and innovations to help us advance our sustainability efforts.

We are constantly thinking about the future, what's next, and how we can make it better.

We will not rest until we have uncovered and accomplished every possible way to have the most responsible operations—not only within the food or agriculture industry, but across all industries.

Sincerely,

A handwritten signature in blue ink, appearing to read "Stewart Leeth". The signature is fluid and cursive, with the first name "Stewart" and last name "Leeth" clearly distinguishable.

Stewart Leeth
Vice President of Regulatory Affairs and Chief Sustainability Officer

April 30, 2018

Innovation at Smithfield

At Smithfield Foods, we emphasize the importance of innovation—both in our products and in the way that we make them. Innovation has been central to Smithfield’s sustainability program for many years, and we are continuing to drive a culture of innovation across the company.

Innovation is also one of our company’s guiding principles, along with Responsibility and Operational Excellence.

We view innovation as much broader than simply new product development. It’s about thinking differently across all aspects of our business. Process innovation, for example, can have a faster impact on the company than product innovation. A new product can take two years to develop and launch—and the financial rewards won’t be seen for a year or two after that. But changing the way a product is made can have a much more immediate impact on the company’s bottom line or its ability to improve safety or save resources.

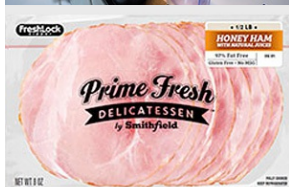
Smithfield seeks out new and innovative approaches across our operations, including the following:



Partnering with researchers to help turn byproducts from meat production into **pharmaceuticals, nutraceuticals, and medical device solutions**.



Investing in novel treatment approaches that could better control the spread of viral diseases in pigs.



Developing **product packaging** that keeps meat fresh longer, reduces plastic use by 31 percent, and minimizes transportation needs.



Teaming with Environmental Defense Fund to **optimize fertilizer usage** on grain farms that supply feed for our hogs.



Converting manure into renewable energy.



Introducing **new product categories** that emphasize **convenience**, **freshness**, and great taste.



Creating a new line of easy-to-open, individually sized **lunch products** to meet the needs of families who are always on the go.



Investing in **new technologies** that are reducing injury risks at our production facilities.

Case Study: Advancing Science with Porcine Bioproducts

For decades, Smithfield Foods has been well known for our bacons, hams, ribs, and many other packaged and fresh pork products. What many don't realize, however, is that there are other parts of the pig, including pituitary and pancreas glands, that have significant value for use in the pharmaceutical industry.

In 2017, we announced the launch of **Smithfield Bioscience**, a new strategic platform within our organization that leverages byproducts from the meat production process for the development of pharmaceuticals, nutraceuticals, and medical device solutions. Smithfield is taking a leadership position in these cutting-edge initiatives, partnering with pharma, biotech companies, and university researchers to potentially discover the next big medical breakthroughs. The goal is to create value for our own company and for others down the chain—from pharmaceutical companies developing medications to the patients who will ultimately benefit from them.

Smithfield Bioscience is concentrating on a range of biotechnology solutions in areas of human therapeutics, tissue fabrication, and regenerative medicine. In its first year, the new venture focused on building relationships with a variety of organizations: pharmaceutical companies; BioFabUSA, a program through the Department of Defense-funded Advanced Regenerative Medicine Institute (ARMI); and several universities, including the University of Wisconsin and the University of Virginia (UVA), that are working on porcine-derived medical solutions.



In early 2018, we announced a partnership with the UVA School of Engineering & Applied Science to find ways to help the nearly 1 million Americans who suffer from injuries, disorders, and diseases resulting in severe skeletal muscle loss. Patients ranging from wounded veterans to babies born with cleft lips to individuals who have suffered traumatic accidents are in desperate need of bioengineered skeletal muscle.

Smithfield Foods and UVA hope to fill that gap, leveraging porcine bioproducts to explore and advance regenerative medicine technologies. Researchers aim to develop and test a tissue-engineering process for skeletal muscle repair and regeneration using porcine-derived materials. The ultimate goal is to discover new technologies for tissue engineering and regenerative medicine to revolutionize treatments for patients with severe muscle loss. Researchers will also conduct proof-of-concept studies, which are critical before pursuing clinical trials.

Frederick H. Epstein, professor and chair of UVA's Biomedical Engineering Department and professor of radiology and medical imaging, describes the partnership as "engineering at its best, seeking to leverage the strengths of both organizations to ultimately use engineered cells and tissues as products that will benefit patients."

This research is part of a larger consortium of about 100 organizations, including Smithfield and UVA, coming together under the ARMI, which is working to accelerate regenerative tissue research and creating state-of-the-art manufacturing innovations in biomaterial and cell processing for critical military and civilian needs.

George Christ, a UVA professor of biomedical engineering and orthopedic surgery, Mary Muienburg Stamp professor of orthopedic research in the

School of Medicine, and co-director of UVA's new \$3 million Center for Advanced Biomanufacturing, notes that there has been tremendous money and time spent on research and development in tissue engineering and regenerative medicine. "But the ability to manufacture the cells, tissues, and biomaterials needed on a scale large enough to truly transform patient care doesn't exist," he says. "By partnering with Smithfield Bioscience and leveraging porcine bioproducts, we are hoping to help change all of that."

"Smithfield is uniquely positioned to capture benefits within the pharma and biotech industries in part because we are a longstanding leader in sustainability and renewables with broad geographic presence and strong manufacturing expertise," says Courtney Stanton, vice president of Bioscience and Renewables. "These capabilities—our vertical integration, premium genetics, and our reputation for transparency and quality—enable Smithfield to help the U.S. medical and pharmaceutical industries achieve significant, scalable developments in biologics."

Perhaps the next "big thing" in medical innovation will be the ability to transplant hog livers, kidneys, and other organs into humans. Already, doctors are using pig valves to replace damaged heart valves in cardiac patients. It may not be long now before entire porcine organs will be able to be transplanted into humans. Smithfield wants to be a part of transforming the future of medicine and helping researchers showcase the role porcine products can play in improving patient care.

In an effort to align ourselves with the future of transplantation, the [Smithfield Foundation](#) recently offered a matching grant, up to \$75,000, to the United Network for Organ Sharing (UNOS). This nonprofit organization manages the nation's organ transplant system under contract with the federal government. UNOS is working on an innovative pilot project to automate the donor process and thereby advance organ availability and transplantation—ultimately saving lives

Partnerships are key to the role Smithfield can play in driving future medical advances. "Our commitment to innovation and sustainability stretches across all aspects of our company," says Kenneth M. Sullivan, president and CEO of Smithfield Foods. "Smithfield Bioscience reflects these same values by finding new uses for byproducts that benefit the health and well-being of others."



We're the No. 1 U.S. Producer of Packaged Pork Products

Smithfield Foods, Inc., a wholly owned subsidiary of WH Group Limited, is the world's largest pork processor and hog producer. Sales exceeded \$15 billion in 2017.

We are the leader in numerous packaged meats categories with popular brands including Smithfield®, Eckrich®, Nathan's Famous®, Farmland®, Armour®, Farmer John®, Kretschmar®, John Morrell®, Cook's®, Gwaltney®, Carando®, Margherita®, Curly's®, Healthy Ones®, Morliny®, Krakus®, and Berlinki®.

Headquartered in Smithfield, Virginia, our business operations are organized into four segments:

- Packaged Meats;
- Fresh Pork;
- Hog Production; and
- International.

The International segment is comprised mainly of wholly owned and joint venture operations in Poland, Romania, Mexico, and the United Kingdom.

Our products are sold to more than 3,800 customers in 44 countries on every continent (except Antarctica), including supermarket and hotel chains, wholesale distributors, restaurants, hospitals, and other institutions. We also sell to companies that further process our meats into consumer food products.

WH Group Limited, based in Hong Kong, trades on the Hong Kong Stock Exchange and has shareholders around the world. For more information on WH Group and its operations, visit www.wh-group.com.

Companywide Snapshot	2017	2016
Employees	51,651 ¹	50,702
Pounds of fresh pork and packaged meats sold	9.2 billion	8.6 billion
Market hogs produced	19.9 million	18.9 million
Sales	\$15.3 billion	\$14.3 billion
Working capital	\$2.1 billion	\$1.5 billion
Net debt ²	\$2.0 billion	\$1.4 billion
Shareholders' equity	\$5.8 billion	\$4.9 billion
Net debt to total capitalization ³	25%	23%

¹ Workforce figure as of the end of 2017.

² Net debt is equal to long-term debt and capital lease obligations, including current portion, less cash and cash equivalents.

³ Total capitalization is equal to net debt plus shareholders' equity.



Our Goals and Sustainability Targets

Smithfield's goals and targets are designed to hold ourselves accountable to our peers, suppliers, customers, and other key stakeholders. We believe it's important to share our progress, including those areas where we need improvement.

We consider a facilities-based target "achieved" for 2017 if 100 percent of locations have met the standard. Targets are noted as "on track" if they are less than 100 percent achieved but making appropriate progress.

KEY: **Achieved** | **On Track** | **Needs Improvement**

Animal Care GOAL: Keep animals safe, comfortable, and healthy

TARGETS

Each applicable facility to maintain a systematic program for animal care based on the North American Meat Institute's (NAMI) Recommended Animal Handling Guidelines and Audit Guide.

Each farm division to continue to maintain and implement updates to the company's Animal Care Management System and achieve annual audit score of excellent (97%–100%).

Smithfield to maintain U.S. Department of Agriculture (USDA) Process Verified Program (PVP) certification.

All live animal suppliers to be certified to Pork Quality Assurance® Plus (PQA® Plus).

All live animal transporters to be certified to Transport Quality Assurance® (TQA®).

Complete conversion to group housing systems for pregnant sows on U.S. company-owned farms by the end of 2017.

Complete conversion to group housing systems for pregnant sows on U.S. contract farms and in joint ventures worldwide by 2022.

Report antibiotic usage on an annual basis.

2017 RESULTS

100% of facilities maintained systematic programs.

100% of farms follow Smithfield's Animal Care Management System. Average audit score for 2017 was 97.0%.

100% of plants maintained PVP certification.

98% of live animals were delivered by PQA Plus certified suppliers; 96% of supplier locations were site assessed.

100% of drivers delivering animals to processing plants were TQA certified.

100% of sows in company-owned group housing.¹

100% of operations in Poland and Romania and our joint ventures in Mexico have completed their conversions.

Reported use for the past seven years.

Environment GOALS: Reduce absolute greenhouse gas (GHG) emissions by 25%² over 2010 by 2025; reduce natural resource demand; 100% compliance, 100% of the time

TARGETS

From 2014 to 2020 (normalized):
 Reduce GHG emissions 5%.
 Reduce energy use 5%.
 Reduce water use 10%.
 Reduce solid waste sent to landfill 10%.

Reduce notices of violation (NOVs) to zero.

By 2018, 75% of grain purchased by Smithfield to be grown with efficient fertilizer and soil health practices.

2017 RESULTS

Since 2014 (normalized):
 GHG emissions down 7.4%.
 Energy use up 1.9%.
 Water use down 2.5%.
 Solid waste down 7.4%.

Received 13 NOVs and \$17,545 in fines.

69% of grain sourced from fertilizer optimization program participants.

Food Safety & Quality GOAL: Deliver safe, high-quality meat products

<p>TARGETS</p> <p>No incident requiring USDA recalls.</p> <p>Maintain Global Food Safety Initiative (GFSI) certification at all applicable facilities.</p>	<p>2017 RESULTS</p> <p>3 USDA recalls in the United States.³</p> <p>100% of applicable facilities were GFSI-certified.</p>
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Helping Communities GOAL: Support our communities

<p>TARGETS</p> <p>Each facility/farm division to participate in four community events per year for charities/nonprofits. At least one event per year must include a stakeholder presentation.</p> <p>Maintain our Helping Hungry Homes® program donations of product to those in need.</p>	<p>2017 RESULTS</p> <p>98% of facilities/farm divisions met or exceeded target.</p> <p>Donated 21.1 million servings of protein.</p>
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People GOAL: Reduce employee injury rates

<p>TARGETS</p> <p>Continue to reduce Total Incident Frequency Rate (TIFR). Maintain levels below general industry average.</p> <p>Achieve annual Days Away, Restricted, or Transferred (DART) results better than the general industry average.</p> <p>Increase safety engagement level to 30% of employees.⁴</p>	<p>2017 RESULTS</p> <p>TIFR improved by nearly 8%; 2017 rate was lower than 2016 national averages for animal slaughtering and processing industry, and slightly higher than national averages for all industries, including state and federal government.</p> <p>DART improved by almost 3%; 2017 rate was lower than 2016 national averages for animal slaughtering and processing industry, but higher than national averages for all industries, including state and federal government.</p> <p>Achieved safety engagement level of 48%.</p>
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¹ Recent sow farm acquisitions will be converted to group housing systems in a timely manner.
² Elsewhere in this report, we provide details on several of the relevant projects we are pursuing to meet our greenhouse gas (GHG) emissions target. We will report data on progress for multiple years at a time as we work toward the 2025 deadline.
³ In 2017, we also had a recall in Poland related to a labeling issue.
⁴ In early 2018, we increased our safety engagement target to 40 percent.



Measuring Our Performance

Smithfield believes transparency is central to ensuring accountability. Reporting helps stakeholders understand our performance over time and our performance relative to others in our industry.

Below are some key indicators from our U.S. operations that we feel are particularly important to internal and external stakeholders, as well as to Smithfield as a company. Data for 2014 and later are reported by calendar year; data for 2013 cover our old fiscal year (May 1 through April 30) unless otherwise noted. You will find additional domestic data in the relevant sections of this site.

Animal Care	2017	2016	2015	2014	2013
Sows in Company-Owned Group Housing (%) ¹	100	87.0	81.8	71.4	54.0
Antibiotics Used (milligrams per pound of live weight produced) ²	78	118	152	142	151
Company-Owned Market Hog Transportation Accidents ³	16	18	6	4	4

Environment⁴	2017	2016	2015	2014	2013
Normalized ⁵ Greenhouse Gas (GHG) Emissions ⁶ (metric tons CO ₂ e per cwt ⁷)	0.0098	0.0100	0.0098	0.0106	0.0145
Normalized Energy Use (gigajoules per cwt)	0.112	0.094	0.091	0.110	0.124
Normalized Water Use (gallons per cwt)	62.2	61.7	61.4	63.8	76.2
Normalized Solid Waste to Landfill ⁸ (pounds per cwt)	1.20	1.27	1.27	1.30	1.85
Notices of Violation	13	18	11	18	17
Significant Fines	\$17,545	\$6,500	\$400	\$400	\$256,000
Food Safety and Quality	2017	2016	2015	2014	2013
Food Safety Expenditures ⁹	\$52.5 million	\$42.2 million	\$5.5 million	\$32 million	\$8.4 million
U.S. Department of Agriculture Recalls ¹⁰	3	0	0	0	2
Helping Communities	2017	2016	2015	2014	2013
Smithfield Foundation Scholarships	\$657,765	\$395,699	\$298,137	\$320,000	\$284,500
Food Donations (servings)	21.1 million	17.6 million	10.2 million	13.7 million	8.4 million
People¹¹	2017	2016	2015	2014	2013
Total Incident Frequency Rate (TIFR)	3.46	3.75	4.08	3.45	3.47
Days Away, Restricted, Transferred Rate (DART)	2.50	2.57	2.90	2.48	2.53
Days Away from Work Illness and Injury Rate (DAFWII)	0.62	0.77	0.79	0.64	0.73
OSHA Notices of Violation	12	29	11	45	31
OSHA Penalties ¹²	\$30,158	\$82,594	\$49,095	\$243,840	\$149,210

¹ All sow housing figures are reported by calendar year. Recent sow farm acquisitions will be converted in a timely manner.

² Annual milligrams per pound represents the total amount of antibiotics administered to the animals divided by the total weight of live hogs produced.

³ In 2017, these 16 accidents resulted in the deaths of 348 hogs. Overall, 89,953 truckloads of company-owned hogs were transported from farms to processing plants. Nearly all of the 2016 and 2017 accidents resulting in hog fatalities involved third-party contract haulers, which Smithfield hires to transport our animals between farms and processing plants. We have been working with these trucking companies and their employees to provide help and training that we hope will decrease the number of incidents. Data for 2017 includes additional volume resulting from our Farmer John acquisition.

⁴ Figures are reported in calendar year and do not include data from acquisitions made in 2017.

⁵ Normalized performance metrics are expressed as a rate (e.g., gallons per 100 pounds of product). This allows us to track how efficiently we are using resources to produce our products.

⁶ GHG totals do not include hog production operations.

⁷ CWT equals 100 pounds of product.

⁸ Solid waste totals do not include hog production operations. At our hog production operations, solid waste is typically hauled away for a fixed fee; as a result, reliable weights are not available.

⁹ In 2017, we adjusted our calculations for expenditures to better reflect all food safety-related upgrades. As a result, we have restated our 2016 expenditure.

¹⁰ In 2017, we also had a recall in Poland related to a labeling issue.

¹¹ All people figures are reported by calendar year. Safety rates are calculated per 100 employees. After publication of our 2016 report, Smithfield revised our metrics slightly for the year: DART went from 2.65 to 2.57; DAFWI went from 0.75 to 0.77; TIFR stayed the same at 3.75. Data for 2017 includes locations acquired as part of our purchase of Farmer John.

¹² We adjusted the 2016 penalty total upward to add a settlement for an April 2016 incident that was finalized in early 2018.



Our Commitment to Animal Care

As the world's largest pork producer, we have a responsibility to be the leader in animal care. We believe that Smithfield¹ plays an important role in guiding our industry toward even higher standards.

We have taken a number of bold steps that have placed us at the forefront of the hog production industry in the United States, from the conversion of housing for pregnant sows on company-owned farms to our position on—and our transparency around—the use of antibiotics.

Our Animal Care Goal

- Keep animals safe, comfortable, and healthy

Our Animal Care Targets

- Each applicable facility to maintain a systematic program for animal care based on the North American Meat Institute's (NAMI) Recommended Animal Handling Guidelines and Audit Guide
- Each farm division to continue to maintain and implement updates to the company's Animal Care Management System and achieve annual audit score of excellent (97%–100%)
- Smithfield to maintain U.S. Department of Agriculture (USDA) Process Verified Program (PVP) certification
- All live animal suppliers to be certified to National Pork Board's (NPB) Pork Quality Assurance® Plus (PQA® Plus)
- All live animal transporters to be certified to NPB Transport Quality Assurance® (TQA®)
- Complete conversion to group housing systems for pregnant sows on U.S. company-owned farms by the end of 2017
- Complete conversion to group housing systems for pregnant sows on U.S. contract farms and in joint ventures worldwide by 2022
- Report antibiotic usage on an annual basis

We have been making adjustments to our farms to improve the quality of life for our animals while making our business even more competitive for the future. Our robust Animal Care Management System, which guides the care of our hogs at every stage of their lives—from gestation to transportation to processing—promotes their safety and overall well-being. All company-owned farm employees, contract hog producers, and plant employees who work with live animals must follow Smithfield's Animal Care Management System, and we take steps to verify their compliance. We have a zero tolerance policy for animal abuse or mishandling.

All hogs that arrive at our plants, whether company-owned or not, are traceable to farm of origin.

Hog Production: 2017 at a Glance

- World's largest hog producer
- U.S. domestic sows: 932,000
- U.S. market hogs produced: 16.4 million
- Primary breeds raised: Durocs (sires); Large White, crossbred with Landrace (females)

¹ All references to "Smithfield," "we," "us," and "our" are terms of convenience used to refer collectively to Smithfield Foods and all of its subsidiaries. Similarly, the terms "division," "segment," and "business unit" may be used to refer to one or more subsidiaries, which are independent operating companies.

Value Creation

Treating animals with care isn't just the right thing to do; it's also the right thing to do for our business. The healthier our animals, the healthier our company.

Our animal care management systems, policies, and procedures are designed to ensure the proper treatment of our hogs. Our animal care performance can influence our reputation and the relationships we have with customers and consumers. It can also influence production levels: Healthy animals are more resistant to disease and gain weight faster, and healthy sows have larger and stronger litters.

Contract growing relationships provide opportunities for many hundreds of farmers to diversify their family farms, make investments for the future, and stabilize their incomes. We also create opportunities for thousands of grain farmers across the United States and internationally who grow corn, wheat, soybean meal, sorghum, and other feed that we purchase in huge quantities. We are one of the single largest consumers of U.S. feed ingredients in the world. We also purchase a wide array of non-traditional feed ingredients, such as bakery byproducts, distillers' grains, and wheat bran, which might otherwise end up in landfills. Learn more in the [Environment](#) section.

By the Numbers	2017
Contract grower payments	\$362 million
U.S. feed purchases	\$1.5 billion
International feed purchases	\$359.6 million

As a vertically integrated company, we are uniquely positioned to deliver products that meet the demands of our customers in the United States and abroad. (We raise about half of the pigs needed to make our products.) Vertical integration allows us to adapt and make changes at a faster pace than others in the industry, enabling us to be responsive to customer requests in areas such as group sow housing conversion, antibiotics use, and pigs raised without ractopamine, which is important for some export and domestic markets.

Contract Growers and Suppliers

One of the keys to our success is the business relationships we form with independent farmers, whether they contract with us to grow our animals or contract with us to supply animals directly to our slaughter plants. These relationships provide a level of financial stability for the contract growers, offsetting potentially volatile commodity markets.

Contract growers are an important part of our business structure, and they are as valuable to us as our own employees.



Contract growers, who are private landowners and independent farmers, are paid under agreements that typically run for multiple years. Smithfield assumes the market risks and owns the hogs. The growers are protected from market fluctuations and receive a predictable income stream.

The contract grower provides the following:

- A farm site that meets all the relevant local, state, and federal legal, regulatory, and permitting requirements;
- Animal production facilities that meet Smithfield's contract and animal care requirements;
- Day-to-day management of the farm, including animal care and environmental management; and
- Financing for the construction and operation of the farm.

We provide the following:

- All the animals and feed;
- Transportation of all animals to and from the grower's farm;
- Veterinary support services;
- Ongoing advice to ensure the animals are properly cared for; and
- A predictable and stable payment based on agreed-upon contract terms.

Another key to operational excellence is the business relationships we form with other hog suppliers from whom we procure nearly 50 percent of our

market hog supply. We work with more than 1,150 suppliers of various production sizes to supply eight processing plants throughout the Midwest and East Coast.

These suppliers are also required to adhere to the following expectations:

- **Traceability.** All pigs must be traceable to farm of origin.
- **National Pork Board's (NPB) Transport Quality Assurance® (TQA®) certification.** All truck drivers must be TQA certified. This is verified on each load.
- **NPB's Pork Quality Assurance® Plus (PQA® Plus) certification.** All key management personnel must have PQA Plus certification. All premises, including nursery units and finishing sites, must have site status through the PQA Plus program.
- **Common Swine Industry Audit.** Procedures should follow the elements that are described in the [recently adopted industry audit standards](#), including, but not limited to, training programs and documentation of employees who have received training; setting up standard operating procedures as listed in the audit standards; documentation that the program is being monitored; and documentation of corrective action from findings.

Hog Ownership

Type of Farm	We Own Pigs	We Own and Operate Farm
Company-owned	✓	✓
Independent/contract grower	✓	✗
Independent/direct supplier	✗	✗

Animal Care Management

As the world's largest producer of pork, we raise pigs on approximately 530 company-owned farms in the United States alone.

In addition, we do business with approximately 2,100 **contract hog farms** (also known as contract growers or contract producers) that raise company-owned pigs in the United States. Our meat processing facilities also purchase pigs from large numbers of **other producers**.

Smithfield Animal Care Policy



Our Animal Care Policy, which applies to company-owned farms, contract producers, and processing plants, underscores our commitments to providing the following:

- Shelter that is designed, maintained, and operated to provide a physical environment that meets the animals' needs;
- Access to adequate water and high-quality feed to meet nutritional requirements;
- Humane treatment of animals that enhances their well-being and complies with all applicable laws and regulations;
- Identification and appropriate treatment of animals in need of healthcare;
- Use of humane methods to euthanize sick or injured animals not responding to care and treatment; and
- Internal and external (third-party auditing) resources to verify, enhance, and update current company practices.

Smithfield Foods has a companywide Animal Care Committee that ensures that our animal policies are properly implemented. The committee, which reviews the policies at least once annually, communicates the importance of the program throughout the organization.

(Our international operations have their own animal care policies, which are modeled after our domestic operations.)

Adherence to the Animal Care Policy is a condition of employment at Smithfield and a condition of agreements with contract producers. Contract growers found to be in violation of these agreements must take appropriate corrective actions. Those growers who fail to take corrective action or who are found to condone willful abuse or neglect of animals are subject to immediate termination. In the past 14 years, only a nominal number—even less than 1 percent—of contract growers have been terminated for failing to manage their farms in accordance with their contract commitments. (We did not have any contract terminations in 2014, 2015, or 2016, and terminated just one in 2017.) We encourage any Smithfield employee who observes neglectful or abusive behavior to anonymously contact our toll-free reporting hotline.

Biosecurity

Biosecurity, or procedures to prevent the spread of disease, is critical to our operations and to the safety of the animals. Our biosecurity policy covers the animal production process at individual farms, as well as the movement of vehicles, animals, personnel, and equipment between farms.

We have procedures to prevent contaminants from being brought onto farms, including a “shower-in” process before entering a sow farm. All employees and visitors must take a shower and change into clean clothing before entering the farm. A “shower-out” procedure is also required when leaving.

Equipment and supplies delivered to the sow farm must be disinfected prior to being allowed inside the farm complex. Additional biosecurity measures are taken on farms where we breed our genetic lines of males and females and at locations where semen collection for the artificial insemination process occurs.



The Animal Care Chain



All hog farms must adhere to the guidelines of the National Pork Board (NPB) Pork Quality Assurance® Plus (PQA® Plus) program. PQA® Plus provides guidelines for proper care of animals to ensure optimal health and well-being. It includes on-farm assessments and third-party verification that proper care is being implemented. In addition, the Common Swine Industry audit verifies that we are following industry standards and that our farms are compliant with our Animal Care Policy.



All drivers who transport our animals, including contract and supplier drivers, must be trained and certified under the National Pork Board's Transport Quality Assurance® (TQA®) program. TQA® provides education and guidelines for transporters, producers, and animal handlers on all aspects of hog handling and transportation.



Animals are treated with respect at processing plants, just as they are when growing at farms. Each plant uses a systematic approach to animal care that includes the Smithfield Animal Handling & Welfare Quality Management Plan, a comprehensive training program, and internal and third-party audits.

Animal Care Management Requirements

To implement our Animal Care Policy and make sure that animals are properly cared for, we rely on a comprehensive system of internal and third-party policies, procedures, and auditing platforms. Some of the requirements are specific to our hog farms; others are expressly for our processing plants. We constantly assess these tools to be sure that we are following the latest science that promotes the most humane treatment of animals.

On Farms

All our farms are 100 percent compliant with the National Pork Board's Pork Quality Assurance® Plus (PQA® Plus) program, which serves as the basis for the [Common Swine Industry Audit](#) (see glossary below).

Trained internal auditors conduct animal care audits at least once annually on company-owned farms. Our yearly target is for all seven of our farm divisions to achieve audit scores of "excellent" (97 percent or above). In 2017, three farm divisions met that goal, with another two ranking as "commendable," and two others ranking as "good." None scored below 92 percent.

External auditors, who are retained by Smithfield, conduct random, unannounced visits at company-owned farms to perform the [Common Swine Industry Audit](#). About 70 company-owned farms were audited by these third parties in 2017. The external auditors are looking at big picture issues and ensuring that our internal auditors are calibrated with each other. Smithfield has also hired external auditors to begin conducting audits at independent farms.

Company-Owned Farm Audits	2015	2016	2017
Average Audit Score	95.3%	95.0%	97.0%
Number of Audits	425	399	464

All farms are audited annually; in some cases, farms may be audited as groups, resulting in a lower number. A small number of farms were not audited in 2016 because there were no pigs present due to sow housing conversion, cleanups, or other factors. The number of audits increased in 2017 due to the acquisition of new farms.

Common Swine Industry Audits			
Type of Farm	2015 Average Score	2016 Average Score	2017 Average Score
Company-owned	97.5%	96.4%	96.3%
Independent/contract grower	92.8%	95.2%	92.6%
Independent/direct supplier	91.9%	94.4%	92.4%

At Plants

Our plant management system follows the standards set in the U.S. Department of Agriculture's (USDA) Process Verified Program (PVP) and monitors several key aspects of production, including traceability to farm of origin, PQA® Plus program adherence on farms, and Transport Quality Assurance® (TQA) status of livestock haulers.

Our programs help ensure that the animals that come to the plants were raised where management systems address health, animal well-being, and proper use of antibiotics.

A third-party company performs annual audits at our plants based on North American Meat Institute (NAMI) guidelines. In addition, all plants are audited multiple times a day by Smithfield employees and by the USDA, which has representatives stationed inside each of our locations; these audits are scored on a pass-fail basis.

Company Plant Audits

2015 Score	99.6%
2016 Score	99.5%
2017 Score	99.0%

Animal Care Management Glossary

- **Smithfield Animal Care Policy.** Our [Animal Care Policy](#) applies to company-owned farms, contract producers, and processing plants, underscoring our commitments to shelter, food/water, humane treatment, healthcare, euthanasia, and auditing.
- **Smithfield Animal Care Management System.** Smithfield created this system for our company-owned farms nearly two decades ago in consultation with two of the world's foremost experts in animal behavior and handling. Our on-farm management system includes employee training and audits to make certain that our Animal Care Policy is adhered to and that any issues are swiftly corrected.
- **Smithfield Animal Handling & Welfare Quality Management Plan.** Used at all Smithfield processing plants, this plan reinforces our Animal Care Policy for the hogs that are brought to our facilities for slaughtering.
- **Common Swine Industry Audit.** Created in 2014 as a [common audit platform](#) for pork producers, packers, and processors. Audit tools build on the existing Pork Quality Assurance® Plus (PQA® Plus) program.
- **National Pork Board's (NPB) Pork Quality Assurance Plus (PQA Plus) Program.** [PQA Plus](#) is an educational program representing the industry's commitment to continuous improvement of production practices. It addresses food safety, animal well-being, environmental stewardship, worker safety, public health, and community.
- **North American Meat Institute's (NAMI) Recommended Animal Handling Guidelines and Audit Guide.** The [Guidelines](#), which were revised in early 2017, were first developed by [Colorado State University's Dr. Temple Grandin](#), who has provided Smithfield with her animal welfare expertise for many years. All slaughter facilities are audited, at minimum, once per shift using these guidelines by auditors who have been trained according to the standards of the Professional Animal Auditor Certification Association (PAACO).
- **Professional Animal Auditor Certification Organization (PAACO).** [PAACO's](#) mission is to promote the humane treatment of animals through education and certification of animal auditors. The organization provides uniform minimum standards for auditors.
- **Traceability.** The ability to trace our hogs back to farm of origin.
- **NPB's Transport Quality Assurance® (TQA®) Program.** [TQA](#) is a framework that helps transporters, producers, and handlers understand how to handle, move, and transport pigs and the potential impacts of those actions on pig well-being and pork quality.
- **U.S. Department of Agriculture's (USDA) Process Verified Program (PVP).** The [Process Verified Program](#) is a third-party verification service designed to provide agricultural suppliers with labeling and marketing tools that assure customers of the consistent quality of the products they purchase.

Training

All employees who work with livestock undergo extensive animal care training. On farms, for example, new employees undergo training during an initial 90-day probationary period. These new workers must demonstrate competence in animal handling techniques and a thorough understanding of

our Animal Care Policy before the probationary period ends. We provide written manuals and videotaped training programs in English and Spanish, along with on-the-job training and mentoring with experienced animal handlers. Regular training programs continue throughout an employee's career at Smithfield.

We routinely offer training sessions on animal care and handling guidelines for customers, universities, industry groups, and trade associations. We also host annual training and instruction activities for the [Professional Animal Auditor Certification Organization \(PAACO\)](#), whose mission is to promote the humane treatment of animals through education and certification of animal auditors. PAACO provides uniform, scientifically sound standards to auditors through education, training, and codes of conduct.

Antibiotics Use

We believe “Good food. Responsibly.®” means providing people with safe food they are confident serving to their families. One way we honor that promise is through strictly controlled use of antibiotics to care for our animals and to provide consumers with the safest food possible.

We understand that potential antibiotic resistance is a public health concern. That’s one of the reasons why we led the industry by voluntarily aligning our antibiotics policy with new U.S. Food and Drug Administration (FDA) guidelines in 2015—about 18 months before the federal requirement to cease using medically important antibiotics for growth promotion took effect.

Antibiotic use is an extremely complicated issue, and we want to help our stakeholders understand the nuances without oversimplifying the facts. Read more in our [Antibiotics Q&A](#).

Let’s Start with the Basics

In the context of our industry, there are two kinds of antibiotics: those used both in human and animal health (medically important antibiotics) such as penicillin, for example; and those that are only used in animal health (nonmedically important antibiotics). We use both types of antibiotics, as authorized or prescribed by company veterinarians, to control, treat, and prevent disease. We do not, however, use medically important antibiotics to promote growth or for feed efficiency on farms.

At Smithfield, we use antibiotics to do the following:

- **Control disease.** We administer antibiotics to our animals for a limited period of time to reduce the chance of spreading a specific disease following exposure.
- **Treat disease.** We administer antibiotics to treat sick animals.
- **Prevent disease.** We administer antibiotics to healthy animals when they may be exposed to a particular disease that exists on our premises or is likely to occur.
- **Promote growth.** While we do not use medically important antibiotics to promote growth, we do use animal-only antibiotics for growth promotion and feed efficiency.

Our Commitment

Our robust animal health management program, overseen by staff veterinarians, unifies our commitment systemwide. It maintains judicious use of antibiotics to produce healthy animals and make our food supply safe. The independent animal suppliers we work with are encouraged to judiciously administer all medications as well. Our veterinarians ensure sound animal care practices and good nutrition, perform preventive health examinations, authorize or prescribe vaccines and antibiotics, and are proactive in assessing potential health threats.

Smithfield’s Antibiotics Task Force, a cross-functional group composed of employees from hog production, corporate affairs, food safety and quality, sales, and marketing, discusses antibiotics issues from a companywide perspective to find ways to maintain Smithfield’s responsible leadership position on antibiotics.

Preventive Management

All antibiotics used on our farms are pre-approved by a licensed veterinarian, and a written authorization or prescription is also required before they are administered to any animal. Antibiotics are administered under veterinary supervision after careful evaluation of groups of pigs, herd history, and diagnostic testing to determine the amount and type of medication necessary for the protection of pig health and welfare. Read more about [prevention](#).

Read about our new line of products from animals that have never been given antibiotics.

Supporting Antibiotics Research

Researchers at [Virginia Tech College of Agriculture and Life Sciences](#) and the [Virginia-Maryland College of Veterinary Medicine](#) have been using a \$1.4 million Smithfield grant to investigate alternatives to antibiotics that enhance animal well-being and production efficiency in swine-rearing operations.

The contribution, which was made over three years, paid for three projects that aim to improve animal health, reduce the use of antibiotics, and find alternative production methods for hog farming.

Smithfield veterinarians and other members of our animal science and technology team meet regularly with the university researchers to discuss the ongoing studies and collaborate on real-world examples and implementation.



Employees who are responsible for administering antibiotics are thoroughly trained to follow all applicable laws including the FDA's antibiotic usage policies and antibiotic withdrawal timelines, which specify the number of days that must pass after the last antibiotic treatment before the animal can enter the food supply.

Verifying the implementation of our policies on farms is paramount. We keep records to track use of antibiotics on farms and began voluntarily publicly reporting antibiotics usage in 2007. Today, we're the only U.S. hog producer to provide this information. And to ensure we're always improving animal care and providing high-quality, safe food, we conduct research to identify new technologies and procedures that improve animal health while minimizing antibiotic use.

Antibiotics Q&A

There is a lot of discussion surrounding the use of antibiotics in animal agriculture. Here are the answers to a few of the most frequently asked questions on this topic.

Is the use of antibiotics in animal agriculture regulated?

Yes. The use of antibiotics in animal agriculture actually helps to keep our food supply safe, since safe food comes from healthy animals. Also, by law, any person who administers antibiotics to animals used for food must adhere to the specific antibiotic's withdrawal time. The withdrawal period, which is established by the U.S. Food and Drug Administration (FDA), specifies the number of days that must pass after the last antibiotic treatment before the animal can enter the food supply. Moreover, FDA and the U.S. Department of Agriculture (USDA) have a coordinated surveillance program to help ensure compliance.

What are the main uses of antibiotics in animal agriculture?

Antibiotics are used in animal agriculture for four main reasons: to treat sick animals, to control disease, to prevent animals from becoming sick, and to promote growth. There are also two main kinds of antibiotics: those used both in human and animal health (which some have termed “shared-use” or “medically important” antibiotics), and those only used in animal health. It is important to note that many of the antibiotics used in both human and animal health also happen to be the most effective in treating sick animals, which is why the ability to continue the use of these “shared-use” medicines in animal agriculture is so important.

Without these medicines, veterinarians would be unable to effectively prevent or control animal diseases. This increases the risk that the animal could enter our food supply while it is not completely healthy, which may increase the risk to public health. It also would undermine our veterinarians’ ability to protect animal health and prevent animals from suffering from preventable diseases.

Many chicken producers are going to stop using antibiotics altogether in poultry production. Why can’t you do the same in pork?

There are biological differences between birds and pigs with regard to the immune system and production process. For example, chickens have a very short production cycle (five to six weeks) compared with pigs (five-and-a-half months), so they don’t have as long a time to be exposed to various disease agents. Even with this difference, it should be noted that only a part of the poultry supply is produced without antibiotics because it is more expensive, and when a flock requires antibiotic treatment, the chickens will be treated and sold as a conventionally raised product.

How are antibiotics used on farms?

We use several different categories of antibiotics, as authorized or prescribed by veterinarians, to control, treat, and prevent disease. We do not, however, use medically important antibiotics to promote growth or for feed efficiency with our animals. We have also voluntarily aligned our animal health policies with the [U.S. Food and Drug Administration \(FDA\) guidance for industry](#).

All use of antibiotics is pre-approved by a licensed veterinarian, and a written authorization or prescription is also required before antibiotics are administered to any animal. Our production management team is thoroughly trained to follow all applicable laws including the FDA’s antibiotic usage policies and [antibiotic withdrawal timelines](#).

Verifying diligence on farms is paramount. We keep records to track use of antibiotics and began voluntarily reporting antibiotics usage in 2007. Today we’re the only U.S. hog producer to report this information.

Antibiotics Reporting

We report antibiotics use data based on the total active ingredient given to the pigs through feed, as well as via water and injections. In 2017, the total amount was 78 milligrams per pound.

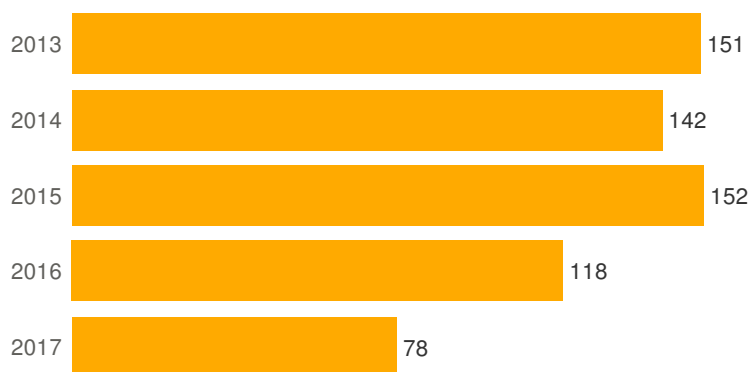
In recent years, we have been challenging ourselves to improve our systems and processes around antibiotics. Our ultimate aim: reduce our use of antibiotics while maintaining the health and safety of the animals and food that we produce.

The amount of antibiotics we use varies from year to year based on a variety of factors including weather conditions, inventory decisions, type of antibiotic used (feed, water, or injected), the prevalence of diseases, and active ingredient concentration. Notwithstanding these annual variations, we believe we have lowered the need for antibiotics, demonstrated by the general downward trend in the metric over the last couple of years. This reduction has been accomplished through innovative efforts on our farms, including improvements to our production processes and the judicious use of vaccines. Our veterinarians and dedicated team of animal care experts also partner with university researchers to study opportunities for continual improvement.

In addition, we have been working with others in our industry, as well as other stakeholders, to come up with a standardized approach to antibiotics reporting. What is the best unit of measurement? What data would be most meaningful, and understandable, to the general public? These are the types of questions that we are working to answer.

Antibiotics Used

(milligrams per pound of live weight produced)



Annual milligrams per pound represents the total amount of antibiotics administered to the animals divided by the total weight of live hogs produced. Data for 2013 covers May 1 through April 30. Data for 2014 and after are for calendar year.

Antibiotics Regulations

Every antibiotic we use is regulated by the U.S. Food and Drug Administration (FDA). We comply strictly with all antibiotic withdrawal timelines, as established by the U.S. Department of Agriculture (USDA) and the Food Animal Residue Avoidance Databank.

Some countries, such as Japan, Russia, and several nations in the European Union (EU), require farms and suppliers to make specific adjustments to those requirements. We always adhere to the guidelines of those countries with which we do business.

Domestically, the USDA monitors to ensure that meat and poultry contain no antibiotic residues that exceed the safety levels established by federal agencies. The National Residue Program (NRP) tests animal tissues to monitor antibiotic residue. Research from the National Antimicrobial Resistance Monitoring System—a collaboration among the Centers for Disease Control and Prevention (CDC), the FDA, and the USDA—shows that antibiotic resistance in animal products and food-borne diseases has been steady or declining in recent years.

Using Antibiotics for Prevention

Antibiotics are used on hog farms in the United States for four main purposes: to control disease, treat disease, prevent disease, and promote growth. Recently, many groups have criticized our industry, claiming that we are administering antibiotics for disease prevention as a masquerade for growth promotion. At Smithfield, this is not the case. To assure stakeholders of this, we have developed the below definition of preventative use of antibiotics to clarify in greater detail what we mean when we use this term.

What does prevention mean?

The Food and Drug Administration (FDA) defines disease “prevention” as the “administration of an antimicrobial drug to animals, none of which are exhibiting clinical signs of disease, in a situation where disease is likely to occur if the drug is not administered.” The FDA regards “prevention” as a therapeutic and judicious application of antibiotics.

Why is prevention important?

Swine medicine is population and herd based, meaning veterinarians focus on diagnosing and addressing illnesses that threaten a herd rather than treatment of solitary animals. Treatment, control, and prevention of disease operates on a range of therapies rather than distinct types of therapeutic use.

Many common bacteria are present in all swine herds. These can emerge to sicken animals when they are more vulnerable—such as when pigs are relocated to new barns and when viral infections such as Porcine Reproductive & Respiratory Syndrome (PRRS) and influenza are present in a herd. At these vulnerable points, bacterial infections can quickly emerge and spread to other animals.

Preventing disease in pigs and in swine herds, rather than relying solely on disease treatment, stops unnecessary illness, suffering, and mortality in pigs on farms. Forcing veterinarians to allow animals to become ill prior to instituting effective treatments will lead to poorer health outcomes and increase the total antibiotic use. This also increases the risk that the animal could enter our food supply while it is not completely healthy, which may increase the risk to public health.

What prevention is and is not at Smithfield.

Smithfield adheres to the FDA definition of prevention. Our aim is to reduce disease carriers in our herd and to prevent our animals from contracting a disease, which would then require additional treatment and potentially more use of antibiotics. Prevention is not a “catch-all” term disguising sub-therapeutic uses of medically important antibiotics for production purposes.

Examples of preventative antibiotic use within Smithfield.

Antibiotic use is just one of the many illness-prevention strategies we employ to protect our herds. Vaccinations, strict biosecurity protocols, and animal husbandry practices are among the first lines of defense in our herd health management plans. When antibiotics are used, we continually evaluate such usage based on diagnostics and testing. Examples of preventative use include the following:

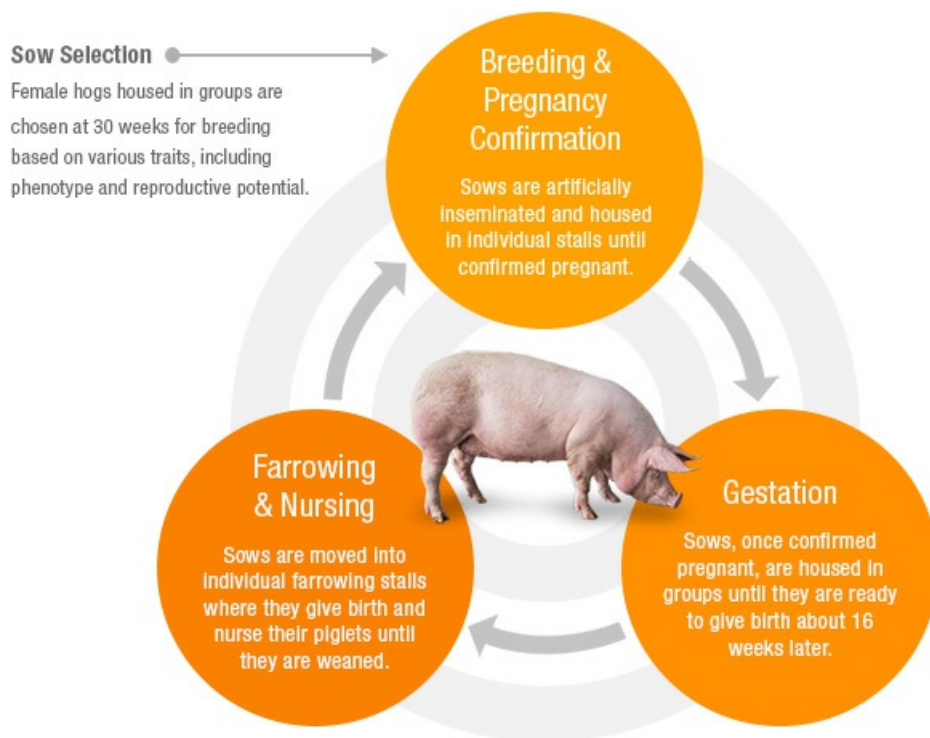
- Administering antibiotics to most newborn pigs to reduce the incidence of umbilical abscesses and hernia development.
- Administering antibiotics to pigs when they enter a site already diagnosed with a disease challenge such as swine dysentery.

Housing of Pregnant Sows

Our leadership in animal care is reflected in our successful transition of all pregnant sows on company-owned farms to group housing systems.

All pregnant sows on company-owned farms globally, including those in Poland, Romania, and our joint ventures in Mexico, are housed in groups. Individual stalls are still used for breeding and farrowing.

Group Housing System for Pregnant Sows



In addition to the efforts at company-owned farms, we recommend that all of our contract sow growers in the United States complete a transition to group housing by the end of 2022. While the conversion of contract sow growers' facilities to group housing systems is being encouraged, it is not mandatory. If growers choose not to participate, their current contracts will remain unchanged, although extensions are less likely. We are providing guidance and expertise to contract growers when requested to help them through the conversion process.

Recent sow farm acquisitions will be converted to group housing systems in a timely manner.

Housing Systems

Generally speaking, Smithfield Foods' U.S. operations use three types of housing arrangements for pregnant sows: individual stall, free access group, and small group. We have converted to free access and small group housing at all company-owned farms. In doing so, we implemented more small group housing than free access.

Individual sow housing. Historically used by most of the pork industry, this system puts pregnant sows in individual stalls for the duration of their pregnancies. This system allows for individual medical care and attention, minimizes fighting between sows, and allows personnel to monitor a sow's pregnancy more accurately.



Free access group housing. In this system, a large group of sows (between 30 and 40) has access to a common area for lounging and exercise, as well as access to individual stalls for feeding. Sows can come and go as they please and can close a gate behind them in the stalls if they choose. On company-owned farms, we have observed that about 90 percent of sows choose to spend a majority of their time in the individual stalls rather than in the common area.

Small group housing. This form of housing allows small numbers of sows to be in a common open area once they are confirmed to be pregnant. These systems typically include individual feeding stations, which help to minimize fighting among sows for feed.

Improving Animal Care

As part of our efforts to maintain operational excellence, Smithfield's team of animal scientists is always looking for ways to improve the welfare of the animals in our care, and across the industry, using science to determine what is best for our pigs.

We believe the procedures we follow make the pigs more comfortable during their lives and improve meat quality. The procedures, which include castration and tail docking, are consistent with our [Animal Care Policy](#).

The standards we follow are all approved by the American Association of Swine Veterinarians (AASV) and the American Veterinary Medical Association (AVMA). However, there is always room for improvement and our animal scientists spend considerable time examining alternative protocols that could enhance animal well-being.

Pain Mitigation

As hog farmers, we are obligated to protect and promote animal welfare. Our animal scientists are particularly focused on pain mitigation, especially in castration procedures for young male pigs.

In the U.S. pork industry, the testicles of pigs are typically removed to prevent boar taint, which can cause an “off” odor during cooking and consumption of meat. Castrating male pigs also prevents sexual and aggressive behavior.

We strive to perform this procedure in ways that minimize pain and distress to the animal. For example, in 2017, we began a series of studies to determine if an oral solution of sugar water can relieve pain in piglets. Oral sucrose acts as a mild analgesic or pain reliever when placed on a human infant's tongue. Therefore, it is often used in hospitals for babies in their first days of life to reduce pain from needle pricks or other minor procedures. We are working to understand if sucrose can have a similar impact on young piglets. In addition to sucrose solutions, we also are evaluating pain medication, such as non-steroidal anti-inflammatories, to determine if they can mitigate pain associated with castration procedures.

We're partnering with other animal researchers to determine what is the best way to measure pain in piglets since pigs can't tell us what scale of pain they feel. Therefore, we're looking for better ways to evaluate a pain response, using science as our guide.

Caring for Animals During Market Transportation

Bedding or wood shavings are commonly put in trailers that transport pigs to provide warmth and footing for the animals. However, a variety of factors influence whether bedding—or how much bedding—is used, such as cleanliness of the trailer, season of the year, geographic location, and duration of the journey. The National Pork Board (NPB) provides guidelines on bedding amounts as part of its Transport Quality Assurance® (TQA®) program but there is no scientific evidence to suggest that bedding benefits the animals or, conversely, that it is detrimental to pigs.

To understand if bedding was necessary to provide footing, we needed to know how frequently pigs transported on trailers without bedding were slipping and falling when being unloaded at the plant. After measuring the occurrences of animal slips and falls in cleaned trailers with no bedding in the warmer climates of North Carolina, we found that the rate at which pigs slip and fall is minimal—and, in fact, was below accepted industry standards.

We then set out to understand if bedding was necessary for thermal comfort for market pigs. We measured the number of pigs considered stressed or injured when being unloaded from market haul trailers with either light bedding or no bedding. We did this in all seasons of the Southeastern United States and determined that light bedding did not reduce pig stress or injuries.

We shared all of our learnings with the TQA task force, which subsequently revised its guidelines to include a statement that bedding levels—including no bedding at all—can be determined by the professional judgment of the truck driver. Including bedding only when necessary also helps to improve Smithfield's environmental footprint since used bedding would otherwise go into a waste stream. The amount of wood shavings saved each year as a result of limited bedding use is equivalent to 5 million pounds, or approximately 2,500 50-foot pine tree.

Case Study: Smithfield's New Vaccine Research Lab

Influenza and other viral diseases pose significant challenges in animal husbandry. In the spring of 2013, for example, millions of piglets across the country were killed by a particularly virulent strain of Porcine Epidemic Diarrhea Virus (PEDV) which poses no risk to humans but is nearly always fatal in very young pigs.

Viruses like these move quickly on hog farms. Unfortunately, the commercial vaccines available for viral diseases typically fail to staunch their spread.

So in 2017, we set up our own research laboratory to test new and more effective vaccines. The lab space will allow us to access technologies that are not commercially available, including novel treatment approaches that could better control viral diseases. The 4,000-square foot facility is located in a private-public biomedical building on the Raleigh campus of [North Carolina State University College of Veterinary Medicine](#). Half of the building is used by university researchers and visiting professors; the other half is for tenants, like Smithfield, that lease space to fit specific research needs.

We hired an academic expert in virology to lead the lab and ultimately expect to employ up to five full-time researchers.

"This facility gives us a way to try out new vaccine technologies to see if they work," says Joseph Fent, a veterinarian in our Hog Production group. "We want to see if we can improve animal health by looking beyond what is currently commercially available."

Fent explains that the influenza vaccine is one area of particular focus. Just like the influenza viruses that affect humans, porcine influenza mutates from year to year, and manufacturers update the vaccine annually. Some years the commercial vaccine works well; other years, it misses the mark. Fent hopes that the research lab will be able to target emerging influenza strains to develop more effective vaccines specifically for Smithfield's herds.

Viral diseases, like the influenza and PEVD, can't be treated with antibiotics. But animals that contract viral diseases are more susceptible to bacterial illnesses, which do require antibiotics. The more effectively we can treat or avoid the viral diseases, the less we need to rely on antibiotics to keep our animals healthy.

Genetics

Smithfield's genetics research center has one primary aim: making a better pig.

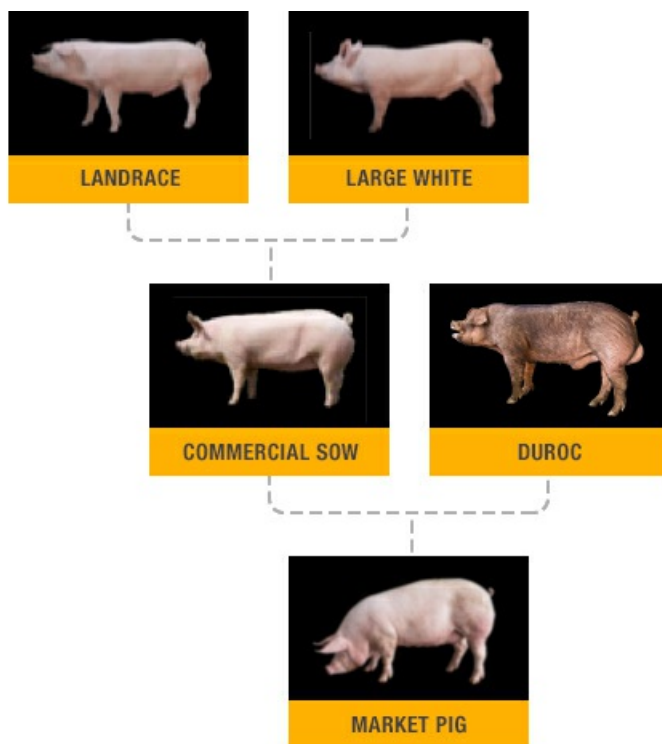
That may sound like the stuff of science fiction. But what the team does here every day is the genetics equivalent of matchmaking. Researchers select animals from generation to generation, pairing them up to create the ideal descendants for that perfect rack of ribs or the tastiest ham. We figure out which animals will make the best parents to produce the best offspring that will result in the best meat. The meat we produce today isn't something that happened by accident. It's the result of years of genetics research and effort.

In facilities in North Carolina and Texas, more than 200 technicians, genetics researchers, and veterinarians look for new ways to improve the genetic traits of the animals, focusing on everything from a sow's nursing skills to a piglet's feeding abilities to the characteristics that result in the greatest flavor with the perfect amount of fat and marbling. We also select for specific genetic traits that will keep our animals comfortable and healthy. Our teams collaborate with other researchers across the U.S. and internationally, focusing on a host of features including a pig's ability to efficiently gain weight.

Using a variety of statistical tools, we collect hundreds of animal traits and analyze them to determine which are the best ones for the next generation going forward. We manage a range of objectives, from growth performance to tenderness to yield. And, of course, flavor.

It's important to note that we do not add or manipulate genes that are not normally found in a hog. Rather, we employ the science of genomics: taking millions of genetic data points about the animals and their environment and, with the help of sophisticated statistical software, calculating which ones have the gene characteristics we want to see in the next generations of hogs we will raise.

The hogs raised by Smithfield today are a combination of three heritage breeds: 100 percent Durocs on the male side and a 50–50 cross between Landrace and Large White hogs on the female side. Although the three lines are common worldwide, the hogs we have bred are unique within our industry. Our genetics program itself is also unique. Other meat companies in the United States use third parties to develop their breeding programs. Thanks to our vertically integrated research, we can literally trace the genetic lines across our entire pork chain, from breeding to farms to the final product.



We firmly believe that Smithfield hogs offer superior taste and eating experience. Moreover, the hogs also require fewer resources to raise, thanks to a targeted effort by our geneticists to identify characteristics that enable us to raise animals more efficiently. For example, some humans gain weight more easily than others, the result of the genes they inherited. We want to produce hogs that gain weight more easily. That's because hogs that convert calories more efficiently require fewer resources (and fewer days) to grow from infancy to market weight.

Feed efficiency is especially important as we look ahead to a growing world population that could put pressure on food supplies. We're researching how to produce high-quality, high-protein products that require fewer resources and, thus, have a smaller environmental footprint.

The swine genome became available in 2009 and is the primary tool we use in our work today. From that data, we were able to refine our abilities to capture DNA information and use it to screen animals that will parent the next generation. It typically takes three to four years before we see the selections we have made show up in the animals on our farms.

We also keep in mind biodiversity, so we can ensure a diverse population of hogs. In other words, we breed across familial lines.

Outside of their labs, our geneticists spend quite a bit of time educating Smithfield employees about what they do. "Pork University," which was later renamed "The Smithfield Experience," has trained thousands of Smithfield employees over the years, giving them insight into our breeding program and why it is so successful.

Genetically Modified Organisms

Meat and poultry livestock are not genetically modified organisms (GMOs). However, most of our animals are fed grains (including corn and soybeans) that may have used GMO technologies.

All GMO crops have been evaluated by a host of regulatory agencies, including the U.S. Food and Drug Administration (FDA) and the U.S. Environmental Protection Agency (EPA), as well as many scientific organizations, and have been found to be safe for people and animals to eat. There is no evidence that animals are affected by eating grain from plants with genetically modified characteristics.

At Smithfield, we monitor the dialogue about GMOs and stay current with the latest scientific research. We do not require any of our suppliers to be non-GMO.

Cloning

We do not produce meat products from cloned animals and have no plans to do so in the future. Although the FDA has concluded that meat products from cloned animals are safe for human consumption, the science involved in cloning animals is evolving. We will continue to monitor further scientific research on this technology.

We maintain our focus on the development and improvement of our meat products through careful selective breeding and genetic research, as detailed in this report.

Ractopamine

Ractopamine is a safe and effective U.S. Food and Drug Administration (FDA)-approved feed supplement that has been used by hog and beef producers for many years to produce leaner meat more efficiently. The supplement, which is widely used in the United States, can be part of a healthy, balanced diet for growing hogs.

However, a number of nations ban the use of ractopamine. China, Russia, and the European Union (EU) countries, for example, require third-party verification that pigs are not fed ractopamine. To meet this demand, we have leveraged our vertically integrated platform to produce pigs without using this supplement. Several Smithfield plants now produce meat from pigs that have never received ractopamine. All pigs raised on company-owned and contract farms do not receive ractopamine. We still have facilities that receive pigs from other suppliers that use this product. We also have initiatives with our producers to let them participate in our “never fed ractopamine” program if that fits with their production capabilities, and we comply with the U.S. Department of Agriculture’s (USDA) Porcine Export Verification Program, “Never Fed Beta Agonists.”

Humane Euthanasia and Slaughter

There are times on farms when employees must humanely euthanize pigs—typically following injuries or illnesses.

Employees are trained by our veterinarians in accordance with the recommendations of experts, including the American Association of Swine Veterinarians (AASV) and the National Pork Board (NPB). In recent years, we have been reviewing our operating procedures around euthanasia to ensure that we are using the most appropriate methods, based on the size and weight of the animals involved.

We have invested in research to understand which techniques cause the least pain and stress to the animals and to their handlers. For pigs weighing less than 65 pounds, we use either carbon dioxide (CO₂), which causes painless loss of consciousness and death, or a device called a non-penetrating captive bolt gun, which administers a controlled blow to the head without breaking the skin, instantaneously rendering the animal insensible and causing a quick death. For pigs larger than 65 pounds, we use a penetrating captive bolt gun that fires a retractable metal bolt into the brain, resulting in insensibility and death.

According to the AASV, humane methods will achieve the following:

- Minimize pain and distress to the pig during administration;
- Cause rapid loss of consciousness; and
- Result in death quickly and consistently.

Slaughter Methods

Smithfield has led the U.S. pork industry toward a procedure known as CO₂ anesthetizing. Our facilities use the Butina[®] CO₂ Backloader anesthetizer system.¹ This allows the pigs to move slowly, in small groups, which minimizes stress for the animals and their handlers. CO₂ anesthetizing is very effective and produces higher-quality meat than the older, single-file, electrical stunning systems.

¹ Recent acquisitions will be converted to this system in a timely manner.

Safe Transportation

Transportation of animals from farms to processing plants is an important element of our animal care program.

All drivers who transport animals must be trained and certified under the National Pork Board's (NPB) Transport Quality Assurance® (TQA®) program, which provides education and guidelines for transporters, producers, and animal handlers on all aspects of hog handling and transportation. It should be noted that TQA certification does not ensure or audit compliance with the provided guidelines. Each processing facility does audit transporters to evaluate key criteria for the safe and humane hauling of livestock.

In a typical year, between 80,000 and 90,000 truckloads of company-owned hogs are transported from farms to processing plants.

We comply strictly with federal animal transport time guidelines and have systems in place to maximize the comfort and safety of the animals. For example, strategically placed fans and water misters help maintain animal comfort in hot weather.



In a typical year, between 80,000 and 90,000 truckloads of company-owned hogs are transported from farms to processing plants. About 60 percent of those loads are hauled by our trucks and drivers.

Transportation Accidents Involving Market Hogs

Each year, millions of pigs are transported over many miles between farms and from farms to processing plants. The vast majority of those trips occur safely and without incident. Nevertheless, accidents do occasionally happen.

Our live-haul accident-response procedures are widely regarded by animal care experts as the best in our industry. We have five equipment trailers, known as “rescue units,” pre-positioned in key areas where our business activity is concentrated. These trailers are stocked with a variety of equipment, such as lights, penning equipment, saws, generators, and other devices that are needed when a truck carrying animals is involved in an accident. When an accident occurs, designated company employees are dispatched to pick up a rescue unit and bring it to the accident site. Our aim is to have a rescue crew arrive at an accident site within the first hour of the incident. We carefully monitor all of the rescued animals that are brought to a plant to make sure they have not been injured. Injured animals that are humanely euthanized do not go into the food supply.

Smithfield has engaged [Jennifer Woods](#), a livestock handling expert from Alberta, Canada, to train emergency responders including firefighters, police, truck drivers, veterinarians, and livestock producers, on the best methods to humanely and safely work with livestock at the scene of an accident.

The training sessions cover animal behavior, extrication, and euthanasia. A livestock trailer is set up at the training sessions so emergency responders can become familiar with the vehicle and how to safely enter the trailer to retrieve the animals.

Additionally, we look for new ways to improve transportation. For example, in recent years we have incorporated unloading doors with wide chutes on trailers at many plants. This reduces pigs’ stress as they exit the trailers.

Company-Owned Market Hog Transportation Accidents	2013	2014	2015	2016	2017
Total number of loads hauled	89,351	80,894	82,031	85,513	89,953
Number of accidents	4	4	6	18	16
Market hogs involved	713	710	1,030	3,366	2,779
Market hog transportation fatalities	66	234	190	555	348

Nearly all of the 2016 and 2017 accidents resulting in hog fatalities involved third-party contract haulers, which Smithfield hires to transport our animals between farms and processing plants. We have been working with these trucking companies and their employees to provide help and training that we hope will decrease the number of incidents. Data for 2017 includes additional volume resulting from our Farmer John acquisition. Data prior to 2014 cover the periods from May 1 through April 30. Data for 2014 is for the calendar year.

Animal Care Policy

Smithfield¹ is committed to being the industry leader in animal care practices to assure respectful and humane treatment of animals, to produce wholesome food products, and to analyze our operations and practices, including internal and independent third-party audits, to ensure continual improvement.

All operations involved with the production or processing of live animals are required to provide the following:

- Comprehensive written animal care programs to ensure animal well-being.
- Shelter that is designed, maintained, and operated to provide a physical environment that meets the animals' needs.
- Access to adequate water and high-quality feed to meet animal nutrition requirements (production facilities) and in accordance with the Humane Methods of Slaughter Act 1978 (processing facilities).
- Humane treatment of animals that ensures their well-being and complies with all applicable legal and regulatory requirements.
- Identification and appropriate treatment of animals in need of care.
- Humane treatment of animals that meets or exceeds the requirements of the Humane Methods of Slaughter Act of 1978, and all applicable North American Meat Institute Animal Handling Guidelines (processing facilities).
- Timely use of humane methods to euthanize sick or injured animals not responding to care and treatment.

Adherence to the principles of this policy is a responsibility and requirement of those who interact with animals that are owned or processed by Smithfield. Willful neglect or abuse of animals will not be tolerated and will result in immediate termination. Offenders may also be subject to criminal prosecution under applicable laws.

¹ All references to "Smithfield," "we," "us," and "our" are terms of convenience used to refer collectively to Smithfield Foods and all of its subsidiaries. Similarly, the terms "division," "segment," and "business unit" may be used to refer to one or more subsidiaries, which are independent operating companies.



Environmental Stewardship

For more than a decade, Smithfield¹ has worked to significantly reduce our water and energy use and the amount of waste we send to landfill. We're continuing to pursue challenging targets that call for even greater improvements, all while our business expands in response to increasing global demand for pork.

In 2016, we took our environmental stewardship efforts to the next level in what was widely heralded as an ambitious first for our industry: a far-reaching greenhouse gas (GHG) reduction goal across our entire supply chain, from feed grain to packaged bacon. We have pledged to reduce our absolute GHG emissions by 25 percent by 2025, which will cut emissions by more than 4 million metric tons (or the equivalent of removing 900,000 cars from the road).

To help us get there, we created a new platform within our company, [Smithfield Renewables](#), unifying our carbon impact reduction and renewable energy efforts under one umbrella.

Our Environment Goals

- Reduce absolute GHG emissions 25% over 2010 by 2025
- Reduce natural resource demand
- 100% compliance, 100% of the time

Our Environment Targets

- Energy: 5% reduction over 2014 by 2020
- Water: 10% reduction over 2014 by 2020
- Solid Waste (Material to Landfill): 10% reduction over 2014 by 2020
- Grain Procurement: By 2018, 75% of grain purchased by Smithfield to be grown with efficient fertilizer and soil health practices
- Compliance: Reduce notices of violation (NOVs) to zero

Our energy, water, and solid waste targets are based on a 2014 baseline. The absolute GHG emissions reduction will be measured from a 2010 baseline; efforts that were already under way prior to our 2016 announcement will be included in the final results. All water, energy, and solid waste targets are normalized by production levels. Solid waste target does not include hog production operations. Environmental performance data do not include acquisitions made in 2017.

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Value Creation

Smithfield employees are doing their share to improve resource efficiency in countless ways, whether it is finding new projects that increase recycling, improve wastewater treatment, or reduce water consumption.

We also find ways to benefit from operational byproducts (such as hog manure, food scraps, and grease from precooked bacon) and underutilized resources (such as company land not currently used to grow crops or raise hogs). We strive for excellence, sharing innovative approaches across our operations so that employees can apply best practices at their facilities. Below are some examples of the value these efforts create for our company and our stakeholders.

2017 By the Numbers	Value	Volume
Materials composted	\$0	24,374 tons
Recyclable cardboard sales	\$1,544,359	14,713 tons
Biogas captured	\$1,333,348	269,198 gigajoules
Wind energy leasing	\$274,000	137 megawatts
Solar energy leasing	\$8,800	3 megawatts

Cardboard sales are estimated based on average per-ton income. Biogas value represents savings from natural gas not purchased and is based on actual cost. Wind power contribution is estimated based on the percentage of the project located on our property.

We track the costs and savings of sustainability projects as part of our [Environmental Excellence Awards program](#). Over the past five years, we have saved an estimated \$128 million in operating costs through environmental awards projects.

Awards Program Impacts	2017
Number of projects submitted	144
Awards granted	12
Capital expenditures	\$12.6 million
Cost reductions	\$9.6 million
Water saved	86.5 million gallons
Natural gas saved	39,672 dekatherms (dth)
Electricity saved	18.8 million kilowatt hours (kWh)
Material diverted from landfill	30.4 million pounds

Estimated savings are conservative because they only account for the first year of projects submitted to our Environmental Excellence Awards.

Learn more about how we're creating value in other ways: in our [grain supply](#), by turning [manure into energy](#), and through [transportation logistics](#), to name a few examples.

Performance Summary

This section provides performance highlights toward our 2020 environmental targets and commitments, which use 2014 as our baseline.

Our company has grown and we are producing more food at more facilities today than we were three years ago. As a result, our use of certain resources, and some emissions, have increased. However, we have become more efficient in how we make our products, resulting in lower use of resources for every 100 pounds of product we generate.

Normalized¹ greenhouse gas (GHG) emissions, water use, and solid waste all went down (improved) from 2014 to 2017. Only normalized energy use has increased, which is partly attributable to our production of more ready-to-eat foods, which require greater energy use at our production plants but use less energy for foodservice customers and consumers to prepare.

Since 2014 (normalized)

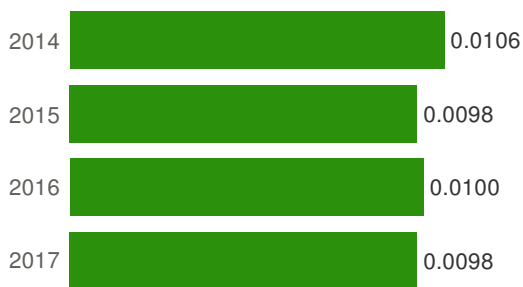
- GHG emissions down 7.4%
- Energy use up 1.9%
- Water use down 2.5%
- Solid waste down 7.4%

We are aiming for our processing facilities to achieve 5 percent reductions in normalized energy use and GHG emissions by 2020 in support of our overarching goal to reduce our overall GHG emissions by **25 percent by 2025**.

Each year, we will report on the innovative projects and programs that will help us get to our 2025 GHG reduction. Read, for example, about our [work with grain farmers](#) and how we're partnering to [turn manure into renewable natural gas](#).

GHG Emissions (normalized)

(metric tons CO₂e/cwt)
 14-17 Change: -7.4%



CO₂e stands for carbon dioxide equivalent. CWT equals 100 pounds of product.

Direct and Indirect GHG Emissions	2014	2015	2016	2017	14-17 Change
Carbon dioxide (CO ₂) emissions (metric tons)	1,057,299	1,089,596	1,120,687	1,113,098	5.3%
Methane (CH ₄) emissions (metric tons CO ₂ e)	2,290	2,330	2,397	1,839	-19.7%
Nitrous oxide (N ₂ O) emissions (metric tons CO ₂ e)	3,207	3,233	3,200	2,985	-6.9%
GHG Emissions (metric tons CO₂e)	1,062,796	1,095,159	1,126,284	1,117,922	5.2%

CO₂e stands for carbon dioxide equivalent. Data do not include hog production operations. Smithfield reports GHG emissions using The Greenhouse Gas Protocol Initiative developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Publicly available emissions figures are used where no reliable data are available from energy providers. We report on scope 1 emissions (direct) and scope 2 emissions, which include indirect emissions associated with the use of purchased electricity and steam.

Energy Use (normalized)

(gigajoules/cwt)
14-17 Change: 1.9%

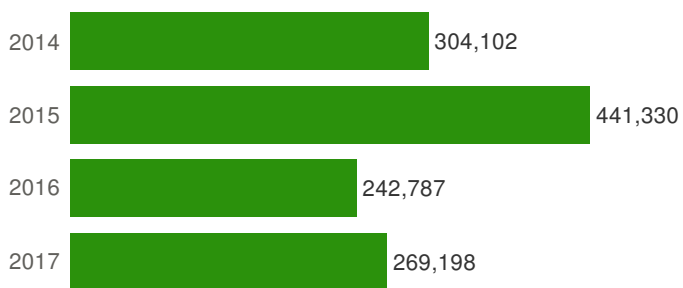


CWT equals 100 pounds of product.

Direct and Indirect Energy Use by Fuel Type (gigajoules in millions)	2014	2015	2016	2017	14-17 Change
Natural gas	8.27	8.85	6.99	9.40	
Propane	1.40	1.31	1.55	1.35	
No. 2 oil	0.74	0.75	0.90	0.86	
No. 6 oil	0.13	0.00	0.00007	0.00	
Biogas	0.30	0.44	0.24	0.27	
Total Direct Energy Use	10.84	11.35	9.68	11.88	9.6%
Electricity	5.78	5.96	6.06	5.94	
Total Indirect Energy Use	5.78	5.96	6.06	5.94	2.8%
Total Energy Use	16.62	17.31	15.74	17.82	7.2%

Biogas Captured

(gigajoules)
14-17 Change: -11.5%



Annual volumes naturally fluctuate within our facilities' anaerobic systems.

Water Use (normalized)

(gallons/cwt)
14–17 Change: -2.5%



CWT equals 100 pounds of product.

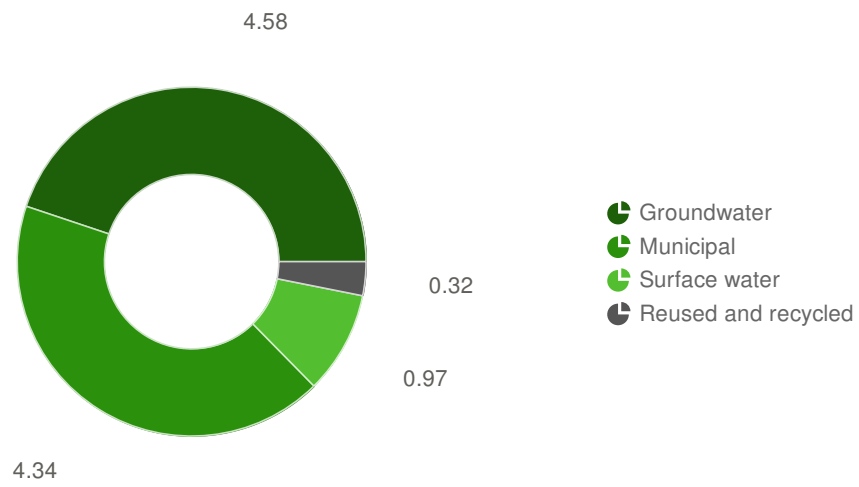
Water Use

(billions of gallons)
14–17 Change: 7.5%



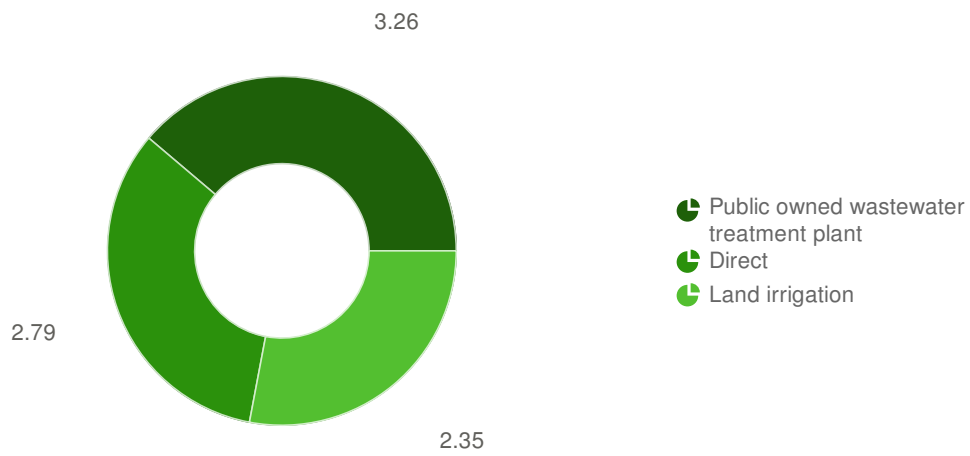
Sources

(billions of gallons)



Discharge

(billions of gallons)



Solid Waste to Landfill (normalized)

(pounds/cwt)
14–17 Change: -7.4%



Data do not include manure. At our hog production operations, solid waste is typically hauled away for a fixed fee; as a result, reliable weights are not available. CWT equals 100 pounds of product.

Total Waste Disposition (Tons)	2014	2015	2016	2017
Cardboard recycled	27,833	26,724	27,288	27,173
Metals recycled	2,016	2,153	3,973	3,318
Plastics recycled	884	1,259	2,395	1,655
Wastewater sludge land applied	12,120	52,775	47,573	38,531
Material composted	28,358	20,512	20,819	24,374
Material anaerobically digested	16,673	29,285	9,851	17,654
Waste to energy	14,506	25,916	39,261	41,660
Hazardous waste	13	9.3	9.4	7.5
Universal waste	37	62.4	28.7	27.2
Material to landfill	65,400	70,946	71,373	68,590
TOTAL	167,840	229,642	222,571	222,990

Data do not include manure. At our hog production operations, solid waste is typically hauled away for a fixed fee; as a result, reliable weights are not available. CWT equals 100 pounds of product.

Compliance	2014	2015	2016	2017
Notices of violation (NOVs)	18	11	18	13
Fines (\$U.S.)	\$400	\$400	\$6,500	\$17,545

Data include all company-owned domestic farms and plants.

Environmental Performance of Contract Producers

Contract growers own their facilities and permits and are responsible for compliance with rules and regulations. We regularly consult with them on compliance issues like nutrient management, environmental permitting, and new technology. We also monitor their environmental performance and offer assistance when requested.

Contract Farm Compliance	2014	2015	2016	2017
Notices of violation (NOVs)	14	34	41	48

Data are based on reviews of state databases and production staff surveys.

¹ We report some metrics in absolute terms (e.g., billions of gallons of water). Others, such as our environmental targets, are expressed as consumption rates (e.g., gallons per 100 pounds of product). We use these normalized figures to track trends in the efficiency with which we use resources year over year. The reported percentage changes are calculated based on non-rounded values and may vary from those calculated based on the data in this report, which have been rounded. Environmental performance data for facilities acquired in 2017 will be included in future reports.

Smithfield Renewables

As the world's largest pork processor and hog producer, Smithfield has long been committed to producing "Good food. Responsibly.®" We have built and maintained a sustainability program that has set the standard in our industry for raising animals humanely, producing safe food, keeping our workers safe, and helping local communities, all while protecting the environment.

In 2016, we became the first protein company to announce a goal to significantly reduce absolute greenhouse gas (GHG) emissions. Our target of a 25 percent reduction by 2025 is the equivalent of removing 900,000 cars from our roadways. To help us get there, we created a new platform within our company, Smithfield Renewables, unifying our carbon impact reduction and renewable energy efforts under one umbrella. We named a senior director of Smithfield Renewables, who reports to our company's chief sustainability officer.



We are leveraging a wide range of projects to help us reach our goal. On our hog farms, for example, we're converting manure into energy. We're also working with the Environmental Defense Fund (EDF) to optimize fertilizer usage on farms that supply the feed for our hogs. At our facilities, we're continuing energy efficiency projects, including refrigeration, boiler, and other equipment projects.

An advisory committee of internal experts is evaluating current and potential projects, helping direct a companywide strategy for renewable energy projects across both our farms and facilities.

Case Study: Developing a Life Cycle Analysis

Developing an effective goal around carbon emissions—and being able to make meaningful reductions—requires a firm understanding of our company’s carbon impacts across our supply chain, from grain farms to kitchens.

The [University of Minnesota’s NorthStar Initiative for Sustainable Enterprise](#) (NorthStar) is helping us with the data, tools, and analytical expertise necessary to trace our agricultural supply chain.

Before we set our [industry-leading goal](#), researchers at NorthStar started with a life cycle analysis (LCA) developed by the [National Pork Board](#) (NPB) several years ago. While this LCA pointed to the various “hot spots,” or biggest impact categories, for greenhouse gas (GHG) emissions, it only captured national averages, not any specific operations. The NorthStar team built upon it by applying a predictive corn and animal transportation model that used publicly available data to work backward into our supply chain. This allowed us to estimate emissions from the growing (including fertilizer production and use) and processing of corn used to feed our animals. That same model estimated the potential GHG impact of all farms that supply hogs to Smithfield facilities and then tracked the impacts of transportation and energy use associated with primary processing.

Linking the movement of corn’s embedded environmental impacts from farms to processing facilities made it possible to quantify the [GHG footprint of our crop production](#). The researchers were able to measure the relative GHG impacts of our supply chain broken down by the specific regions where we operate, rather than by a broad national average.

All that analysis provided a solid baseline; but it was only a starting point. Throughout 2017, the NorthStar team worked to make that baseline more precise. “We needed to dig even further,” says Jennifer Schmitt, the lead researcher with NorthStar for this project. “We’ve been honing the baseline so Smithfield can truly understand where the company’s GHG impacts are and where they can make the greatest changes.”

This has meant incorporating data that is specific to Smithfield’s own operations, versus relying on industry estimates. Our new [Smithfield Renewables](#) platform has made it easier to gather up very specific environmental accounting information from within the company, such as individual feed mill capacity and the source of the feed mix. NorthStar is also incorporating data from recent acquisitions.

“Spending the extra time to create this model will help Smithfield bring environmental accounting into their business decisions, enabling them to make better choices in a forward-thinking way,” Schmitt says.

We’re using NorthStar’s analysis to focus our efforts on the elements of our supply chain where the highest emissions occur—not only by stage, but also by specific facility or operational segment as we aim to reduce Smithfield Foods’ entire hog supply chain emissions from 19 million metric tons of carbon dioxide (CO₂) annually to 14.33 million.

In a recent report summarizing its effort to establish Smithfield’s baseline 2010 GHG emissions, NorthStar updated its breakdown of our GHG emissions sources according to the following groupings: grain farms and feed milling (15 to 20 percent); manure management (40 to 45 percent); consumers (20 to 25 percent); and other, which includes non-grain feed production, slaughtering, processing, and transportation (15 to 20 percent).¹

Schmitt says Smithfield took a leadership role in the industry, becoming the first to announce a significant absolute GHG reduction goal. “Not only are they a leader,” she says, “but they really mean it. They’re truly vested in this work and it’s awesome to be part of that.”

Learn more about some of the projects we’re pursuing as we work toward our 2025 goal:

- [Smithfield Agronomics](#)
- [Turning Manure into Renewable Natural Gas](#)
- [Generating Wind and Solar on Farms](#)
- [Improving Feed Efficiency](#)
- [Nutrient Recycling Challenge](#)
- [Zero Waste to Landfill](#)

- Transportation and Logistics

¹ NorthStar's previous breakdown of Smithfield's GHG emissions sources was as follows: grain farms and feed milling (20 to 25 percent); manure management (25 to 35 percent); consumers (20 to 25 percent); and other (15 to 35 percent).

Supply Chain

When we talk about our supply chain at Smithfield, we think about everything that goes into the production and distribution of our foods.

Our supply chain begins at the farms that grow grain for our pigs. It incorporates our vertically integrated hog farming operations, our processing plants, and the third-party transportation network that brings finished products to retail stores and restaurants. We work within our supply chain to make sure we are providing consumers with quality foods produced in a responsible manner. Our supply chain also includes the materials for packaging our foods and the many other ingredients we use to make everything from seasoned pork ribs to meatballs.

Our ability to reduce our impact on the environment depends in large part on the degree of control we have over a particular area of our supply chain. For example, while we don't own the farms that produce the majority of feed for our pigs, we're finding ways to influence and improve some farming practices. Similarly, we're working with our trucking contractors to encourage more efficient transportation.

This portion of the Environment section covers the following stages of our supply chain: grain production, hog production, packaging, and transportation and logistics. We discuss our [processing operations](#), including our progress in reducing our own water, energy, and waste, separately. Year-over-year data can be found in the [Performance Summary](#).

[Learn more about Consumer Use.](#)

Grain Production

As our [greenhouse gas \(GHG\) analysis](#) highlighted, the feed we purchase from our agricultural supply chain accounts for a significant component of our carbon footprint: 15 to 20 percent.

Smithfield buys an enormous amount of grain, and in 2017 we fed our hogs more than 7.4 billion pounds. Although we don't own the grain farms,¹ we have been working with farmers to help them use fertilizer more efficiently and switch to lower-input crops, such as sorghum—steps that have multiple environmental benefits. We have committed to engaging 75 percent of our grain sourcing supply—grown on nearly 450,000 acres—in sustainable farming practices by the end of 2018, and we're on track to meet that goal.

Project Target

- By 2018, 75% of grain purchased by Smithfield (farmed on roughly 450,000 acres) to be grown with efficient fertilizer and soil health practices.

Progress to Target

- In 2017, 69% of our total grain purchases came from 410,830 acres of farmland participating in the [SmithfieldGro Program](#) and/or the [Land O'Lakes' SUSTAIN™](#) sustainability platform.

Acres in Smithfield's Grain Sourcing Regions

2014	21,500
2015	94,800
2016	327,735
2017	410,830
2018 (Goal)	447,000

¹ While Smithfield does grow corn and other crops on land at our company-owned farms, the amount of grains produced represents only a small amount of the overall needs for our animals. We implement conservation practices at our own operations.

Case Study: Working with Grain Farmers to Improve Yield

At Smithfield, we understand that our success is tied to the success of our suppliers. And no single supply base contributes more to our hog production operations than the farmers who grow the grain for our pigs.

Helping farmers improve their operations and crop yields helps our own business, too, while simultaneously managing carbon impacts within our supply chain.

Over the last several years, we have focused on a variety of programs that aim to boost the performance of our grain suppliers. Our efforts started in 2013 when, with inspiration from Walmart, we collaborated with the Environmental Defense Fund (EDF) to help farmers find ways to optimize fertilizer use and minimize related runoff on their farms. The Smithfield Agronomics program, also known as SmithfieldGro, began with free agronomy advice and tools to enable farmers to incorporate more efficient practices that produce the same amount of grain using less fertilizer.

Our efforts have increased significantly since that partnership began; today, we see our work in our grain supply chain as one of the keys to reaching our [2025 greenhouse gas \(GHG\) reduction goal](#).

Fertilizer is an essential tool for agriculture. But it is also one of the primary drivers of crop-related GHG emissions; on average, more than half of the nutrients applied to fields are not absorbed by crops in the year applied. For example, if too much nitrogen is applied to a crop, it can be converted by microbes in the soil into nitrous oxide, a highly potent greenhouse gas.

We have several on-staff agronomists in the Southeast and Midwest who travel to grain farms, demonstrating strategies that will improve fertilizer usage and crop production. Through more efficient fertilizer application and adoption of practices, such as cover crops, farmers can boost soil health, improve water quality, and reduce GHG emissions—all while increasing profits.

In 2017, we added a new technology to our SmithfieldGro arsenal: [Adapt-N](#), a nitrogen management solution developed by Agronomic Technology Corp. Smithfield is providing the Adapt-N technology to help farmers improve their economic and environmental performance on 100,000 acres of fields that produce corn for swine feed. The goal is to minimize farmers' costs, maximize profits, and reduce potential fertilizer runoff.

Adapt-N helps farmers optimize their fertilizer usage by modeling water, soil, planting, and field management dynamics. The technology can increase grower profits by \$30 per acre through higher yield and application efficiency while significantly lowering GHG emissions and reducing the amount of excess nitrogen leaching into the local groundwater supply.

Smithfield purchased the Adapt-N platform in the middle of the 2017 corn-growing season, so we focused initially on getting farmers to sign up for the program for the 2018 crops. We're excited to see how the tool will improve crop yields for farmers while simultaneously lessening impacts on the environment.

We also support use of the [Land O'Lakes' SUSTAIN™](#) sustainability platform, which works to enhance on-farm conservation and production by improving nutrient use efficiency and reducing soil loss. The platform was developed by United Suppliers—a cooperative of 560 locally owned and controlled agricultural retailers who serve growers spanning 45 million acres in the United States and Canada—in coordination with EDF. (United Suppliers is now part of Land O'Lakes.)

To date, we have helped hundreds of grain farmers implement cover crops, nitrogen sensors, and other conservation practices on about 415,000 acres, primarily in the Southeast and, more recently, in the Midwest.

Our agricultural supply chain work is also benefitting from two [U.S. Department of Agriculture \(USDA\) Regional Conservation Partnership Program \(RCPP\)](#) awards: one for \$500,000 in North Carolina, and another for \$1 million in North Carolina and Iowa. The RCPP helps grain farmers with the costs of adopting conservation practices such as establishing nutrient management systems, planting cover crops, and practicing conservation tillage. Smithfield and EDF partnered with other agriculture and conservation organizations in those states to secure these awards.

Speeding Up Corn Harvesting

In the Southeastern United States, corn growers face significant risks, especially during hurricane season. Over the years, numerous hurricanes and tropical systems have flattened corn crops during the prime storm months of September and October, destroying much of that year's harvest.

To help prevent future scenarios like this, Smithfield has invested about \$12 million in mechanical grain dryers. These dryers, along with the low drying fees we offer, allow farmers to pick their corn crops several weeks earlier than they had been previously. They can safely bring their corn to our feed mills and bank a successful harvest without risking losses from storms or pests.

Mechanical grain drying helps farmers increase their crop yields and improve their economic returns. It also helps our East Coast operations, providing us with high-quality corn from local fields and decreasing our reliance on corn purchased and stored from distant sources.

Upgrading Feed Mills

Our direct relationships with local farmers continue to be an integral part of our business. For several years now, we have been investing in upgrading feed mills, which has provided a greater capacity to source grains closer to our operations. We also have been purchasing grain elevators, including two recently in Ohio. We now buy roughly 65 percent of our animal feed directly from farmers, compared with about 10 percent in 2010.

Promoting Alternative Crops

Grain farmers who plant winter cover crops reap two big benefits: a viable, sturdy harvest during the "off-season" and much healthier soil for their primary spring and summer grains.

To encourage farmers to plant winter wheat, we used our purchasing power to secure a discounted price on premium wheat seed. In turn, we now offer farmers bags of seed at \$13 each—far lower than the \$22 they would otherwise be paying on their own. In 2016, we sold about 55,000 bags of wheat in North Carolina, South Carolina, and Virginia; that number jumped to 120,000 in 2017.

"If you don't grow a cover crop, your land just sits idle all winter long," says Joe Szaloky, a vice president of business development at Smithfield. "Nothing good comes from that. By planting winter wheat, farmers not only improve their soil, but they can then sell their crop to Smithfield. It's an economic win-win."

For several years, we also have been encouraging farmers in the Carolinas and Virginia to grow grain sorghum (also known as milo) as an alternative to more traditional feed. Sorghum, which is an excellent source of nutrition for pigs, can cost less to grow and produce better yields than corn, particularly in drought-prone regions.

In partnership with universities and state agronomists, we have urged farmers who do not achieve profitable corn yields (or who farm on marginal soils) to switch to sorghum (or to double-crop with sorghum after winter wheat).

"If you grow sorghum, we're telling farmers, we will buy it," adds Szaloky.

Benefits of Alternative Crops

Both grain sorghum and winter wheat have significant potential for increased production. Sorghum is naturally drought-tolerant, making it especially advantageous for hot, arid regions or areas with periodic water shortages. Sorghum's low fertilizer demand reduces the potential risk of nutrient leaching and, thus, soil and water pollution. In addition, sorghum has a relatively short vegetation cycle, which also helps reduce demand for fertilizers and pesticides. Wheat is grown over the winter when rainfall in the Southeast is more plentiful. Sorghum and wheat grains can be grown on the same fields in the same year (known as double-cropping) to allow for sustainable intensification of production.

Hog Production

As a vertically integrated company, Smithfield raises about half of the pigs needed to make our products. We are committed to protecting the environment on and around our hog farms through pollution prevention and the continuous improvement of our practices and policies.

We have long viewed manure and the nutrients it contains as valuable resources, not as a waste stream. On our farms, we recycle nutrients in manure by applying lagoon effluent as fertilizer on cropland. We are increasingly creating value from manure through innovative technologies while reducing potential impacts and maintaining our commitment to manage manure responsibly. (See [Manure Management FAQs](#) for information on how we treat and manage manure.)

For example, we have been partnering with other companies, as well as governments and nonprofits, to turn [manure into energy](#), a key piece of our progress toward our 25 percent greenhouse gas (GHG) reduction target.

Water and Solid Waste

We use water on our farms for our hogs to drink and for sanitation, cooling, and housekeeping. But our most significant water usage occurs at our plants. Learn about water and solid waste (other than hog manure) in the [Processing section](#) of this report.

Generating Wind and Solar on Farms

Our farming operations in Milford, Utah, have plenty of idle, unused land. We have partnered with two renewable energy companies to make better use of all that open space while offsetting fossil fuel use.

Nearly 40 percent of a 305-megawatt (MW) wind power farm sits on our property, with turbines capable of producing 135 MW that can power about 68,625 area homes. The site has generated commercial power since late 2009. In addition, a 3-MW solar farm capable of providing electricity to roughly 500 households is located on approximately 20 acres of unused Smithfield land.

Together, these projects bolster the local power grid while generating lease income for Smithfield. We plan to expand these types of projects in the United States and internationally over the long term. We are also utilizing internal and external expertise to identify and optimize additional new energy sources.

Improving Feed Efficiency

A few decades ago, a hog required four pounds of feed in order to yield one pound of pork. Today's hogs, by contrast, require less than 2.5 pounds of feed for every one pound of pork—a dramatic improvement in a relatively short period of time. Such efficiencies, gained across the industry, don't just save money; less feed reduces the acres of grain needed to feed our hogs and leads to less manure that must be managed.

A series of improvements in large-scale hog farming have led to more efficient operations that have already positively benefited our carbon footprint. For starters, Smithfield's hogs are raised indoors in climate-controlled barns, which reduces illness and mortality.

Advancements in genetics have also enabled us to breed animals that grow heavier at a faster rate, reducing the amount of feed required from birth to market weight. Customized diets, meanwhile, have allowed pigs to grow and gain lean muscle while retaining more nutrients. Precise formulas of corn, soybean meal, wheat, and minerals and vitamins limit the nutrient levels in hog manure. All of these efforts have reduced the level of nutrients to be managed on our farms.

Our farming operations will continue to look for innovations in hog production that will help us raise animals more efficiently.

Nutrient Recycling Challenge

Innovative technologies that manage the nutrients in manure have the potential to improve water quality, support plant growth, and reduce greenhouse gas (GHG) emissions—all while delivering economic benefits to farmers. So far, however, development of technologies feasible for widespread adoption at existing operations across the industry has been elusive.

In 2015, we joined the [U.S. Environmental Protection Agency \(EPA\)](#), other pork and dairy producers, the [U.S. Department of Agriculture \(USDA\)](#), and environmental and scientific experts to launch the [Nutrient Recycling Challenge](#). This multi-phase competition brings together regulators, scientists, and industry experts to find affordable technologies that can extract valuable nutrients (such as nitrogen and/or phosphorus) from hog or cow manure and concentrate them into a usable and marketable form.

In the first phase of the project, EPA received 75 concept papers on nutrient recovery technologies from applicants around the world. The 34 most promising entrants were invited to a summit in March 2016 where participants were able to share their knowledge around manure management, industrial application, regulatory needs, and funding opportunities. Out of those, the top 10 submissions were awarded a combined \$30,000 in prize money.

The EPA later asked those 34 summit participants to join in Phase II—a non-competitive incubation program aimed at moving the innovators from promising concepts to solid designs. Several of those participants have finalized their designs and are developing startup businesses.

Smithfield is excited to see which of these technologies holds the greatest promise. Learn more about the [Challenge](#) and its industry partners.

Case Study: Turning Manure into Renewable Natural Gas

Most people think of hog manure as a form of waste. At Smithfield, we view manure as an opportunity to create value.

As much as 45 percent of Smithfield's carbon footprint stems from methane emissions resulting from hog manure on company and contract farms. But thanks to innovative, new technologies and strategic partnerships, we're finding ways to convert that hog manure into usable natural gas.

Our newest endeavor is in Duplin County, North Carolina, where anaerobic waste digesters are now capturing biogas from some 60,000 hogs on five Smithfield contract farms. We view this project as a first step in what can serve as a model for many of our North Carolina farms to participate in manure-to-energy projects going forward.

"I like to think of this as the mini-model of what we can do across the state of North Carolina and beyond over time," says Kraig Westerbeek, senior director of Smithfield Renewables and Hog Production Division Environmental Affairs.

Optima BioEnergy, a North Carolina-based corporation, is leading the project. Smithfield has leased to Optima a parcel of land that has a natural gas transmission line running across it to use for collecting and cleaning the gas (total leasing sum: \$1 over a 20-year period).

To make the process more efficient, Optima built new waste collection systems at each of the barns at the participating farms to reroute hog manure and liquids away from the properties' lagoons and into digesters that Optima also installed. Now, after the manure is digested, biogas that is captured from the digesters is upgraded to pipeline-ready natural gas, and the treated effluent from the digesters flows back into the existing lagoons; farmers then use that nutrient-rich mixture to irrigate and fertilize their crops.

Gus Simmons, system designer and one of Optima's principals, says Smithfield was an ideal partner for the project. "Smithfield has such a unique approach to innovation and doing the right thing," he says.

The digesters offer an environment free of oxygen, which enables anaerobic bacteria to grow while feeding on the hog waste. In turn, the bacteria emit methane, or natural gas, as well as carbon dioxide (CO₂). Once upgraded from the biogas, the natural gas is injected into the nearby pipelines. Duke Energy has signed a 15-year agreement to purchase the renewable natural gas (RNG), expected to be about 80,000 dekatherms (dth) per year. That's enough to power roughly 950 households in North Carolina.

Meanwhile, in northern Missouri, Roeslein Alternative Energy (RAE) is converting manure into energy at our hog farming operations in that state. The project, which began pumping natural gas into the national pipeline in 2016, is expected to produce about 1.3 million dth of RNG annually, enough to provide electricity to about 15,400 homes for a year.

Another part of the project is focused on restoring native prairie lands on Smithfield property in Missouri. When harvested, grasses from the prairies will create biomass for methane generation while providing wildlife habitat for **monarch butterflies**, as well as other pollinators and locally important species.

We have several additional, but smaller, manure-to-energy projects at other Smithfield locations. Our facility in Sioux Falls, South Dakota, produces 285,500 dth of biogas per year. Our processing facility in Tar Heel, North Carolina, operates two 5.75-acre anaerobic basins with an average production of 223,600 dth of biogas. Optima has agreed to install specialized equipment that will upgrade Tar Heel's biogas into pipeline-ready natural gas that will be injected into a nearby natural gas pipeline. The project is expected to be in operation by the spring of 2019. In total, these facilities produce enough biofuel to power approximately 6,000 U.S. households for one year.

Case Study: Helping the Monarch Butterfly Recovery

Who knew that hog farms could hold a key to boosting the population of monarch butterflies? Monarch populations have dropped by an estimated 95 percent since the 1980s—so much that they could be listed as a threatened species in June 2019.

Smithfield Foods recently partnered with [Environmental Defense Fund \(EDF\)](#) in the [Monarch Butterfly Habitat Exchange](#), a program that aims to restore and conserve monarch habitat on private land, including farms and ranches. We contributed \$300,000 to fund the planting of monarch friendly native milkweed and wildflower species on 1,000 acres of land near the hog farms that we own in Northern Missouri.

To build the monarch population back up, the exchange is designed to help farmers and ranchers restore millions of acres of breeding and nectaring habitat along the butterfly's migration route. And it needs to be done quickly.

David Wolfe, director of conservation strategy and habitat markets at EDF, likens the project to an “Airbnb for butterflies,” opening up land on private farms and ranches for the monarchs to breed, feed, and rest along their migration route.

The exchange uses a [Monarch Habitat Quantification Tool](#) to evaluate the quantity and quality of butterfly habitat to help maximize the benefits of the restoration project for monarchs and for landowners, too. Not all habitats are created equal. Monarchs, for example, especially favor an abundance and diversity of milkweed and nectar plants for breeding, feeding, and migrating. Much of the biodiversity of native prairie lands has been lost over the decades, and many of the remaining grasslands have been invaded by non-native grasses that are not suitable as habitat for butterflies and other pollinators.

Through the exchange, Smithfield will be reintroducing native species, including milkweed, on the land surrounding our hog farms. These prairie lands will also create biomass for [methane generation](#).

“This project creates so many environmental benefits, all at the same time. It not only improves habitat for the monarch, but it also improves the soil health of the prairies,” Wolfe says. “Smithfield deserves a lot of credit for their involvement and leadership in this work. They are looking and planning ahead to ensure the long-term viability and success of U.S. agriculture.”

Manure Management FAQs

We get lots of questions about manure management. So, we answered the most common ones below.

Do pigs wallow in their own manure?

Modern barns are often designed with slatted floors and routine flushing systems to remove manure from animal pens. This helps keep the animals cleaner relative to outdoor systems.

Where does the hog manure go?

The manure goes into several types of treatment systems that vary depending on several factors, including the location and type of the farm. The majority of our hog production operations use anaerobic treatment lagoons, which have been designed and certified by qualified professionals to treat and store the manure. Although the surfaces of the lagoons are exposed to the air, they are predominately anaerobic below the liquid surface. Lagoon sizes vary depending on the animal production on the farm. These lagoons allow the solids and the associated nutrients in the manure to break down naturally over a period of six to 12 months. Think of the lagoons as a “stomach” for a farm, where naturally occurring anaerobic organisms digest the materials. This treatment system can achieve up to 95 percent reductions in volatile solids and 85 percent reductions in biochemical oxygen demand (a common measure of the amount of oxygen necessary for bacteria to break down organic material in water). What remains is an anaerobically digested, low-solids effluent product that is highly suitable for use as an organic fertilizer and is applied for that purpose.

How are these treatment facilities managed?

Our Environmental Management System (EMS) requires daily checks on the status of all lagoons, weekly inspections, and regular internal audits. The results of all these efforts are recorded and reported to relevant agencies. We make sure that each company-owned farm has enough land available to utilize the manure to grow a variety of crops. Technical specialist staff prepare detailed and comprehensive nutrient management plans that specify the land area needed and types of crops to be grown. Land application systems are designed to ensure proper and precise application of these nutrients and are calibrated at regular intervals to maintain performance.

Are the treatment systems regulated?

The Federal Clean Water Act prohibits hog farms and other livestock operations from discharging manure or any wastewater to “waters of the state” at any time. All treatment systems on company-owned and contract farms require sign-off from state regulators, based on compliance with federally established standards, when they are built. In addition, hog production operations are regulated by state and/or federal water quality permits. These permits not only make comprehensive nutrient management plans enforceable under law, but they also require that we keep extensive records demonstrating compliance. Government inspectors visit hog production operations regularly (up to four times per year) to ensure compliance. Our internal requirements go well beyond regulatory compliance and record keeping; our EMS is certified to ISO 14001 standards.

Are there other location-specific regulations?

Yes. Local, state, and federal setback requirements ensure that hog farms are located in areas that minimize impacts to neighbors, as well as risks to local water sources. Setbacks vary, but examples include requiring farms to locate lagoons 500 feet from any public water-supply well and no less than 2,500 feet from schools, hospitals, parks, and other public spaces.

Are the anaerobic lagoons the best system available?

They are for certain locations and climates, but not in all places. We utilize a variety of manure management technologies, depending on regulatory requirements and regional climatic conditions. We have invested millions of dollars over the past 15 years to evaluate different manure management technologies and will continue to monitor emerging technologies. A few years ago, we sponsored research at [North Carolina State University](#) that analyzed 18 different treatment technologies; the researchers concluded that anaerobic lagoons are the best technology for existing North Carolina farms today.

What other types of systems does Smithfield use?

Lagoons aren't feasible in colder climates, so, in these locations, farms use specialized storage systems to maximize the nutrient content of the liquid manure, which is known as slurry. The manure is stored in tanks or in-ground concrete pits for eventual application to crops as slurry.

How does Smithfield ensure that manure applied to fields won't wash away with the rain?

Our farms apply the fertilizer at controlled application rates and only at times when ponding and/or runoff will not occur; detailed records of all applications are kept and inspected by state regulators. Employees must inspect the fields before, during, and after manure application to make sure that no runoff occurs. In North Carolina, for example, operators carry pagers that alert them to developing weather events and are required to shut down land application when developing weather systems are within 30 minutes of the farm. This precipitation alert system has been used in North Carolina for several years.

Is it better for the environment to raise hogs outdoors?

While some outdoor systems disperse manure across large areas, many outdoor animal producers locate hogs near creeks and have little or no containment to control manure runoff during rainstorms. In addition, untreated manure is deposited on the ground all year long. Modern production systems have storage systems so that manure does not need to be applied during rainstorms or in seasons when crops are not growing. Additionally, hogs grown outdoors generally do not grow as efficiently as animals raised in more controlled environments. Any reduction in **feed efficiency** can increase overall greenhouse gas (GHG) emissions.

Packaging

Product packaging helps ensure food quality and safety. It offers protection during transit, extends shelf life, and communicates important nutrition and safe-handling information to consumers.

We source a huge variety of packaging materials, including resin-based plastics, such as clear film and bags for sealing meats, and corrugated cardboard boxes for shipments. Other items include foam trays, plastic boxes, absorbent liners, folding cartons, zipper bags, plastic tubs and lids, and rigid plastic trays.

We encourage facilities to develop packaging reduction projects, often in partnership with our suppliers, and to subsequently report their successful outcomes through our annual internal awards program. The best practices chosen for awards are shared throughout the company to encourage continuous improvement at all our locations.

Smithfield Prime Fresh Delicatessen

The packaging that surrounds a product can be just as important to our success as what goes inside. Case in point: our new Smithfield Prime Fresh Delicatessen pre-packed lunchmeats. We saw that sales of pre-sliced deli meats were increasing as busy shoppers looked for ways to avoid time waiting at the deli counter.

Our new Prime Fresh line offers consumers premium deli-quality meats already packaged for them and at affordable prices. The proprietary, minimalist packaging, which is designed to look like the meat was just sliced at the deli counter, keeps it fresher longer. The bagged

packaging also uses 31 percent less packaging than the conventional tubs that hold other pre-sliced deli meats, which provides a host of sustainability benefits such as fewer transportation miles (due to more product able to fit on trucks) and less waste sent to landfill.



Transportation and Logistics

Improving transportation logistics is one of the keys to reducing greenhouse gases (GHGs) because we have more control over emissions (in the case of our own fleet) or influence (in the case of contract truckers) than we do over how consumers use our products in their homes or workplaces.

Until recently, we operated three separate massive distribution and logistics networks. Transportation inefficiencies were the norm, creating millions of miles worth of redundant trips that expanded our environmental footprint and reduced profits. For example, pork bellies harvested in Tar Heel, North Carolina, might be turned into bacon in Milwaukee, Wisconsin, then driven back to the Southeast for sale at retail stores.

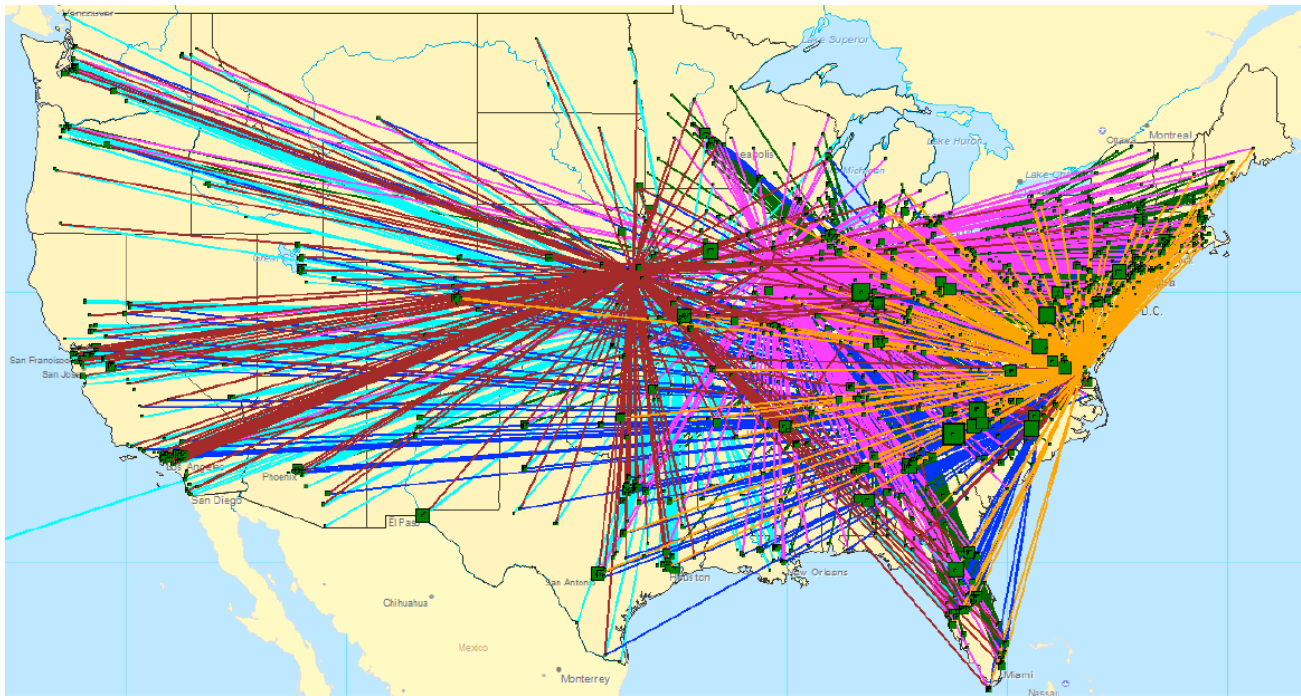
As part of our “One Smithfield” realignment, we began overhauling our logistics network, which includes a fleet of nearly 6,500 third-party trucks traveling more than 3 million miles a week, to find more efficient ways of producing our foods and getting them to customers (e.g., supermarkets, retail chains, restaurants, and foodservice companies). By reorganizing our logistics network, increasing weight on each shipment, and renegotiating carrier contracts, we hope to achieve several goals in the short and long term: eliminate redundancies, reduce complexities, lower operating costs, decrease our carbon footprint, and improve customer service.

In 2015, we began using a new software program to optimize delivery routes and provide real-time tracking of truck location and driver performance. Since its adoption, this technology has reduced the distance our drivers travel by 465,000 miles, saving 58,600 gallons of fuel, and reducing our carbon footprint by 655 tons carbon dioxide equivalent (CO₂e).

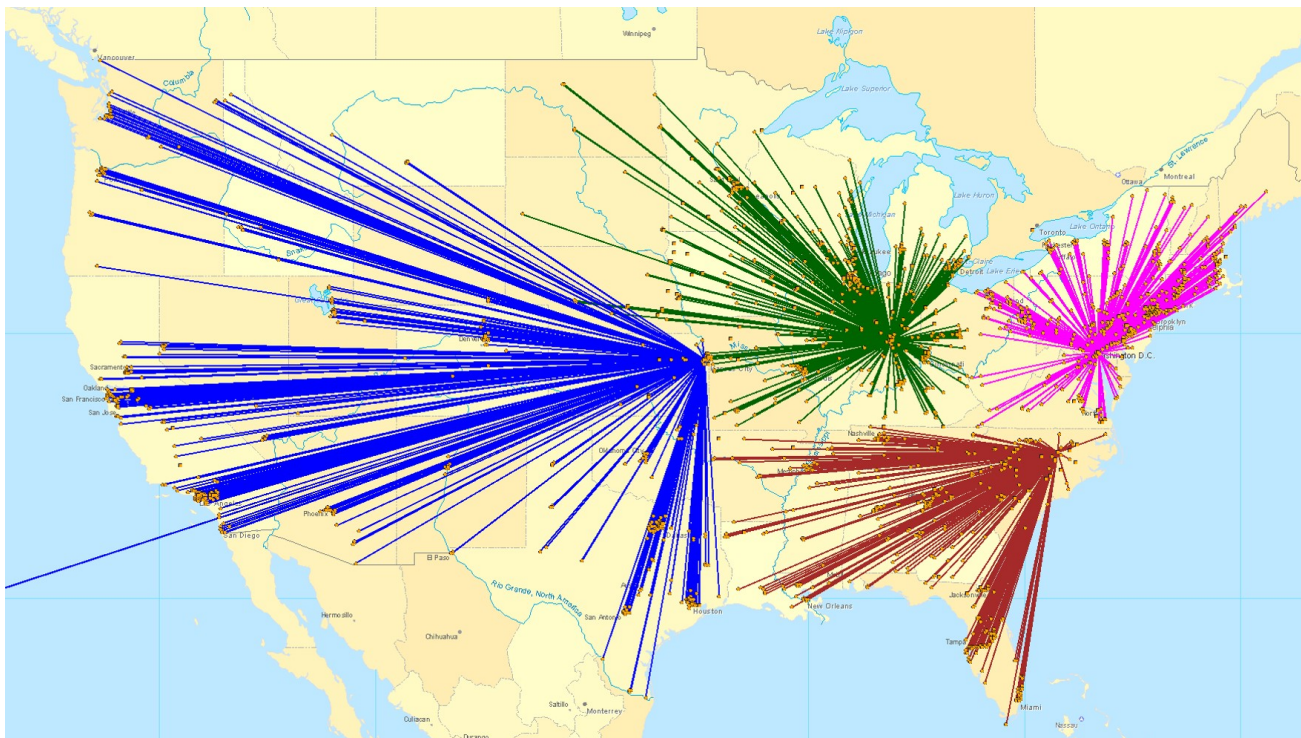
Streamlining logistics is a substantial undertaking that will take years to complete, but initial projects are already showing great promise. Just a handful of changes made in 2017, for example, lowered costs by \$29 million. These changes included an increase in shipping directly from our plants to customers (without staging products at distribution centers); optimized use of our dedicated fleet; increased use of newer, lighter trucks; and renegotiated rates with our third-party trucking companies. In the next three to five years, we expect to reduce the distance Smithfield’s hogs and products travel by between 11 and 19 million miles, saving over 1.8 million gallons of fuel per year and an expected \$50 to \$60 million in total.

For example, our Smithfield Direct operations, which supply Smithfield products and other frozen food to retailers, haul over 200 million pounds of product to more than 15,000 stores each year. An analysis of their routes showed that many of our trucks were passing each other on the road, crossing into service areas covered by other branches. This inefficiency resulted in unnecessary miles driven, wasted fuel, and more time on the road for our drivers. We recently adopted a new software program to optimize our delivery routes and provide real-time tracking of truck location and driver performance. Each year, this technology saves our drivers 147,000 miles, cuts fuel use by 17,200 gallons, and reduces our carbon footprint by 168 tons CO₂e.

Distribution Current State



Distribution Future State



By switching to regional production hubs and streamlining our cold storage infrastructure, we will reduce the distance our products travel, which should lower fuel use, cut transportation costs, and improve delivery times.

Lightweight Equipment

Smithfield encourages our third-party haulers to use new, lighter equipment when delivering Smithfield products. These trucks are more fuel-efficient and can carry more product, saving money, reducing the number of trips, and decreasing emissions. The table below illustrates the rapid adoption—and the immense potential—of lightweight equipment used by Smithfield’s transportation contractors.

Transportation Using Lightweight Equipment	2016	2017
Trucks	48	131
Shipments	5,020	13,630
Product shipped (lbs)	216 million	586 million
Loads eliminated	502	1,360
Miles saved	128,010	347,570
Fuel reduction (gallons)	18,290	49,650
Fuel savings (dollars)	\$80,650	\$218,970
Greenhouse gas (GHG) reduction (metric tons CO ₂ e)	148	401

CO₂e stands for carbon dioxide (CO₂) equivalent.

We also implement initiatives that reduce the number of shipments needed to support our own operations. For example, our farming operation in Milford, Utah, replaced the dual tires on its tractor-trailers with single, lighter, wider tires. Because it weighs less now, each truck can carry more feed, which reduces the number of trips. This saves more than \$106,000 in fuel costs for the Utah operation per year and lowers carbon dioxide (CO₂) emissions by 100 metric tons annually.

Processing

Our processing plants require energy, water, and packaging materials to produce fresh pork and packaged meats.

While processing makes up less than 10 percent of our greenhouse gas (GHG) footprint, recent energy reduction projects will help push us toward our [GHG reduction goal](#). Over the past several years, we have been upgrading plant equipment and streamlining production lines to reduce water use and improve [water quality](#) management. We have also worked to minimize the amount of solid waste sent to landfill. Some of our facilities have achieved [zero-waste-to-landfill status](#).

This section reports progress toward our environmental targets and commitments. Reported figures in the [Performance Summary](#) have been rounded. Percentage changes are calculated based on non-rounded values and may vary from those calculated based on the rounded numbers.

Energy

Our processing facilities use significant amounts of energy in the form of electricity, fossil fuels, and biogas. We have focused on ways to use less energy in our operations and, when possible, are generating renewable energy.

We are aiming for our processing plants to achieve 5 percent reductions in normalized energy use and greenhouse gas (GHG) emissions by 2020. Any GHG reductions at our facilities will contribute to our overall [25 percent by 2025 reduction target](#).

This past year, we reduced our normalized GHG footprint with GHG emissions per hundred pounds of product by 7.4 percent over our 2014 baseline, even as our normalized use of energy rose by 1.9 percent. This is primarily because we are making some of our products less energy intensive for consumers. For example, we have increased the number of ready-to-eat, prepared foods such as precooked entrées, bacon, and sausage. This means our foodservice customers and consumers use less energy to prepare and enjoy our food.

Our Performance Since 2014 (normalized)

- GHG emissions down 7.4%
- Energy use up 1.9%

See the [Performance Summary](#) for energy and GHG data.

Normalized GHG emissions and energy use are expressed as rates (e.g., gigajoules per 100 pounds of product). This way, we are able to track how efficiently we are using resources to produce our products.

Reducing Energy Use at Our Plants

In 2011, our facilities in Sioux Center, Iowa; Elizabeth, New Jersey; and Cudahy, Wisconsin, joined a [U.S. Department of Energy \(DOE\)](#) program that offers companies technical assistance as they work toward energy efficiency improvements.

Through the Better Buildings, Better Plants Program and Challenge, we set a goal to reduce overall energy intensity by 25 percent over a 10-year period and began reporting energy use to DOE. Between 2010 and 2017, we also invested \$113 million in capital expenditures to improve our processing capacity and modernize our facilities. By replacing inefficient equipment, installing LED lighting, adding occupancy sensors, and installing low-flow water nozzles, among other efforts, we were able to drive up production without increasing energy use.

All of these changes added up quickly. Our facilities reduced energy intensity 29 percent by 2017, surpassing the 25 percent goal four years ahead of schedule. We will continue reporting our energy use to DOE for the next four years, exploring further opportunities to improve energy efficiency. We also plan to share what we've learned with other facilities throughout the company to push us toward our [25 percent greenhouse gas \(GHG\) reduction by 2025 reduction target](#).

Upgrading to LED Lighting

Metal-halide lamps date back to the 1960s. They produce ample light and can withstand a wide range of temperatures and humidity levels. But they are inefficient and are difficult to dispose of after they burn out.

We have developed a program to help our operating facilities replace metal-halide light fixtures with LEDs, which use approximately 70 percent less electricity. Compatible with occupancy sensors, these fixtures can be dimmed and/or programmed to operate at specific hours; they also take less time to turn on or off than their metal-halide counterparts, all of which lead to even further energy savings.

Our goal is to complete the transition in roughly five years. Once finished, we anticipate annual energy savings of approximately \$2 million. The lamps have additional benefits beyond just energy savings, including improved visibility for employees and less frequent maintenance.

Water

Our processing plants require water for cooking and sanitation. Using too much is expensive and wasteful and could potentially affect local sources, particularly in areas where water is scarce. Improperly managing water quality can create numerous risks to our businesses.

This past year, we continued to see improvements in the efficiency with which we used water, with water use per hundred pounds of product down 2.5 percent over our 2014 baseline, even as our overall use of water rose by 7.5 percent due to increased production.

Our Performance Since 2014 (normalized)

- Water use down 2.5%

See the [Performance Summary](#) for water use data.

Normalized water use is expressed as a rate (e.g., gallons per 100 pounds of product). This allows us to track how efficiently we are using resources to produce our products.

Industry Leader in Water Management

[Ceres](#), a nonprofit advocate for sustainability leadership, routinely evaluates companies in four industries (packaged food, beverage, meat, and agricultural products) and examines how water risks might disrupt operations, limit growth, or increase agricultural input costs, and, therefore, affect the profitability and competitive positioning of food companies.

Ceres ranked Smithfield Number 1 in water management among leading meat companies in its 2015 report "[Feeding Ourselves Thirsty](#)" and then again when it [refreshed its analysis in 2017](#). Companies were evaluated on 20 core aspects of water risk management, including policy development and data gathering, business planning and goal-setting, and stakeholder engagement and disclosure. Smithfield received 33 (out of 100) points. This is a significant accomplishment given the water use challenges for agricultural businesses like ours.

Small Improvements Lead to Efficiencies

Our processing plant in Salt Lake City, Utah, had water efficiency in mind when it installed pressure regulators in 20 washing stations. These nozzles limit water use while maintaining correct pressure and temperature ranges. This inexpensive change reduced the facility's water bill by 37 percent and cut natural gas use by 34 percent, saving about \$65,650 per year.

Read our [Water Policy](#).

Solid Waste

Smithfield seeks to be as efficient as possible when making and delivering products. Reducing solid waste at our processing facilities, and sending less of it to landfills, is an important part of our commitment to environmental stewardship.

Our approaches include redesigning packaging, increasing recycling and composting at our facilities, and selling materials that have residual value.

In 2017, our operations sent roughly 5 percent more material to landfills than in 2014 due to increased production. However, improved production efficiency lowered the amount sent to landfill per 100 pounds of product (cwt) by 7.4 percent.

Our Performance Since 2014 (normalized)

- Solid waste down 7.4%

See the [Performance Summary](#) for solid waste data.

Normalized solid waste to landfill is expressed as a rate (e.g., pounds per 100 pounds of product). This allows us to track how efficiently we are using resources to produce our products.

Improving Wastewater Treatment

Our facility in Sioux Center, Iowa, earned Smithfield's [2017 President's Award](#) for environmental stewardship for finding a better way to manage and dispose of biosolids captured during the wastewater treatment process.

In the past, the facility mechanically removed water from the biosolids before hauling them to a nearby storage area for eventual use as fertilizer. The plant partnered with a local farmer to haul liquid biosolids to an all-weather containment lagoon. The biosolids act as a cost-effective liquid fertilizer, benefiting both the farmer and local soil quality. This creative solution eliminated the need to dry the biosolids, reducing annual water use by more than 2 million gallons and saving the plant nearly \$115,000 a year in water, energy, waste, and related costs.

Zero Waste to Landfill

We encourage all domestic processing facilities to meet a rigorous set of criteria in order to be classified as zero-waste-to-landfill facilities. To be classified as a zero-waste-to-landfill facility, a facility must:

- Not send any waste to landfill for 12 consecutive months;
- Cut normalized waste by at least 10 percent from the facility baseline;
- Reuse or recycle at least 50 percent of generated waste;
- Limit incineration without energy recovery to hazardous and medical wastes;
- Reduce stabilized and landfilled hazardous waste to 0.1 percent of waste generated;
- Ensure waste management costs do not exceed 105 percent of baseline costs;

- Maintain records to be reviewed by staff and/or a third-party auditor.

Going zero waste to landfill cuts waste disposal costs, generates revenue from selling recyclables, reduces emissions, and bolsters the company's reputation. Our eight certified facilities save nearly \$273,000 in disposal costs per year.

Zero-Waste-to-Landfill Facility	Certification Date	Landfill Diversion (tons/year)	Annual Savings
Peru, Indiana	May 2013	440	\$95,000
St. James, Minnesota	March 2014	1,306	Cost neutral
Bolingbrook, Illinois	June 2014	142	\$50,000
Springfield, Massachusetts	July 2014	242	\$66,000
Sioux Center, Iowa	February 2016	2,467	\$20,000
St. Charles, Illinois	March 2016	1,466	\$14,000
Mason City, Iowa	August 2016	889	\$24,900
Omaha, Nebraska	October 2016	350	\$2,900

We expect to certify five additional zero-waste-to-landfill facilities in 2018:

- Elizabeth, New Jersey
- Cudahy, Wisconsin
- Orange City, Iowa
- San Leandro, California
- Greenfield, Indiana

Consumer Use

The consumer use stage of the value chain (including refrigeration, cooking, cleanup, and waste disposal) accounts for a sizeable piece of our greenhouse gas (GHG) footprint: 20 to 25 percent.

Because we have very little control over how consumers use our products, we are not focusing our GHG reduction efforts there. However, the trend in the marketplace toward shelf-stable, pre-cooked foods with smaller portion sizes tends to reduce consumer energy use while increasing it at our facilities, where we actively encourage energy efficiency improvement. Smaller portion sizes also minimize food waste.

Our Management Approach

Effective environmental management is critical to the success of our business and to the achievement of our long-term sustainability goals. Our Environmental Policy serves as the foundation for all of our efforts, with our environmental management system (EMS) as our operating system. We work to minimize our impact on natural resources up and down our supply chain.

As part of our “One Smithfield” initiative, we recently realigned our Environmental Affairs Team to better match resources with needs and to build on our sustainability leadership. We created three new positions: director of Smithfield Renewables and Hog Production Division environmental affairs; assistant vice president of sustainability; and senior director of environmental affairs. All three report directly to our chief sustainability officer.

We also assigned new roles and responsibilities to several other key environmental positions, creating environmental subject matter experts that also oversee specific geographic regions to leverage our strengths, experiences, and expertise. Our goal is to go beyond ensuring 100% compliance, 100% of the time and to further embed environmental sustainability into our operations and our company culture.

We also recently updated our Environmental Policy to be more in line with the latest version of the ISO 14001 Standard. The ISO revisions, which were released in 2015, emphasized sustainable operations and consideration of the needs and expectations of interested parties in evaluating process-related risks and opportunities, including greater stakeholder involvement and a focus on life cycle thinking. (Read about our recent [Life Cycle Analysis](#)).

Smithfield was the first in our industry to have all farms and facilities certified to ISO 14001, which is considered the international gold standard for environmental management. To obtain certification, an organization must meet a rigorous and comprehensive set of requirements and criteria developed by more than 2,000 experts from around the world. It also requires independent audits by third parties.

Our commitment to ISO certification began in 2001 when we started voluntarily implementing a comprehensive EMS at all of our company-owned hog farms. In 2005, we became the first in our industry to achieve certification at all U.S. hog production and processing facilities (other than new acquisitions).

Environmental Policy

It is the corporate policy of Smithfield Foods, Inc. and its subsidiaries to conduct business in a manner consistent with continual improvement in regard to protecting the environment and sustainable operations.

- Smithfield Foods, Inc. is committed to protecting the environment through pollution prevention and continual improvement of our environmental practices. We consider our activities, products, and services, which may have significant environmental aspects, in the scope of the Environmental Management System (EMS). We also consider the needs and expectations of interested parties in evaluating process-related risks and opportunities.
- Smithfield Foods, Inc. strives to demonstrate its commitment to responsible corporate citizenship by complying with relevant environmental legislation and regulations and with other requirements to which we subscribe. We create, implement, review, and update appropriate environmental objectives and targets to improve sustainable operations.
- Under our leadership, protection of the environment is the responsibility of all Smithfield Foods, Inc. employees within the scope of the EMS.
- Smithfield Foods, Inc. communicates this policy to persons within the scope of the EMS and makes it available to the public through its website and provides printed copies upon request.

Water Policy

Water is an essential natural resource for our business and our communities. Consistent with Smithfield’s commitment to environmental stewardship, we place the highest priority on the conservation and protection of this critical resource.

Throughout all aspects of our business worldwide, Smithfield will strive to reduce the impacts of our operations on water resources and to protect and sustain the water supply for our communities and our business.

Smithfield will take a leadership role in managing water supplies cooperatively with our communities. The [2010 United Nations General Assembly Resolution](#) recognizes the right to a safe and sufficient water supply, and, wherever we operate, Smithfield will help ensure the sustainability of this essential resource.

As part of this commitment, Smithfield will implement proactive management systems that direct this effort throughout the Company, adhering to the following principles:

- 1. Quality.** As Smithfield manages and utilizes our water resources, we aim to preserve and enhance the quality of these resources for our communities and our operations. Sustaining water quality is an ongoing management priority and is incorporated into our planning and day-to-day operations.
- 2. Conservation and Efficiency.** Smithfield will manage our water supply mindful that it is a finite resource and will preserve its quantity and availability to the community and our operations. Smithfield will strive to constantly improve the efficient use of its water supply. We will maintain targets for decreased consumption and cost, pursue best practices, and track progress to evaluate performance over time.
- 3. Cooperation.** We will work with our local communities and regulatory agencies to manage water resources. As a company, Smithfield is committed to complying with all regulatory mandates as we utilize water supplies. The Company will maintain transparency and open communication with the community.

Smithfield is a leader in our commitment to protect and enhance the environment. Likewise, as a company, we will be responsible stewards of water supplies and partners with our communities to ensure the sustainability of the resource.

Recognition & Awards

As part of our sustainability program, each facility is expected to submit at least one sustainability project to our internal awards program, which recognizes environmental stewardship efforts coupled with economic benefits.

Winning programs are selected based on several factors, including environmental impact, social significance, efficiency, cost-effectiveness, originality, and technical value. Winning facilities receive recognition from senior management and cash awards of \$5,000, of which \$3,000 goes to a nonprofit of the award recipient's choice. We presented 11 Environmental Excellence Awards and one President's Award for 2017.

Environmental Excellence Awards are given to specific employees or to a team, while a President's Award is given for projects that are the combined effort of a larger group of employees.

Environmental Excellence Awards

- Energy—St. James, Minnesota
- Energy—Sonora, Mexico
- **Water—Ilawa, Poland**
- Water—Yuma, Colorado
- Packaging—Middlesboro, Kentucky
- Waste—Orange City, Iowa
- Waste—Smithfield, Virginia
- Waste—Grayson, Kentucky
- Community Outreach—Milan, Missouri
- Community Outreach—Laverne, Oklahoma
- Training—Timisoara, Romania

President's Award

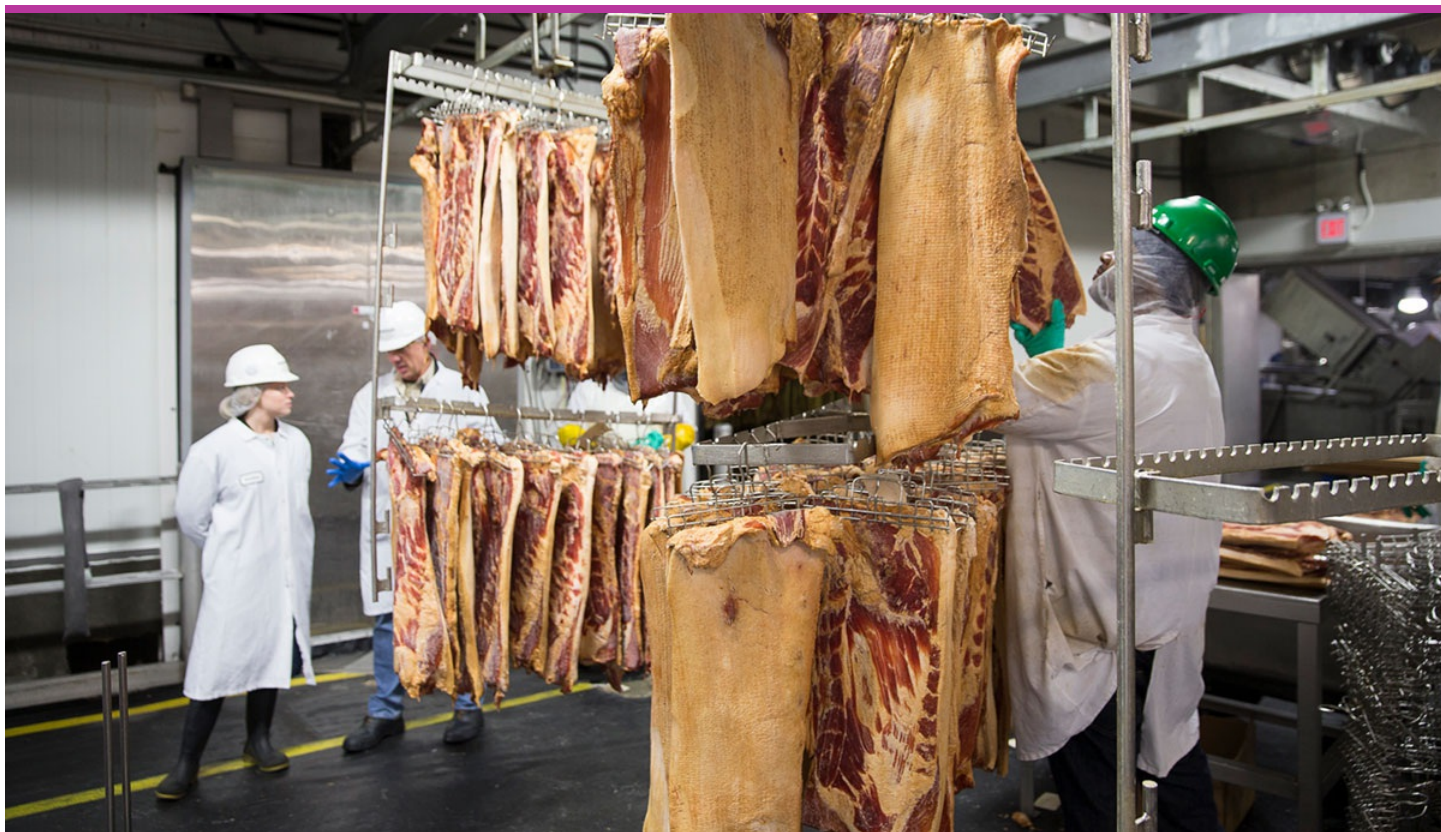
See the [Processing](#) section for information about the wastewater project in our Sioux Center, Iowa, facility that earned the President's Award.

External Awards

All facilities are also expected to apply for at least one third-party environmental award (e.g., local government, environmental group, regulator, trade association, or charitable foundation). In 2017, our operations received 80 third-party awards, recognizing efforts to improve packaging, water management, and energy consumption, including several from the following organizations:

- North American Meat Institute (NAMI)
- U.S. Department of Energy's (DOE) Energy Reduction Recognition
- Iowa Pork Producers Association
- North Carolina 4-H

- Cumberland County Livestock Association
- Utah Labor Commission
- National FFA Organization



Our Commitment To Safe, High-Quality Foods

Consumers put their trust in Smithfield every time they eat one of our products. That's why the safety and quality of our foods is fundamental to our success as a company, underscoring our mission to provide "Good food. Responsibly.®"

Food safety **starts on the farm**, where we have rigorous systems in place to raise healthy animals. It continues at the processing plants, where we follow meticulous and exacting procedures. Our vertically integrated business enables traceability from the conception of the livestock to the consumption of the final products. At Smithfield, every employee along that path plays a role in ensuring that our processes are followed.

Our Food Safety & Quality Goal

- Deliver safe, high-quality meat products

Our Food Safety & Quality Targets

- No incident requiring U.S. Department of Agriculture (USDA) recalls
- Maintain Global Food Safety Initiative (GFSI) certification at all applicable facilities

We partner with industry, government, and independent experts to create and implement leading, science-based food safety and quality practices that we constantly strive to improve. We have a zero tolerance policy regarding food safety violations and have built a workplace culture that places responsibility for food safety squarely on the shoulders of every employee.

**Innovation—both in the foods that we make and in the way
that we make them—is essential in our continued evolution from
a commodities business to a consumer packaged goods and protein company.**

Consumers' expectations of food companies continue to evolve. They want to know more about what is in the foods they purchase—and they want simplified labels with ingredients that they can understand and pronounce. We believe it's important to be transparent about what goes into our products, so we can continue to build trust with our customers and consumers.

To demonstrate even greater transparency, and in what we believe was a first for the meat industry, we published an online [ingredient glossary](#) that includes more than 100 definitions of ingredients that can be found in our foods. We started in 2016 with the products that represent the greatest volume of retail sales—in other words, our most popular products—and have since added more definitions.

Innovation—both in the foods that we make and in the way that we make them—is essential in our continued evolution from a commodities business to a consumer packaged goods and protein company. Our heightened focus on innovation is driven by consumer preferences, transparency, nutritional concerns, and opportunities to reduce our environmental footprint.

In the following video, learn more about fresh pork production and our leading traceability program.

Value Creation

By maintaining the highest food safety standards, we build value for our own company and for the retailers and vendors that sell our products in supermarkets and restaurants.

Product quality and safety is one of the biggest areas of risk for food producers and manufacturers. Food products are susceptible to contamination by disease-producing organisms or pathogens, which are found naturally in the environment. Product contamination can subject food companies to product liability claims, adverse publicity, government intervention, and decreased sales as customers lose confidence in the safety and quality of the food. But most important, product contamination threatens to affect the health and well-being of our consumers and their families, which remain paramount to everything we do at Smithfield.

Given the potential negative impacts from food safety failures, our company has numerous systems in place that are designed to monitor and mitigate food safety risks. Read more about our [food safety laboratories](#).

Smithfield invests millions of dollars each year in capital improvements to facilities and equipment, focusing on the safety of our products and protection of our employees while simultaneously enhancing production at existing and new facilities. During 2017, our company spent about \$52.5 million on capital projects in the United States that continue to advance our industry-leading food safety and quality standards, such as upgrading refrigeration systems, maintaining physical integrity of our facilities, upgrading cleaning and sanitation systems, and installing new product processing and packaging equipment.

We also emphasize [product innovation](#), which we see as one of the keys to unlocking value and driving growth for Smithfield and for our retail and foodservice partners.

Our Processing Plants

Detailed procedures, complex protocols, and sound science are the hallmarks of an effective food safety program. But beneath all of that, food safety is really about the employees who live and breathe it every day on the production lines.

We have instilled in our people a culture that puts food safety as their highest priority. This concept comes from the very top of the company—from leaders who insist that food safety is non-negotiable. For example, plant workers have the authority to shut down production if, for any reason, someone believes that the safety or quality of the food might be compromised. We tell all production employees that food safety is up to them, and they take that responsibility seriously.

No matter how professionally it is done, food production always entails some food safety risk. Our job is to manage those inherent risks, using science as our guide.

In 2017, we unfortunately had three U.S. Department of Agriculture product recalls, which kept us from meeting our annual target of zero. In two of the cases, small shavings of metal from facility production lines were found in certain batches of products. A third recall was due to misbranding and an undeclared allergen of a single pallet of product sent to just one customer who was alerted immediately. For all three recalls, we took swift action to remove the products from store shelves. There were no reports of injuries or ill effects resulting from any of the recalled products.

In the wake of the recalls, we increased our food safety efforts and over the past year have allocated millions of dollars in additional spending for facility upgrades and equipment improvements. Our production facilities have thousands of moving parts of metal equipment, and each line must be cleaned and taken apart at the end of every shift. Our focus on finding ways to improve equipment with best-in-class renovations is more intense than ever.

At several plants, we are installing new X-ray equipment as well as new systems of automation that will reduce the chances of contamination even further. We're also continuing to remind our people that their eyes, ears, and on-the-job expertise go a long way toward preventing a food safety incident. (Read more in the [Raise Your Hand case study](#).)

No matter how professionally it is done, food production always entails some food safety risk. Our job is to manage those inherent risks, using science as our guide. From good personal hygiene to good manufacturing practices, there are, quite literally, thousands of procedures we must follow every day to be sure that the meats we produce are as safe as we can. Wherever possible, we automate the process to minimize the possibility of bacterial contamination.

For example, we have cutting-edge robotics technology on the slaughter floor in several of our facilities. This technology provides the latest in hygiene and safety requirements while improving accuracy and increasing product yields during the cutting and deboning process. We have installed the technology in three facilities and plan to add it in other locations in the coming years.

But automation can only improve conditions to a point. We also must rely on our people to manually clean equipment and inspect machinery during and after each production shift. Every night, our most critical manufacturing equipment gets disassembled, scrubbed clean, sanitized, and put back together for the next day's production run.

Food Safety Certification

The **Global Food Safety Initiative** (GFSI) certifies a plant's compliance with an internationally recognized set of food safety standards, making food safety and quality assessments more consistent and efficient while ensuring compliance in foreign markets. Many of our customers rely on the GFSI certifications, knowing that they represent the gold standard in the industry.

One hundred percent of applicable Smithfield facilities—35 in total—are GFSI certified and subject to GFSI's annual third-party audits. We have an annual target of maintaining that certification at all facilities.

Training & Auditing

Our Food Safety and Quality Training Policy outlines required food safety and quality training topics, trainer qualifications, and the frequency of training at all of our subsidiary processing facilities.

Each plant employee is trained upon hiring and is retrained on an ongoing basis, depending on his or her job requirements. Facilities spend thousands of man-hours training employees in food safety procedures and hold daily pre-shift meetings that often include food safety or worker safety topics.

Our training programs also take into account the diversity of our employee base. At many plants, workers are non-native English speakers, so training manuals and hands-on sessions are offered in multiple languages.

A number of employees have gone through advanced training sessions—known as Brown Belt and Black Belt training—that are unique in our industry and cover a range of food safety and food science topics.

Auditing, Inspections, & Testing

Our facilities are subject to multiple types of safety and quality audits and inspections, including internal, government, and third-party. In addition, we regularly conduct mock product recalls in which facility staff must locate 99.9 percent of affected food products within two hours.

Any nonconformance discovered by an audit is addressed swiftly at each facility. We conduct a follow-up audit after the initial audit to make certain that any corrective actions have been accomplished and then share our findings with other Smithfield facilities.

Case Study: Raise Your Hand

If you see something, say something. That's the message behind a revitalized Smithfield initiative that empowers team members to immediately report any concerns about food safety or quality, from sanitation issues to potential foreign materials in our products.

Raise Your Hand builds upon our company's philosophy that all employees have a role to play in making safe, high-quality foods. The newly named program aims to make an even deeper impression upon the thousands of people who staff our manufacturing facilities. At its root, the goal of Raise Your Hand is quite simple: to encourage employees to speak up if they see something of concern or something unusual—or even when they have a question.

We have tasked all fresh and packaged meat plant leaders with developing food safety programs with measurable goals that focus on specific opportunities for improvement—programs that empower employees to engage and share observations and that require supervisors to take immediate action.

But this is no one-size-fits-all initiative. Each facility is encouraged to customize the program in ways that best fit a plant's individual culture.

A few months after the July 2017 launch of Raise Your Hand, for example, our St. Charles, Illinois, plant developed the "Spring into Action" program that recognizes employees who stop the production process and raise their hand if they spot a potential problem. Employees who step up and do the right thing receive a certificate of acknowledgment and vending machine passes.

We distributed Raise Your Hand communications materials, including posters for breakrooms and other high-traffic areas, to all facilities throughout the fall months.

Case Study: Combating Pathogens Through Science

Most people try to avoid spoiled meat. The microbiologists at Smithfield Foods surround themselves with it.

The scientists at our in-house food safety research laboratories test, validate, and evaluate the latest in food safety technologies. For example, our labs intentionally inject test Smithfield products with microorganisms—such as *Salmonella*, *Listeria*, and *E. coli*—to see how the pathogens will react over time to cooking, chilling, or refrigerated storage.

Among their responsibilities is oversight of the expiration dates stamped on our packaged meats products. Many categories of foods, such as cereals, crackers, or canned goods, are considered “best” if consumed by a certain date. Meat, on the other hand, will eventually spoil, so the shelf life dates are based on scientific risk assessments of *Listeria* growth, as well as quality parameters.

Two Smithfield laboratories have been accredited by the American Association for Laboratory Accreditation (A2LA), a nonprofit membership society that grants certification to International Organization for Standardization (ISO) 17025. A third Smithfield facility was in the process of pursuing certification in 2018.

These scientists work on what we think of as the “ugly side” of product innovation. They grow bad bugs and put them in samples of products in a controlled environment to better understand countermeasures we can implement to combat pathogens and other food safety risks.

For example, the scientists will inject *Listeria* into bologna and put it in a lab refrigerator for several months, testing it every few weeks to see how much the bacteria grow over time. The results help Smithfield determine which preservatives and antimicrobials will offer the best—and the longest—protection for particular products.

Salt is a key preservative in packaged meats such as ham and bacon. Microbiologists like salt because the bacteria hate it. But more and more, consumers are asking for products with reduced sodium, creating a balancing act to determine how low in sodium a product can go while still controlling potentially harmful pathogens.

In recent years, our laboratories have been especially focused on helping Smithfield transition to “cleaner labels,” in response to consumer requests for products made with more understandable ingredients. ([Read more on clean labels.](#)) Currently, our scientists are partnering with researchers from Iowa State University to determine how curing with nitrites from natural ingredients, such as celery juice powder, can impact pathogen growth in products, particularly when there are deviations to the cooking process (e.g., a power outage at the manufacturing facility). The research is being supported by the Foundation for Meat and Poultry Research and Education.

We already know a significant amount about how preservatives such as lactate, nitrite, and benzoate work in our foods, but there isn’t much published science about the natural ingredients, such as vinegar-based antimicrobials, that are replacing them. We conduct ongoing research so we can meet consumer demand for cleaner labels while ensuring we create safe products.

Although most of our research is proprietary, our team has already published a host of scientific papers in peer-reviewed journals on behalf of Smithfield Foods. In some instances, we share our results because we feel it helps improve food safety across the industry as a whole, and it further demonstrates that we’re making safe products. For example, one paper written by our team gave peer companies some important insights into the temperatures that are safest for cooling smoked bacon during production.

Above all, these labs infuse science into the decisions that we make about our products so that our food safety decisions are solidly based on science, facts, and empirical data, rather than conventional wisdom or market trends. Our scientific approach and insight allows us to truly say we are producing “Good food. Responsibly.®”

Product Innovation

Innovation is a critical element of product development at Smithfield. As we transform ourselves into a world-class consumer packaged goods company, we have gotten more strategic and have developed a pipeline of new products to roll out over the coming years.

Innovation is much broader than simply new product development. It's about thinking differently across all aspects of our business. Process innovation, for example, can have a faster impact on the company than product innovation. A new product can take two years to develop and launch—and the financial rewards won't be seen for a year or two after that. But changing the way a product is made can have a much more immediate impact on the company's bottom line or its ability to improve safety or save resources.

Creating a New Market with Fresh Meatballs

Consumers aim to check many boxes when shopping for groceries. They want fresh food that looks great and tastes homemade. Increasingly strapped for time, they want convenience. Our new Carando Italian Style Meatballs achieve many of those requirements.

Unlike their frozen or pre-cooked counterparts, these fresh, pre-seasoned meatballs look homemade and are ready to bake, broil, simmer, or sauté at home. The fully formed meatballs come nestled in a tray, similar to an egg carton, so they maintain their shape. Although they are designed to be cooked within a few days of purchase, they can be frozen in their existing packaging for later use.



We launched several varieties of the meatballs in select markets in 2017 with plans for a much larger rollout in 2018.

This is an entirely new product category that didn't exist until we created it. "People want to feel closer to their food. They want fresh food, just like it was made on someone's kitchen counter," says Will Brunt, Smithfield's chief innovation officer. "We're offering a way for consumers to cook fresh meatballs at home, without having to do all the work themselves."

We pay close attention to consumer preferences and market research to stay ahead of the curve with new foods that capitalize on emerging trends. We also label products to showcase which ones are gluten-free or good sources of protein in response to growing marketplace demands.

Antibiotic-Free Products

In the United States, all meat sold is free of antibiotics, based on **required withdrawal periods**. But some customers and consumers are increasingly looking for meat from animals that have never been given antibiotics. In response, Smithfield has launched a line of antibiotic-free products. The hogs raised for these foods are segregated from the rest of the herd and never receive antibiotics.

As an industry leader, Smithfield has expanded our fresh and packaged portfolio to offer consumers a “Raised Without Antibiotics” program, launched under our Pure Farms and Pure Farmland brands. The portfolio includes a variety of fresh items, such as ribs and chops, and packaged items like all-natural, uncured bacon and ham. Pure Farmland also has no preservatives, no artificial ingredients, no monosodium glutamate (MSG), and no nitrites or nitrates (except those naturally occurring in celery or celery juice).

Consumer research shows that nearly 45 percent of U.S. shoppers cite “antibiotic free” as a “food claim they would like to see more of,” making it the second most sought-after claim out of all “free from” foods.¹

As the only company in the industry to report antibiotics usage since 2007, our antibiotic-free products further affirm Smithfield’s continued leadership of practices that uphold the highest standards of transparency and strengthen consumer trust.

¹ Mintel, Free From Food Claims, October 2017

Nutrition

Our research and development teams of chefs, food scientists, and nutritionists look for ways to respond to the needs of consumers.

In prior years, we tended to be more reactive on product development, coming up with new flavors and varieties when we were asked to do so by large grocery chains and foodservice providers. Today, however, it's a very different story, and we are working proactively across our product lines to make improvements, including nutritional enhancements.

We have worked hard in recent years to provide options that reduce fat, sodium, and sugar wherever possible and still provide a product with the great taste that consumers expect from us. In all product categories, we have lower-salt lines, and we are constantly innovating to develop new techniques to improve the nutrition profiles of our foods.



We have many examples we can point to, including dozens of products across multiple brands—including Smithfield, Farmland, Healthy Ones, Krakus, and Kretschmar—that meet the American Heart Association's certification criteria for foods that are low in saturated fat and sodium content. In addition, we have more than 300 products that offer health and wellness benefits, such as lower sodium, reduced fat, no added sugar, gluten-free, no artificial ingredients, and no nitrites or nitrates. These span across our deli, retail, and foodservice channels.

In recent years, we have focused in particular on breakfast meats that provide health and wellness attributes, from fully cooked pork sausage patties made with all-natural ingredients, no preservatives, and no monosodium glutamate (MSG) to bacon with 50 percent less sodium than traditional bacon and no added sugar.

Smithfield.

Know your Fresh Pork Nutrition

Pork is a good source of vitamins and minerals including potassium, riboflavin, zinc and is an excellent source of vitamin B6, thiamin, phosphorus, niacin, and protein.

3 oz. One three-ounce serving of lean fresh pork is a high-protein option, providing 22 grams of protein and only 120 calories.

Choose lean pork with the word "loin" such as tenderloin, sirloin roast, or loin chops.

Pork sirloins and tenderloins are recognized by the American Heart Association as a "heart-healthy food."

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Smithfield's Balance Program

There are thousands of nutritionists working in retail stores around the country, offering tips and guidance to shoppers eager to learn more about cooking and improved health. In 2017, Smithfield partnered with retail dietitians as part of a Retail Advisory Council to understand what role we could play as a strategic partner and advisor in this area. We recently launched a new [nutrition and health website](#), aimed at retail dietitians and health professionals, to showcase how Smithfield's pork can play a key role in a balanced lifestyle. The website, which is available to nutrition professionals and our retail partners, offers nutrition information and tool kits, recipes certified by the American Heart Association, factsheets, health trends, and more. We believe that providing resources to help educate consumers will inspire them to choose pork as part of a balanced diet. We're encouraging retailers to leverage the recipes and information from the website and share them directly with their shoppers.

Sodium

We continue to evaluate the sodium levels in all of our products so we can offer the right choices to accommodate a large number of different diets and lifestyles. At the end of 2017, we offered more than 100 reduced-sodium products in the marketplace.

Sodium is a life-essential nutrient and is important for food preservation and food safety. Curing meats with salt, for example, blocks the growth of bacteria and prevents spoilage. Salt is also a key ingredient in many of our products and helps us meet customer and consumer demands for quality, authenticity, flavor, and convenience.

Our Smithfield Lower Sodium Bacon has the lowest sodium content among the top three competitors—160 milligrams per 17 grams (or two fried slices). That's 15 percent lower than the next lowest competitor and 25 percent lower than the third.

At the same time, we recognize that there are concerns about too much sodium, which can lead to high blood pressure in some individuals. Most U.S. estimates show Americans eat more sodium than they should each day. We believe in the importance of balance and moderation.

Our **sodium policy**, which is based on our commitment to producing wholesome food products for our customers, is consistent with the view that a healthy lifestyle is based on a range of factors, including dietary patterns and exercise. Our policy calls for the following:

- A broad spectrum of products to meet different needs and tastes to ensure that consumers can make choices that suit their individual lifestyles;
- Sodium-reduced products for the benefit of consumers who opt for these choices or who are on restricted diets;
- Strict adherence to all health and disclosure regulations issued by the U.S. Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA); and
- Continuous analysis and improvement of our product portfolio.

All our brands offer a variety of products that are lower in sodium than their traditional counterparts.

Clean Labels

What started as a trend several years ago has become increasingly more mainstream: a desire among consumers to buy foods made with simpler, shorter, and easier-to-understand lists of ingredients.

People are paying closer attention than ever to what goes into their foods. And they want to eat those made with ingredients that they can recognize and pronounce. According to 2016 research by Nielsen, 67 percent of consumers want to know everything that has gone into their food. And 68 percent said they are willing to pay more for products that are free of undesirable ingredients, such as artificial colors, flavors, and preservatives.

At Smithfield, we have been looking to answer that call, identifying ways to clean up our label statements while still maintaining product safety and quality.

Where possible, we have been replacing certain antimicrobial preservatives, such as sodium lactate and sodium diacetate, with vinegar or lemon juice concentrate. Antimicrobials are important because they prevent dangerous bacteria from growing. But vinegar and lemon juice have similar positive impacts on product shelf life. (See the [case study on our laboratories](#) to learn more.)

We have also been analyzing manufacturing techniques such as microwave pasteurization during food processing, which can reduce the need for some typically used preservatives.

Finding “cleaner” alternatives is a challenge for all food companies, particularly when it comes to maintaining food safety. We also need to ensure that any replacement ingredients don’t have an unwanted impact on flavor, texture, or color.

Adding to the complexity is quite a bit of confusion about some products that are labeled as “natural” products. For example, sodium bicarbonate is baking soda; it’s a naturally occurring product, but it has a complex name that may confuse some consumers. And celery juice can be used as an alternative to nitrates and nitrites in cured meat, but celery itself contains a significant amount of nitrates that are naturally occurring. To avoid that confusion, we do not label any product as “natural” unless it satisfies the U.S. Department of Agriculture (USDA) definition of minimally processed with no artificial ingredients and until the USDA has approved our “natural” labeling claim.

We are also mindful that some of our customers—such as large restaurant chains—have been publishing so-called “no-no lists” of ingredients that they will not allow in their supply chains. We work with our customers to make products that will fit their specific needs.

Reformulating Marinated Fresh Pork

Smithfield’s Marinated Fresh Pork line is one of our best sellers, reflecting consumers’ ever-growing desire for great taste coupled with convenience. We recently added “clean labels” to the list of this product line’s many benefits.

In 2017, we completely reformulated these products to remove sodium phosphates, potassium acetate, and potassium lactate in favor of only all-natural ingredients, including pork broth, vinegar, and salt. The simpler ingredient statement offers the transparency consumers seek, without any impact to the product’s flavor, texture or shelf life.

This latest reformulation built upon earlier improvements that reduced the sodium in the products by 20 percent per four-ounce serving. We began shipping the new products to some retail locations in the fall of 2017 with the rest shipping in early 2018.



Sodium Policy

Salt (sodium) is a life-essential nutrient and a critical component for food preservation and food safety. At Smithfield ¹, salt is also a key ingredient in many of our products and helps us meet customer and consumer demands for quality, authenticity, flavor, and convenience.

Smithfield's policy is based on our commitment to producing wholesome food products for our customers and calls for the following:

- Provide a broad spectrum of products to meet different needs and tastes, and which ensure that consumers can make choices that suit their individual lifestyles.
- Offer sodium-reduced products for the benefit of consumers who opt for these choices or who are on restricted diets.
- Strict adherence to all health and disclosure regulations issued by the FDA and USDA.
- Continuous analysis and improvements to our product portfolio.

Our policy is consistent with the view that a healthy lifestyle is based on a range of factors, including dietary patterns and exercise, and not on just one nutrient.

¹ All references to "Smithfield," "we," "us," and "our" are terms of convenience used to refer collectively to Smithfield Foods and all of its subsidiaries. Similarly, the terms "division," "segment," and "business unit" may be used to refer to one or more subsidiaries, which are independent operating companies.



Our Commitment to Helping Communities

Smithfield greatly values our connection to the communities where our people work and live. We strive to maintain a relationship of mutual support, and we take seriously our responsibility to keep our communities strong.

Our Community Goal

- Support our communities

Our Community Targets

- Each facility/farm division to participate in four community events per year for charities/nonprofits
- At least one event per year must include a stakeholder presentation
- Maintain our Helping Hungry Homes® program donations of product to those in need

As one of the nation's leading food producers, we are especially well-positioned to contribute to hunger relief as part of our philanthropic and community outreach efforts. We have focused on tackling food insecurity in America through more than just food donations; we are also committed to raising public awareness through a diverse set of partnerships, as well as through employee-led community activities.

Education and support for veterans and military families are two other key elements of our giving strategy, which includes financial support and employee volunteerism.

Our Social Purpose

Smithfield Foods is committed to improving food insecurity and ending hunger by donating high-quality, nutritious food. We created our Helping Hungry Homes® initiative to alleviate hunger across the country. We also support other philanthropic solutions in the fight against hunger as well as in the areas of education, veterans, and those that align with our sustainability program.

In 2017, for example, we made a **\$3 million donation**—\$1 million a year over three years—to the local school district in our headquarters community of Smithfield, Virginia. We support veterans-focused nonprofit organizations and, through our **Operation 4000!** initiative, we are taking our commitment to the military to a new level to employ more veterans and increase our support for veteran employees.

We recently centralized all charitable giving activities at the corporate level as part of our wider “One Smithfield” initiative to create a unified company. This holistic approach allows us to more strategically and effectively coordinate across all of our operations so that we can amplify our impact and fulfill our **mission, vision, and social purpose**.

We also focus on charitable causes that align with the five pillars of our sustainability program: Animal Care, Environment, Food Safety and Quality, Helping Communities, and People. And, we continue to develop specific programs that address the unique needs of communities at each of our locations, including donations to schools, beautification efforts, and local fundraisers.

Value Creation

The strength of our business depends in large part on the strength of the communities where we work. Stable and prosperous communities not only support our ability to recruit and retain excellent workers—a crucial ingredient to our success—but also provide a good place for our employees to live.

Moreover, the economic vitality of our local communities—and agricultural communities more broadly—provides the basis for a reliable supply of the goods and services we need to operate.

Smithfield creates value in the communities where we work in a number of ways. We provide jobs, pay taxes, and, in many locations, underpin the economic health of the regions where our operations are located. We also create societal value through our initiatives related to hunger relief, education, and support for veterans.

By the Numbers	2017
Cash and in-kind donations	\$7.6 million
Food donations (cash value)	\$19.8 million
Food donations (servings)	24.9 million
Total value of donations	\$27.4 million

Food donations were valued at an average retail price of \$3.18 per pound. There are four servings to a pound. Out of our total food donations, approximately 21 million servings were donated specifically through our Helping Hungry Homes[®] initiative.

We help create strong communities through charitable giving and employee volunteer efforts. Our companywide employee-matching charitable giving program provides a 1:1 company match for any employee donation to a recognized 501(c)(3) charity of at least \$100, up to \$5,000 per employee per year. For employees who serve on the board of a charitable organization, Smithfield will match double the amount of any donation to that organization.

In addition to financial support, each year our employees dedicate their time to projects in their communities. In 2017, employees volunteered more than 12,000 hours to important causes, including hunger relief, disaster preparedness, environmental cleanups and beautification projects in our communities, bullying prevention, toy collection for children in need, and much more. One good example was our “Gwaltney® Gives” campaign in which our Gwaltney brand and the **Roc Solid Foundation** partnered to build hope for a Virginia girl battling cancer. In December, Smithfield employees and volunteers from Roc Solid surprised a 10-year-old girl with a top-to-bottom bedroom makeover. Fueled by a donation from Gwaltney, the volunteers spent two days redoing the young girl’s room, giving her a renewed sense of hope during her journey fighting cancer.

Meanwhile, our **cause marketing** efforts, often in partnership with retailers, generate funds for nonprofit organizations and raise awareness of issues such as food insecurity and the challenges facing many military families.

Going Casual for a Cause

At our office locations, we offer employees a “Jeans Day” for a Good Cause Friday program. People who want to dress down once a week can contribute \$5 to a collection that we then donate to a different charity each week. In 2017, we raised more than \$68,000 that we distributed to a variety of charities, some of which serve the regions around our offices and some that serve national organizations.

Cause Marketing

We are always seeking ways to generate the most positive impact, whether through our business or through charitable activities. In order to maximize our giving, we work regularly with a range of both nonprofit and retail partners to create unique donation opportunities, often linked to Smithfield product sales, to people in need around the country.

These collaborations add value to the charities and retail partners involved, while also adding value to our brands. And consumers buying Smithfield products can feel good knowing that their applicable purchases lead to a donation to nonprofits doing great work. We like to think of it as “doing good, while doing well.”

Partnering with retailers provides an opportunity to expand our giving capabilities. In 2017, we continued to make several kinds of donations, including hundreds of thousands of dollars in free groceries and several new cars. We also held more than 60 cause marketing events around the country. We work with charities whose goals are aligned with Smithfield and that resonate with consumers. Often, we partner with celebrities, musicians, and athletes who are able to draw further attention to a cause, generate excitement at events, and boost product sales (which, in turn, results in bigger donations for the charity). Actress Joanna Garcia Swisher and racing icons Richard Petty and Aric Almirola are just some of the public figures who helped spread the messages of our nonprofit partners at Smithfield events throughout 2017.

Some of our most successful brand campaigns include the following:

- **Our Eckrich® Brand and Operation Homefront.** Our Eckrich brand has donated more than \$3 million to Operation Homefront, a nonprofit focused on building strong and stable military families, since 2012. In addition to direct financial support, we work with retail partners to provide free groceries and other in-kind contributions to military families in need. In 2017, Smithfield contributed more than \$545,000 worth of free groceries and donated two new cars to Operation Homefront families via nearly 30 retail partner events around the country. Learn more about our work with [Operation Homefront](#).
- **Our Smithfield® Brand and No Kid Hungry.** In 2017, Smithfield partnered with No Kid Hungry (NKH) to create the “Make Breakfast, Share Breakfast” campaign. For every Smithfield breakfast product sold during the campaign window, we made a 10-cent donation to NKH, raising a total of \$100,000 for the organization. With this donation, NKH can connect 1 million meals to children facing hunger in America. Actress Joanna García Swisher joined Smithfield to help promote this campaign.
- **Our Kretschmar® Brand and Make-A-Wish.** Since 2012, we have donated more than \$725,000 to the national arm of the Make-A-Wish Foundation, which grants wishes of children with life-threatening illnesses, and sponsored more than 15 wishes through local chapters of the foundation. Through on-package promotions on our Kretschmar products and partnerships with retailers, in 2017, we raised more than \$150,000 for the nonprofit, including a \$28,000 donation for the foundation’s Minnesota branch and a \$15,000 donation to the Oklahoma branch. We also helped grant the wishes of four children battling life-threatening medical conditions; wishes granted included a trip to the CMA Music Festival®, a customized golf cart, and a customized gaming computer.
- **Carando® Cares.** Our Carando brand has been working to support organizations making a positive impact in local communities through the Carando Cares initiative since 2013. In 2017, Carando hosted three events, including a holiday meal for the Air and Army National Guard service members at Barnes Air National Guard Base in Westfield, Massachusetts, and made donations to the Food Bank of Western Massachusetts and the Food Bank of Western New York.
- **Healthy Ones® Brand.** Our Healthy Ones brand donates to a variety of health and wellness research foundations. In 2017, we ran two customer marketing events that provided \$10,000 for the Roswell Park Cancer Institute and Diabetes Research Institute. These donations will help support groundbreaking research for aggressively shrinking the timeline toward the discovery of a biological cure for diabetes and help support the 34,000 patients who rely on Roswell Park Cancer Institute in their fight against cancer.
- **Farmland® Brand.** Our Farmland brand is passionate about developing the next generation of farmers. Over two months in 2017, the brand donated 10 cents of every purchase, up to \$75,000, to the national FFA organization (formerly Future Farmers of America). The donation program was featured in 1,400 grocery stores, primarily in the Midwest. Farmland donated the full \$75,000 along with an additional \$50,000 in sponsorship funds, which went toward curriculum development, a leadership program around hog production, and the national FFA convention, which is attended by more than 60,000 students each fall. Farmland also provided grants to four local high school agricultural projects.

Hunger Relief

Hunger and food insecurity unfortunately remain serious and often overlooked problems in the United States.

While there have been signs of improvement in recent years, food insecurity rates remain well above pre-recession levels, as rising income inequality, long-term unemployment, and other ripple effects from the economic downturn continue to affect millions of Americans every day.

2017 Donation Total

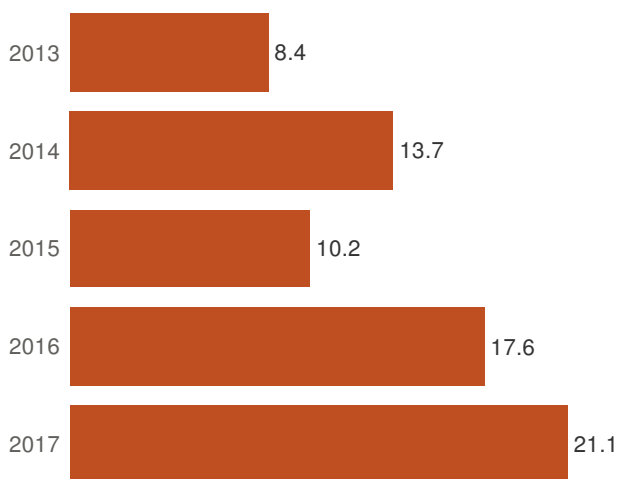
- Donated 21.1 million servings of protein to food banks and hunger relief organizations nationwide

The United States Department of Agriculture (USDA) estimates that 41.2 million Americans are struggling with hunger or food insecurity—and 12.9 million of them are children. One in every eight people does not know where their next meal will come from or is forced to choose between food and other essentials such as housing, utilities, and healthcare.

As a leader in the food industry, we believe we have a responsibility to help families in need, and we are well-placed to make a unique impact. At Smithfield Foods, hunger relief is the cornerstone of our social purpose. Through our support for food banks, disaster relief efforts, and community outreach programs, we help to raise both funding for, and public awareness of, food insecurity across the country.

Total Food Donations

(servings in millions)



There are four servings in a pound. In 2014, we began reporting donations by calendar year; previous years remain reported by fiscal year.

Addressing Hunger Across the Nation

Helping Hungry Homes[®] is Smithfield's companywide initiative to help address the ongoing problem of food insecurity in the United States. We focus on providing donations of fresh and packaged meats, which help to fill the shortfall of nutritious, protein-rich food sources that many hunger relief organizations often face. Smithfield's retail partners in the Helping Hungry Homes initiative have also made generous donations to local and regional food banks in tandem with the company to support this important effort.

In January 2018, employees and foodbank partners joined us as Smithfield kicked off a celebratory giving tour at our Virginia headquarters in honor of the 10-year anniversary of the program. We will host donation events benefiting more than 40 Feeding America food banks across the country in 2018. We also are matching all employee donations (2:1) to Feeding America—up to \$25,000.

Since the program began in 2008, we have donated more than 100 million servings of protein to hunger relief organizations across the United States. In addition to Smithfield donations, our employees volunteer at food banks and host food drives to support the Helping Hungry Homes initiative.

Each year, Smithfield makes dozens of donations to food banks and hunger relief organizations across the country—from Washington to Florida to Maine—as part of the Helping Hungry Homes initiative. To find out more about our donation activities, visit the **Helping Hungry Homes** section of this site.

Addressing Hunger in Our Communities

Beyond our signature Helping Hungry Homes[®] program, many of our locations work at the local level to provide food in their communities. For example, as part of **Hunger Action Month** in September 2017, Smithfield employees collected more than 14,000 pounds of food and volunteered at local food banks across the country.

The Smithfield Foundation also considers food insecurity to be one of its top giving priorities. In 2017, the Foundation announced a continued partnership with the national anti-hunger organization, Share Our Strength, in support of the **No Kid Hungry Virginia campaign**. Smithfield committed \$150,000, building on the 2016 contribution of \$100,000. No Kid Hungry aims to decrease childhood hunger in the Commonwealth and increase accessibility to school-breakfast, summer-meal and after-school food programs.

In North Carolina, where we have farming and processing locations, we **partnered with the Food Research & Action Center (FRAC)** to raise awareness about rural hunger in that state and across the nation. According to FRAC, 17 percent of all households in North Carolina cannot afford to buy food. North Carolina has the nation's second largest rural population. A Smithfield contribution of \$137,000 over two years also helps FRAC provide resources and information to help people access federal nutrition programs.

Learn about our hunger relief **volunteer efforts for veterans**.

Food Fight for Hunger Relief

Smithfield Foods was proud to serve as the presenting sponsor for DC Central Kitchen's "Capital Food Fight," which raised funds to support the organization's mission of breaking the cycle of hunger and poverty in our nation's capital. Top area chefs were tasked with creating unique dishes using our Smithfield Prime Fresh Pork Boneless Loin, along with other ingredients. The 2017 event raised more than \$638,000 for the nonprofit.

Case Study: Smithfield and Feeding America Team Up to Fight Hunger

Feeding America—the country’s largest hunger relief organization—has been on an important mission for nearly 40 years, helping to feed the millions of Americans who face food insecurity. An estimated one in eight Americans doesn’t know where their next meal will come from, and the Feeding America network of food banks assists approximately 46 million people every year, including 12 million children.

Over the past decade, Smithfield has contributed to this mission with regular food donations through our signature hunger relief program, Helping Hungry Homes®. Since the program began in 2008, we have donated more than 100 million servings of protein to hunger relief organizations across the country.

“One of the real challenges that we have as we try to meet the nutritional needs of the communities we serve is being able to provide enough protein,” says Karen Hanner, vice president, manufacturing product sourcing at Feeding America. “We want to provide a balanced diet, and Smithfield is one of a few very important relationships that really views our partnership holistically. This is particularly important for protein, which is our area of largest need.”

Smithfield’s donations of protein to Feeding America’s network of food banks directly help those in need while also reducing food waste by finding an alternative destination for excess product that would otherwise not be eaten. In the United States today, an estimated 30 to 40 percent of the food produced ends up in the waste stream.

“Smithfield is increasingly focused on making sure that the food they make is consumed,” says Joe Weeden, account manager for protein at Feeding America. “They are so good at donating excess products in order to help people while simultaneously keeping food out of landfills.”

As many families continue to struggle to find a foothold in the economy, the issue of hunger and food insecurity in America remains a persistent reality. Whereas food banks once served mainly as a temporary stop-gap, many families today find themselves food-insecure on a long-term basis.

“At Smithfield, we are passionate about supporting communities and families in need, and Feeding America has been an excellent partner in this mission,” says Dennis Pitman, senior director of hunger relief at Smithfield Foods. “Feeding America’s network is able to meet the needs of millions, whether it’s just for a short time after a job loss or for families that need assistance on a longer-term basis.”

Raising hunger awareness has been a focus of Helping Hungry Homes, which hosts donation events in conjunction with grocery retailers across the country. “Smithfield draws attention to the needs and the challenges that families face,” Hanner adds. “At the same time, Smithfield demonstrates their leadership in this sector by helping to feed those struggling with food insecurity.”

Case Study: A Year of Disaster Relief

In August 2017, Hurricane Harvey hit the Gulf Coast of Texas, affecting millions of people and causing billions of dollars worth of damage. The city of Houston, which suffered devastating floods, was one of the hardest-hit areas, leaving thousands of Houstonians to pick up the pieces while meeting the basic needs of their families.

The Houston Food Bank (HFB), one of the largest food banks in the country, was one of many organizations on the front lines of the Harvey response. Of the HFB's 18 service areas, 11 were declared federal disaster areas, encompassing more than 1 million food-insecure individuals. HFB and other organizations across Texas mobilized to provide immediate assistance to those in need and began to gather resources for the longer-term recovery process.

In early September, Smithfield donated more than 300,000 pounds of protein to Feeding America network food banks and other organizations in Houston, San Antonio, and the Dallas-Forth Worth area, which were also assisting with disaster relief. In addition, Smithfield donated \$100,000 to the American Red Cross, along with a 2:1 matching pledge, totaling more than \$61,000, for all Red Cross donations from our U.S. employees.

Smithfield's donations were just one contribution to the wider relief efforts in Houston. In the first two months following Hurricane Harvey, HFB distributed 51 million pounds of food, cleaning products, and other essential goods—three times the organization's usual output.

"In the aftermath of Hurricane Harvey, it was truly inspiring to see the caring and giving spirit from across the nation," says Brian Greene, Houston Food Bank's president and chief executive officer. "Smithfield's donation to our disaster relief efforts helped provide much-needed protein into the communities greatly affected by the storm."

Unfortunately, Hurricane Harvey was not the only major natural disaster in the last year. Millions were affected by the devastating wildfires in California, Hurricane Maria in Puerto Rico, and Hurricane Irma in Florida, among others. And Smithfield was ready to respond.

Helping communities is an important part of our company's mission, and Smithfield worked to get protein products to affected areas as quickly and effectively as possible. In October, we sent more than 12,000 pounds of protein to Puerto Rico to support the Salvation Army's ongoing disaster relief efforts. We sent nearly 90,000 pounds to the Redwood Empire Food Bank in Northern California following the fires there and donated 35,000 pounds to the Regional Food Bank of Oklahoma after **severe grass fires** in that area. After Hurricane Irma, we sent more than 38,000 pounds of protein to Feeding South Florida.

"As a global food company, we understand the immediate needs for nutritious protein in times of disaster," says Dennis Pittman, senior director of hunger relief for Smithfield Foods. "We hope our donations can help when our communities are at their most vulnerable."

Education

At Smithfield, we believe that education has the power to dramatically strengthen communities over the long run. In line with our social purpose, we support existing education programs in areas where we live and work and also seek to create unique and new learning opportunities.

Since its founding in 2002, the [Smithfield Foundation](#), a nonprofit organization that serves as our company's philanthropic arm, has focused on funding educational scholarships for children and grandchildren of employees, as well as other educational partnerships. In 2017, [we provided scholarships for 144 students](#), totaling nearly \$660,000.

The Smithfield Foundation makes other donations in support of education. In 2017, we gave \$165,000 to fund scholarships in Virginia and North Carolina. Other recent donations include Chromebooks for students at an elementary school in Clinton, North Carolina, and a grant to the Crete (Nebraska) public schools to advance English and educational skills of participants in a workforce training program. [Learn about our support of schools in our headquarters community.](#)

The Smithfield Foundation also proudly supports the Science Bound program, a partnership with the Denison, Iowa, Community School District and Iowa State University. Science Bound is a rigorous five-year college preparation course focused on encouraging students of diverse backgrounds to pursue higher education degrees in math and science. Those who successfully complete the course earn a four-year scholarship to Iowa State if they pursue a degree in science, technology, math, or engineering (STEM). To date, we have provided 35 students with tuition-free scholarships through the Science Bound program.

The Smithfield Foundation is looking toward other areas of education where we can make a significant impact. In Virginia, where we are headquartered, community leaders and education experts have raised attention to the issue of early childhood education.

One program we have supported extensively is An Achievable Dream (AAD), a Virginia-based organization with the mission to provide economically disadvantaged students with the tools and resources they need to succeed in life and become successful, productive citizens. Smithfield has sponsored four-year college scholarships of two groups of AAD's graduates, from the classes of 2006 and 2015. We also contribute to AAD's Annual Fund, which ensures that the K–12 students AAD serves receive a high-quality education through the organization's social, academic, and values-based curriculum. In addition to its financial support, our employees regularly volunteer at AAD's middle school and high school in Newport News to share real-world and work lessons with students—such as teamwork, punctuality, work ethic, and other big-picture topics—that teach them skills to help them become productive employees in the future. The Smithfield team of employees is dedicated to sharing their work and life experiences to prepare AAD students to be college-, career-, and citizen-ready while also exposing students to career opportunities that they may otherwise not know exist.

We also seek to respond to the specific needs of local schools in our communities. We frequently make donations in the form of scholarships, school supplies, and additional forms of assistance to local school districts in locations where we operate.

Supporting Future Farmers

We are proud to support the development of the next generation of farmers. We partner with FFA (formerly Future Farmers of America) and 4-H to create a future where students of agriculture will discover their passion in life and build on that insight to chart the course for their educations, careers, and personal futures.

In 2017, we contributed more than \$25,000 to FFA and 4-H programs through cash, matching gifts, and in-kind donations. Our Farmland brand also raised \$125,000 through a [cause marketing campaign](#).

Envirothon

The [National Conservation Foundation's Envirothon project](#) (NCF-Envirothon) is an annual academic challenge that engages 50,000 high school students in real-world environmental problem solving. The goal is to develop the next generation of dedicated and informed citizens ready to take on the challenges of environmental conservation. NCF-Envirothon organizers work with local conservation, forestry, and education experts to create curriculum and field experiences that train student teams in five categories: soils and land use, aquatic ecology, forestry, wildlife, and current environmental issues. Teams from across the United States and Canada participate in state and provincial competitions to advance to the NCF-Envirothon finals, and competition finalists receive cash prizes.

In 2017, we contributed \$85,000 as a sponsor of NCF-Envirothon. We met our goal of 100 percent of our farms and facilities participating in some way in the program, either through direct volunteering or donations to local teams. Smithfield employees served as program volunteers, helping student teams in their communities learn about environmental conservation or judging at local competitions. For example, our Tar Heel facility in North Carolina stepped in to provide registration fees, T-shirts, prep kits, supplies, and funding for buses to enable teams from a local school to compete in the 2017 event, when county budget cuts jeopardized their participation. Our Junction City facility in Kansas provided, cooked, and served more than 40 pounds of Smithfield product for participants in the Kansas Council Grove Regional Envirothon, while employees from our hog production facilities in Missouri donated water bottles, T-shirts, and volunteered nearly 50 hours of their time for the Northwest Missouri Regional Envirothon.

Case Study: Funding Education in Smithfield

In early 2017, Smithfield Foods made a \$3 million donation—\$1 million a year over three years—to Isle of Wight County Schools, for an innovative and multifaceted educational program known as the Smithfield Foods Legacy Project.

The gift—the largest the school district has ever received—is supporting a comprehensive education project aimed at preparing students for a range of future careers.

The Smithfield Foods Legacy Project includes a new, state-of-the-art MakerSpace facility at Smithfield High School, located in our headquarters community in Virginia, that will offer 3-D printers and other technologies that facilitate hands-on student research and design. The MakerSpace is expected to be completed in the fall of 2018. The donation has also paid for a **Junior Reserve Officer Training Corps (JROTC)** fieldhouse, which was scheduled to open in 2018, to provide additional training and classroom space for students interested in pursuing military careers. A new multipurpose pavilion to host community events and student exhibitions will also be built on campus as part of the project.

In addition, a new welding lab opened at Smithfield High School in January 2018 and is being used by students from both Smithfield High and Windsor High School. Also under construction are a fitness room at Smithfield High and a building trades lab and greenhouse at Windsor High. A working farm, known as the Land Lab, is being expanded with a variety of small animals. Students have constructed fencing and a tool shed, and have been growing vegetables for use by culinary program students.

“This project will help us better train our students to think critically and collaborate effectively during their education and throughout their careers, and would not have been possible without this generous support from Smithfield Foods,” says Dr. Jim Thornton, superintendent of Isle of Wight County Schools.

The Smithfield Foods Legacy Project is part of a wider initiative at the school district to revamp its career technical education offerings, including plans for engineering, welding, and health sciences labs, along with culinary training facilities.

The \$3 million donation reflects our company’s support for innovative educational programs that better prepare students for a range of educational pursuits and careers after graduation from high school.

Case Study: A Gift for Children with Serious Illnesses

Victory Junction is a special place. The North Carolina camp provides life-changing experiences for children with chronic medical conditions or serious illnesses. Since it opened in 2004, the camp has served nearly 48,000 children and their families through summer, weekend, and outreach programs.

In early 2018, the Smithfield Foundation, our company's philanthropic arm, announced a \$500,000 gift to build a new indoor archery range for the camp. The **Smithfield Foods Archery Range** will provide a safe gathering place for campers to learn the sport, make friends, and enjoy the adventures and experiences of camp life—a welcomed break for children who spend much of their years enduring medical treatments or hospital visits.

Victory Junction already had an open-air range, but it was only usable when weather permitted. It was also positioned in an area of the camp that was subject to flooding.

"Historically, the archery range has been among the most popular program venues at Victory Junction," says Chad Coltrane, chief executive officer of Victory Junction. "Smithfield's generous gift will allow us to create an indoor venue for this activity to provide uninterrupted fun for our campers, regardless of inclement weather."

Construction of the new indoor facility was completed in May 2018. Like all facilities at Victory Junction, the Smithfield Foods Archery Range will meet the rigorous safety standards of the American Camp Association and will be staffed and supported by certified professionals—allowing campers of all ages and abilities to enjoy the activity.

Victory Junction was the dream of Adam Petty, a fourth-generation racecar driver from the famous Petty family and a rising star in the sport. After Adam's tragic passing from a racing accident in 2000, the Petty family realized his dream of a camp to serve children with serious medical conditions through the opening of Victory Junction.

"Smithfield Foods is proud to support Victory Junction—an incredible place where campers experience positive, life-changing impacts well beyond their time at camp," says Keira Lombardo, senior vice president of corporate affairs for Smithfield Foods and president of the Smithfield Foundation. "We're pleased that the indoor archery center will provide yet another bright spot at camp where children can gain confidence in their abilities and what they can achieve."

Learn more about this project by watching the following video:

Supporting Veterans

Part of Smithfield's social purpose is to honor the service and sacrifice of American veterans and their families, mainly through partnerships with nonprofits that work directly with military families, as well as employee-led events that celebrate and support local veterans.

We have stepped up our commitment to veterans with **Operation 4000!**—a Smithfield Foods initiative to employ 4,000 military veterans, or 10 percent of our domestic workforce, by 2020.

Smithfield's commitment to the education and job readiness of veterans goes beyond our internal goal of employing 4,000 veterans. In 2017, we partnered with military base Transition Assistance and Family Readiness offices to support employer panel discussions with veterans. These events offer interview tips, resume writing guidance, and advice to help prepare active duty service members for the civilian workforce.

Our work with charitable organizations and local veterans groups also continues. Cumulative donations through our partnership between our Eckrich® brand and Operation Homefront, a national nonprofit focused on building strong and stable military families, have surpassed \$3 million. Working in conjunction with our retail partners, Smithfield also has provided selected military families with additional support, including free groceries; unique NASCAR, college football, and country music-themed experiences; backyard make-overs; and new cars.

Also in 2017, Smithfield donated \$68,000 to the Virginia Veterans Services Foundation to support state programs for homeless veterans in our headquarters state. The funding is going toward a unique private-public partnership that provides one-time gap assistance for homeless veterans in the process of being housed. Such expenses include deposits and first month rent payments, beds, rental arrears, utility assistance, and related costs that can't be paid by other federal, state, or local resources.

Operation Homefront provides assistance for service members and their families—in the form of financial, healthcare, and other types of aid—in times of need and places a special emphasis on supporting the recovery of wounded warriors. The organization also works to make sure that military members and their families receive the recognition that they deserve.

Our Smithfield locations also organize local events to help military families living in their areas. This past year, for example, members of Smithfield Salutes, our employee resource group focused on veteran employees, volunteered with the Virginia Peninsula Foodbank mobile pantry at the Hampton VA Medical Center. Smithfield also made a \$50,000 donation to the mobile pantry, which distributes meals to more than 200 veteran families in need each month.

Supporting the Warrior Canine Connection

In late 2017, the Smithfield Foundation joined forces with the Warrior Canine Connection (WCC), which works with service members and veterans to help them reconnect with their families and communities. Smithfield donated \$25,000 to fund a new Puppy Enrichment Center at WCC's Healing Quarters campus located in Boyds, Maryland, where future service dogs begin their training. Through this program, veterans train puppies to become service dogs for fellow veterans. WCC has worked with more than 4,000 wounded veterans receiving treatment for post-traumatic stress and traumatic brain injury.



Supporting Community Health

Smithfield supports health and wellness initiatives in the communities where we live and work.

In recent years, we have been sponsoring the American Heart Association (AHA) to help improve cardiovascular health—a major issue across the United States—in our communities. In 2017, Smithfield supported the Richmond, Virginia, chapter's annual Heart Ball fundraiser, which was chaired by Smithfield CEO Ken Sullivan and raised a record \$1.2 million. Smithfield contributed \$140,000 in sponsorships and donation matches. Vendors that work with Smithfield contributed another \$225,000 to the organization.

Our Hog Production operations also support the AHA in several area middle schools through a \$25,000 grant. Students raise money on behalf of the AHA while learning about the importance of eating right and exercising for a healthy heart. In addition, Smithfield donates an average of six CPR kits each year to participating middle schools. CPR training is a requirement for high school graduation in the region, but many schools struggle to afford the expensive kits necessary for realistic training. Our employees run CPR education classes for students, as well as teacher training sessions in local schools.

Smithfield is also working to help build a healthier environment in schools. We have partnered with a mobile app company to deliver the Smithfield School App to more than 5,000 schools nationwide. This tool facilitates real-time incident reporting and aims to stop student bullying, a serious problem at many schools around the country. One in five students report being bullied at school, and severe bullying has been linked to teen suicide. The incident-reporting function allows students to immediately share any bullying incidents, threats, mental health concerns, or other issues directly to school administrators. It also gives parents, teachers, and students access to real-time information about a range of school-related topics, including closures and safety alerts.

Read more about our [employee health programs](#).



Our Commitment to Employees

At Smithfield, we are committed to being a people-oriented company. By unleashing the full potential of our employees, we can reach our full potential as an organization.

Our “One Smithfield” initiative unified our workforce and our independent operating companies under one holistic umbrella. Moving our human resources functions to a single structure enables us to better serve our employees. To oversee these changes, we created a new companywide vice president of human resources; meanwhile, our chief people officer leads our strategy on employee retention and engagement and building on a more cohesive and innovative company culture.

Our People Vision

To create an exceptional employee engagement culture that nurtures and rewards companywide loyalty and focuses behavior on the customer at all interactions.

We recently embarked on a major new goal to increase the number of veterans in our workforce. Through **Operation 4000!**, Smithfield has pledged to employ 4,000 military veterans—or 10 percent of our domestic workforce—by the end of 2020. The initiative focuses on hiring skilled candidates with prior military service while working harder to retain and engage veterans already in our workforce. Operation 4000! is part of Smithfield’s long-standing commitment to **supporting our country’s veterans**, as well as building a more diverse and talented workforce.

We know that our employees are our greatest asset, and we strive to create a fair, ethical, and rewarding work environment. We want employees to spend their careers at Smithfield, and we are developing new ways to make the experience of working at Smithfield a more enriching and fulfilling

one. We place a priority on promoting employees internally and support education opportunities, including internal training, scholarships, and tuition reimbursements, which can advance employees' careers.

Employees at a Glance

More than 50,000 across the globe

Turnover 29.9%

Approximately \$849,000 in education programs

Responsibility, Operational Excellence, and Innovation Awards

We recognize employees who improve our company by exemplifying three of our key principles—Responsibility, Operational Excellence, and Innovation (ROI). The ROI awards are designed to inspire and encourage individuals and teams to strive for excellence and to build a better, more sustainable future for our company and our communities. Employees at all levels of the company are eligible to apply or be nominated, and winners receive a \$5,000 award.

The 2017 winners are as follows:

- **Responsibility.** Buddy Harris, facility environmental manager at our Tar Heel, North Carolina, facility was chosen as our Responsibility winner for his ongoing dedication to the company and to his colleagues, but particularly when Hurricane Matthew struck the Southeastern U.S. in the fall of 2016. In his spare time when he isn't at work, Harris can often be found inspecting our products at retail stores to be sure they are of the highest quality.
- **Operational Excellence.** The Operational Excellence award went to members of the "Cure 101 Team." This cross-functional team of six employees from Smithfield locations all over the country—Steve Baumgartner, Larry Hand, Mike Herbeck, Sean Holmer, Mike Spainhower, and Brooke Wynn—developed a training program focused on ham curing and organized multiple, two-day training workshops for employees in facilities that are directly involved with the curing process. The workshops are credited with improving our operations and reducing consumer complaints in the ham category by 45 percent.
- **Innovation.** The team behind our new "Lunch Pack" products garnered the Innovation award. Katie Barczak, Mike Reitz, and Carol Damit saw a need for a new line of products that would meet the needs of families who are always on the go. They designed a new line of products with easy-to-open and individually sized freshness packs. The initial Lunch Pack launch included four flavors.



Value Creation

We create value through the employment of more than 50,000 people, many of them in rural areas where job opportunities are sometimes limited. Our operations also contribute to the economic stability and development of local communities, where we purchase goods and services and where employees reside.

By the Numbers	2017
Total salaries and wages (including bonuses and stock options)	\$2.31 billion
Total benefits (including pension)	\$345.78 million
Total compensation expense (excluding payroll taxes)	\$2.66 billion

Data include our domestic and international operations.



To develop and maintain a skilled workforce, we invest in employee training, workplace safety, and health and wellness activities. These programs can have an impact on our bottom line, particularly around the following issues:

- Workplace safety;
- Workers' compensation costs;
- Absenteeism;

- Employee satisfaction and engagement; and
- Turnover rates.

Employee Relations

Our commitment to our employees is at the core of our company. We have a responsibility to ensure that our employees are not only treated with respect at all times, but that they are also given opportunities for career advancement and long-term, fulfilling employment.

We are committed to meeting the needs and addressing the concerns of employees at every level of our company, from recruitment to retirement.

We engage with employees through management safety committees and other means, and we have taken steps across our operations to evaluate—and enhance—employee satisfaction. Employee Resource Groups (ERGs) are an expanding area of focus for Smithfield as we seek new ways to create a more supportive and engaging environment for our workforce. We also offer competitive wages and benefits, educational scholarships, and a variety of continuing education and personal enrichment programs.

Our Workforce by Segment	2017
Fresh Pork and Packaged Meats	34,571
International	11,799
Hog Production	5,059
Corporate	222
Total	51,651

Workforce figures as of the end of 2017. Our workforce went up slightly in 2017 due to acquisitions. About 56 percent of our U.S. workforce is unionized, and substantially all our employees are full time. About 83 percent of our workforce is compensated based on hourly rates.

Employee Engagement, Recruiting, and Retention

Over the past several years, we have made concerted efforts to lower employee turnover through a variety of safety and employee engagement programs. Our rate has fluctuated over the years and was hovering around 30 percent in 2017. We are committed to reducing turnover, aiming for an average rate below 20 percent.¹ We are focused on employee engagement, workplace safety, health and wellness activities, and maintaining a competitive compensation and benefits package. Our ultimate goal is to make Smithfield a place where employees can find satisfying careers, not just temporary work, and gain the knowledge and expertise needed to continually advance within the company.

Team Smithfield

Team Smithfield is our employee engagement initiative focused on strengthening company culture and building internal support for Smithfield's **social purpose and mission**. Team Smithfield is comprised of employee-volunteers who act as internal company advocates. They share information on company programs and initiatives within the workplace and encourage colleagues to participate in Smithfield events. Our goal is to recruit 1 percent of our domestic workforce from facilities, farms, and offices around the country, or about 400 people, to serve on Team Smithfield. As of the end of 2017, about 360 employees had signed on. This initiative helps to bring our people together—no matter where they are located.

Local Employee Engagement Activities

Each Smithfield facility has its own unique relationship to the surrounding community, and many of our employee engagement activities are planned on the local level. Human resources and plant management teams at our facilities are constantly looking for new opportunities to better integrate Smithfield into their communities, while also giving employees a chance to access meaningful events and activities.

Every year, Smithfield employees participate in hundreds of local events, including Local Hero Appreciation Days honoring first responders, Envirothon, holiday donations, community clean-ups, and cook-off competitions.

As the world's largest pork producer, Smithfield plays a vital role in providing nutritious, cost-effective protein sources to consumers around the globe. Every one of our employees helps us fulfill this mission through their daily efforts at Smithfield, or through direct community action.

Rethinking Recruiting

Finding the right people for the right jobs is a perennial challenge for most industries, and this is especially true of the meat industry. More and more baby boomers are heading toward retirement, and there are fewer people entering the industry to replace them. We are keenly focused on not only retaining our current talent, but also on attracting our next generation of employees at Smithfield, where they can have the opportunity to produce "Good food. Responsibly.®"

We regularly recruit at colleges and universities across the United States, as well as internationally, with a focus on Internship, Manager-in-Training, and Career Foundation Program roles. Through our transition to "One Smithfield," we are finding greater synergies between recruiting activities across different locations and operations. Our human resources team has also worked to establish a consistent brand identity across all recruiting divisions to help expand the talent pool, and we have centralized job listings across all domestic segments.

¹ We do not currently track employee turnover by age group or gender, although we do track turnover regionally at each of our segments except International.

Health & Safety

The meat industry has long been associated with dangerous and hazardous work. However, injury rates across Smithfield facilities are significantly better than the industry average.

Smithfield is constantly working to improve our safety performance at all of our locations. Over the last decade, we have greatly improved our Total Incident Frequency Rate (TIFR), which dropped from 6.58 in 2008 to 3.46 in 2017. Between 2016 and 2017, our TIFR rate decreased by nearly 8 percent. The TIFR has consistently been below the industry average since 2006.

Our Health & Safety Goal

- Reduce employee injury rates

Our Health & Safety Targets

- Continue to reduce Total Incident Frequency Rate (TIFR) and maintain levels below general industry average
- Achieve annual Days Away, Restricted, or Transferred (DART) results better than the general industry average
- Increase safety engagement level to 30% of employees¹

Our long-term improvement in workplace safety stems from our ambitious targets to meet or beat industry averages for the three performance metrics we report to the U.S. Occupational Safety and Health Administration (OSHA): Total Incident Frequency Rate (TIFR); Days Away, Restricted, or Transferred (DART); and Days Away from Work Injury and Illness (DAFWII). In 2017, these metrics showed steady improvements across the board. Our DART rate dropped to 2.50 from 2.57² in 2016, a nearly 3 percent reduction, while DAFWII showed a significant 19 percent year-over-year reduction, from 0.77 to 0.62. As noted above, Smithfield's TIFR in 2017 was 3.46, compared to 3.75 the previous year.

Our transition to a unified "One Smithfield" has allowed us to better standardize health and safety policies across our plant locations, which, in turn, has helped to further improve our safety performance across the company. As part of our commitment to continuous improvement, we developed a new **safety management system** in 2017 that will be fully implemented at all Smithfield locations in 2018.



¹ In early 2018, we increased our safety engagement level target to 40 percent of employees.

² Note that after publication of our 2016 report, Smithfield revised several of our numbers slightly: DART went from 2.65 to 2.57; DAFWII went from 0.75 to 0.77; TIFR stayed the same at 3.75. Data for 2017 includes locations acquired as part of our purchase of Farmer John.

Health & Safety Performance

We have seen dramatic worker safety improvements across our company in recent years.

While the average rate of injury among beef and pork producers in 2016 was 5.3 injuries per 100 employees, according to the U.S. Department of Labor's Bureau of Labor Statistics' most recently available data, Smithfield's injury rate for 2017 was 3.46 injuries per 100 employees.

In 2017, Smithfield posted strong safety performance in our U.S. Occupational Safety & Health Administration (OSHA) Total Incident Frequency Rate (TIFR); Days Away, Restricted, Transferred (DART) Rate; and Days Away From Work Injury and Illness (DAFWII) Rate, with decreases across all three safety measurements.

OSHA Total Incident Frequency Rate (TIFR)

The number of work-related injuries and illnesses per 100 employees that result in medical treatment has fallen substantially since 2008. In 2017, we saw a decrease of nearly 8 percent in the TIFR compared to the previous year.

OSHA Days Away, Restricted, Transferred (DART) Rate

The number of work-related injuries and illnesses per 100 employees that result in an employee missing work, having restricted duty, or being transferred from his or her regular duty work assignment fell by almost 3 percent over the previous year.

OSHA Days Away from Work Injury and Illness (DAFWII) Rate

The number of work-related injuries and illnesses that result in one or more days away from work per 100 employees fell by 19 percent over the previous year.

Improving Safety with New Technology

The meat industry has many inherent dangers, particularly in processing facilities. We look to technology wherever possible to reduce some of those risks. Over the last three years, we have installed a new type of saw called BladeStop™, which uses a sophisticated sensor system to identify when a person is coming into contact with the machinery.

The saw mechanically shuts down within 15 milliseconds of operator contact—a timeframe that can mean the difference between no injury (or a minor cut) and a potentially life-changing injury requiring stitches or even amputation. Smithfield worked extensively with the BladeStop manufacturer to customize the saws to the particular needs of our facilities.

The technology replaces manually fed band saws, which pose some of the greatest risks for injuries because they are designed to cut through meat and bone. We have installed 30 BladeStops across our operations, with plans to add even more. Our goal is to eliminate 100 percent of worker injuries due to manually fed band saws.

TIFR, DART, and DAFWII Rates Compared with National Averages

YEAR	TIFR			DART			DAFWII		
	Smithfield	A&P	AI	Smithfield	A&P	AI	Smithfield	A&P	AI
2008	6.58	7.5	4.2	4.40	5.0	2.1	1.29	1.1	1.2
2013	3.47	5.7	3.5	2.53	3.9	1.8	0.73	1.0	1.1
2014	3.45	5.5	3.4	2.48	3.7	1.8	0.64	1.0	1.1
2015	4.08	5.4	3.3	2.90	3.7	1.7	0.79	1.0	1.0
2016	3.75	5.3	3.2	2.57	3.8	1.7	0.77	1.0	1.0
2017	3.46	N/A	N/A	2.50	N/A	N/A	0.62	N/A	N/A
08-17 Change	-47%			-43%			-52%		

A&P = National averages for animal slaughtering and processing industry

AI = National averages for all industries, including state and federal government

All values are calculated per 100 employees for a calendar year. National averages for meat industry and all industries are based on 2015 data from the U.S. Department of Labor's Bureau of Labor Statistics (BLS). Data were not yet available for 2017 at the time of this report's publication.

After publication of our 2016 report, Smithfield revised our metrics slightly for the year: DART went from 2.65 to 2.57; DAFWII went from 0.75 to 0.77; TIFR stayed the same at 3.75. Data for 2017 includes locations acquired as part of our purchase of Farmer John.

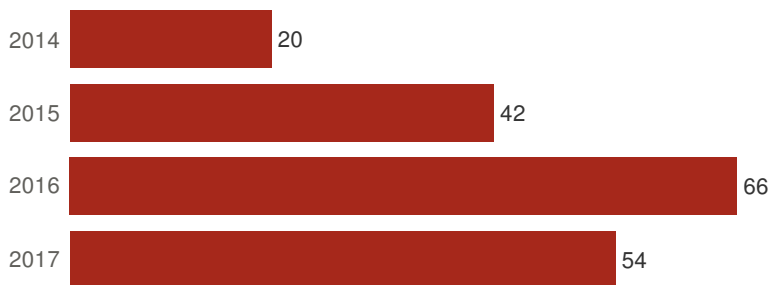
These rates illustrate how effective our safety management program has been over the long term. Our performance in 2017 was better across all measures than the previous years, continuing our significant, long-term gains since 2008.

OSHA Notices of Violation (NOVs)

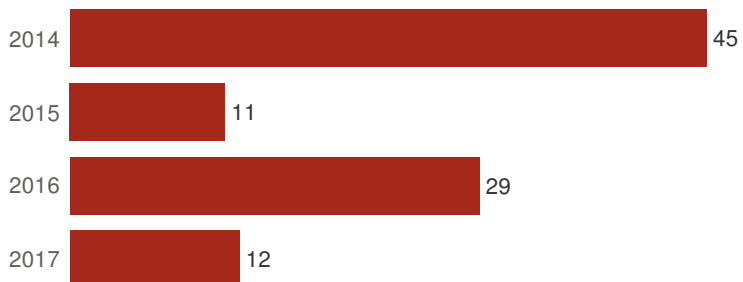
In 2017, Smithfield had 54 regulatory inspections conducted at locations across the country, receiving 12 citations with penalties totaling about \$30,000. This marks a decrease from 66 inspections¹ and 29 violations in 2016, with a decrease in penalties from last year's total of about \$82,600.²

OSHA Inspections, Notices of Violation, and Penalties

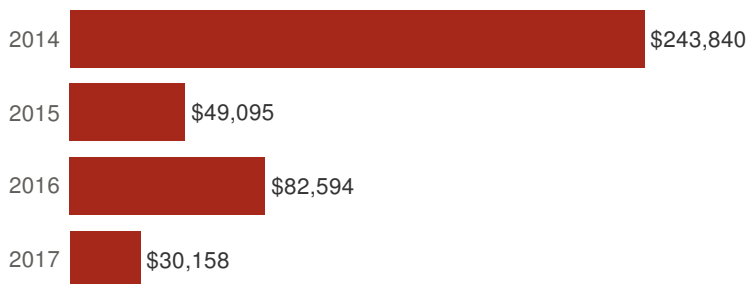
Inspections



Notices of Violation



Penalties



¹ We reported 65 inspections in our 2016 report; an additional inspection was settled after the end of the year.

² We adjusted the 2016 penalty total upward to add a settlement for an April 2016 incident that was finalized in early 2018.

A New Safety Management System

About a decade ago, Smithfield developed our own Employee Injury Prevention Management System (EIPMS) that has been extremely effective in preventing accidents and injuries. The program significantly reduced our injury and illness rates over 10 years, putting us consistently ahead of our industry peers.

In 2017, we developed a new safety management program to drive further improvements: the Smithfield Injury Prevention System, or SIPS.

SIPS is based on the proven principles of EIPMS while incorporating key components of a new set of standards developed by the International Standards Organization (ISO). ISO 45001, which was introduced in early 2018 as the first ISO management system standard created specifically for safety and health, is becoming the new global benchmark against which organizations can be measured for these areas. (Many of the basic building blocks within ISO 45001 mirror what we had started with EIPMS.) Achieving ISO standards is nothing new for us; Smithfield was the first in our industry to complete ISO 14001 environmental certification at all of our company farms and processing facilities worldwide, resulting in significant reductions in resource use.



SIPS will enhance our EIPMS in many ways. Most notably, it will increase participation and engagement at all levels of our company and will further standardize approaches to our management safety system across our operations. It will help keep our employees healthy and safe.

The success of any new program is dependent on participation. All of our people play a role in communicating, training, and implementing SIPS across our operations. We have been featuring the program through companywide videos and posters in our facilities and breakrooms and have begun a series of regional training modules, including monthly web-based workshops, that will continue through 2018.

SIPS will go even further to protect our people, our property, and our reputation for producing “Good food. Responsibly.®”

Our Management Approach

As part of our “One Smithfield” initiative, we recently created a new position of senior safety director to centralize health and safety operations across the entire company. A core team of safety leaders reports to the senior safety director across five strategic areas: Fresh and Packaged, Hog Production, Training Development & Statistics, Industrial Hygiene and Fleet Safety, and Safety Regulatory Compliance.

Prior to this change, each operating company within Smithfield had its own safety director that reported only within its own segment. We believe this new approach has created a more holistic, standardized safety culture that will further improve safety while building a more cohesive company culture.

We are also finding innovative new ways to disseminate information among our employees, such as our interactive safety trainings. We offer computer-based training courses that cover a range of safety topics, including customized lessons based on the unique needs of certain locations. In 2017, we trained nearly 3,000 employees through 16 different online safety courses.

Specific trainings for plant-level safety managers were created in response to a common challenge across our company: Safety managers working on the floor have very little time to schedule in-person follow-up training classes outside of their day-to-day tasks. By moving the course material to a digital platform, safety supervisors are able to complete the necessary training at their own pace, thereby spending less time in a classroom and more time on the plant floor eliminating hazards.

The interactive courses are built through a software program that allows us to customize the material with animated videos, voice-overs, and quizzes that give immediate feedback on incorrect answers. Quiz results are recorded, and our management team is able to analyze responses on an individual and group level to identify any gaps in understanding and respond accordingly. Course topics are selected based on an analysis of companywide safety audits and employee feedback. We have been creating a series of modules focused on new supervisor safety orientation, designed to improve the efficiency of our existing orientation program and also to help new recruits coming from outside the meat industry better understand our safety operations.

Properly trained employees create value at every level of our company. The regular, high-quality training provided to team members enables them to work more safely, create a better work environment, and continue company successes.

Injury Prevention & Engagement

We encourage employee engagement in safety processes at all levels of the organization as we work to improve our safety performance. For several years, our target had been to achieve overall employee safety engagement levels of 30 percent. After surpassing that, we increased our companywide target for all facilities to 40 percent in early 2018. Our safety engagement level for 2017 reached 48 percent.

We promote worker participation in safety program reviews and development of new systems. All locations maintain employee safety teams, which can bring fresh perspectives to safety challenges and successes. We also have been increasing safety engagement among our **international teams**.

Our behavioral risk improvement (BRI) program is another initiative that increases engagement, encouraging hourly employees to observe each other and prevent at-risk behavior to reduce the potential for injuries and illnesses.

Each year, we host a Safety Conference that brings together Smithfield leaders from both our U.S. and our international operations. Attendees include senior executives, safety professionals, and management personnel from operations, engineering, and maintenance. The conferences cover a range of focus areas, including updates on company health and safety performance, discussion of ongoing initiatives from each segment of our operations, and reviews and rollouts of new operational controls. Notable industry topics like regulatory updates, process safety management, lockout/tagout, emergency procedures, and contractor management are also discussed.

Auditing and Inspections

Consistent inspections and auditing of each facility is a key element of our success in reducing injury and illness rates. Each month, every Smithfield facility is required to go through a complete inspection, performed by safety and management teams. The inspection covers specific items and areas of each worksite.

In addition to monthly inspections at every location, each segment of the business has an audit program that evaluates our safety management systems and our regulatory compliance for effectiveness and opportunities for improvement. The systems and compliance audits focus on hazard identification and injury prevention, supplemented with regulatory compliance opportunities. These efforts help us identify hazards and risks, as well as help us develop injury prevention solutions before employees are subjected to unnecessary risks.

We complement site-specific inspections with annual audits conducted by teams trained and led by company-certified lead auditors. The results of these audits are addressed by the location's SIPS core team through its required management review process of the system.

Smithfield also undergoes external audits of compliance and hazard control programs at U.S. worksites on a revolving schedule. These audits, led by independent, third-party personnel with experience in the meat industry, complement the management systems audits through in-depth examination of injury and illness hazards control at a particular worksite.

During these third-party audits, we review operational controls, such as training, machine and tool safety, personal protective equipment, chemical safety, hearing conservation, and emergency planning and response, as well as employee engagement. We highlight the success stories from facilities that perform well and share their best practices with other sites. Facilities that score poorly on the audits not only must correct their practices, but they are also subject to more frequent audits. Failure to improve audit scores results in increased involvement from the director of health and safety and higher-level company leaders, if necessary, to facilitate improvement.

Workers' Compensation Claims Management and Return to Work

Although we are very proud of our achievements in reducing employee injuries to unprecedented levels for our industry and all industries, on-the-job injuries still occur. We have established a comprehensive workers' compensation claims management program with a dedicated Return to Work element that seeks to return every injured employee, wherever possible, to full and regular work once it is medically feasible to do so.

We are also working to better manage the costs associated with workers' compensation (WC) claims. The foundation of this initiative is our comprehensive WC Claims Management program, which we introduced in 2015. This formal written process, which includes standard operating procedures, best practices, and reference information on claims management, provides a road map for our operations to follow in the oversight of their WC claims and the management of their related costs. We also realigned our risk management claims team in 2016 to centralize oversight. A team of three regional WC claims managers reports to our director of claims management, with each assigned a group of locations; together they provide high level oversight of our WC claims and set the strategic direction of the program.

To ensure we appropriately implement, and consistently follow, all of the elements of our claims management program, we introduced a formal WC audit program in 2017; now, a number of our locations are audited each year to assure compliance with the workers' compensation management program. Facilities that score poorly on the audits must correct their practices and are then subject to more frequent audits. Failure to improve audit scores or poor annual performance results in planning meetings with company leaders and the location's management team. We also use these audits to identify areas where retraining is needed and build our annual training plans around the identified gaps.

We produce several metrics reports that allow our locations to see, understand, and better manage their WC results. These include a monthly WC Report that provides year-to-date claim costs, cost per employee, and new claim volume metrics; a quarterly Lag Time Report that shows timely claim reporting results; a quarterly WC Scorecard that provides results on claim frequency, timely reporting, return to work accommodation results, and average paid results; the annual Results Abstract Report provides an overall summary of each location's results for the prior year for a number of claims and safety metrics.

Case Study: Employee Safety on Our Farms

Extreme weather conditions, small on-site teams, and the innate unpredictability of working with live animals. These are just some of the hurdles our farm employees face each day.

“Our biggest challenge is dealing with an animal with a mind of its own,” says Hal Starr, director of health and safety for Hog Production. It’s tough to predict how an animal might react when it is facing a new environment, he explains.

Nearly 40 percent of farm-related employee injuries occur when our people interact with pigs, such as when moving animals within pens or transporting them between facilities. Soft tissue and joint injuries are the most common.

Good hog production practices, however, equate to good safety practices. By finding ways to minimize stress on the animals, we can reduce the number of injuries to our people. We rely on animal science for the latest stress-reduction techniques, such as using noisemakers, instead of paddles, to move animals between locations.

Although we have about 5,200 employees in hog production, the actual number of employees working on any given farm at any given time is typically only a handful. Those that work with animals receive extensive training in how to interact with hogs.

We also emphasize hazard identification to prevent accidents before they happen. Smithfield designed a baseline for formal safety operations on our farms, and each region has its own production manual based on conditions unique to that area.

“Each location builds its own hazard ID and risk assessment protocols, and the safety group collaborates by coming together on a regular basis to make sure we’re not missing anything from one location to another,” says Starr. “We’ve gotten better every year. We’ve had up years and down years, but the trend is certainly downward.”

Starr credits our company’s industry-leading employee safety management system for the significant decrease in farm-related injuries over the years. (Learn more about our [new safety management program](#).) Strong executive leadership has also played a key role in injury reductions, Starr explains. Under “One Smithfield,” we are now working on an improved orientation and training process for supervisors and managers on our farms across the country.

Hog Production TIFR, DART, and DAFWII Rates Compared with National Averages

YEAR	TIFR		DART		DAFWII	
	Smithfield – Hog Production	National Average – Hog Farming Industry	Smithfield – Hog Production	National Average – Hog Farming Industry	Smithfield – Hog Production	National Average – Hog Farming Industry
2013	5.1	6.8	4.1	4.6	1.4	2.5
2014	4.6	9.0	3.9	6.6	1.1	2.9
2015	4.6	8.0	3.3	5.1	0.9	2.1
2016	4.2	6.8	3.1	3.5	1.0	1.7
2017	3.8	N/A	3.0	N/A	0.6	N/A
13-17 Change	-25%		-27%		-57%	

All values are calculated per 100 employees for a calendar year.

TIFR = Total Incident Frequency Rate; DART = Days Away, Restricted, Transferred Rate; DAFWII = Days Away from Work Injury and Illness Rate

National averages for hog farming industry are based on data from the U.S. Department of Labor's Bureau of Labor Statistics (BLS). Data were not yet available for 2017 at the time of this report's publication.

Case Study: Banding Together When Disaster Strikes

For the employees at our hog production facilities in Oklahoma, 2017 was a particular trying year with not one, but two, natural disasters in the space of a few months.

It started in January with a devastating ice storm that hit northwest Oklahoma, damaging about 15,000 utility poles. Thousands of households and businesses, including our hog production facilities, were left without power for an average of three weeks. Altogether, more than 200 Smithfield employees and about 44,000 sows on Smithfield farms were affected by the storm.

It wasn't the first time an ice storm had hit our operations, but this was a particularly bad one, says Cathy Vaughan, safety and communications director for the Midwest region of our hog production operations. Employees immediately banded together to get through the storm, with some workers staying overnight to take care of the animals. Without power for several weeks, farm operations were reliant on generators, which are designed for short-term use and don't necessarily have the capacity to run electricity for everything on the farm at once.

At the same time, many employees had no electricity or generators at home. Smithfield managers regularly checked in with employees and tried to connect those in need with those who had resources to help. "We had several families bunked up together for a few days," adds Vaughan.

Then just two months later, in March, one of the worst grass fires in the region's history burned about 1.2 million acres across northwest Oklahoma, the Texas panhandle, and parts of Kansas within 24 hours. Two of Smithfield's 10 farm complexes in the area and eight towns, home to many Smithfield employees, had to be evacuated. Unfortunately, we lost close to 7,000 animals and several barns outside of Laverne, Oklahoma. Our employees were temporarily relocated to other Smithfield farms while rebuilding occurs.

Thankfully, there were no employee injuries in either the ice storm or the fire, which Vaughan believes is a reflection of the strength of Smithfield's employee culture. "Our employees are very safety conscious and great communicators. We had phenomenal manager support, and our entire team pulled together during this difficult time," she says.

During the fire, Smithfield worked quickly to help support the local volunteer fire force by opening up an account at a local auto supply store so firefighters could buy repair parts as needed. Water and supply donations were made, and Smithfield managers met with local fire departments to determine disaster preparation improvements for the future, such as installing larger water storage tanks at our farms during high fire season.

While the disasters took an emotional toll on our workers and the community, Smithfield began the rebuilding process in early 2018, and we plan to bring back all our employees once complete.

For Bryn Jensson, a safety manager who has been closely involved in disaster response and rebuilding efforts, the strength of Smithfield's team was the saving grace during a tough year and a clear demonstration of one of Smithfield's guiding principles: Responsibility. "The response and dedication of our employees is incomparable. They are so selfless and hard-working," she says. "It was definitely a pull-up-your-bootstraps moment. We all had some good cries and moments of panic, but we didn't let that interfere with the job that needed to get done."

Fleet Safety

Keeping our people safe—while on the road and when loading and unloading products—is a top priority for us. According to federal statistics, injury and accident rates for truck drivers rank among the highest of any industry, accounting for about one-quarter of all fatal work injuries.

Smithfield Direct, which supplies Smithfield products and other frozen food to retailers, transports nearly 200 million pounds of food a year to 15,000-plus retail stores across the country. Smithfield Direct leases its trucks, replacing them every few years with ever-safer models as the lease agreements expire. In recent years, we rolled out about 180 new trucks with a collision mitigation/lane departure warning system that alerts the driver if the vehicle veers out of a traffic lane or is about to crash into slowed or stopped traffic. National statistics show that 42 percent of fatalities, and 20 percent of all accidents, are related to failure to stay in lane. We plan to add another 75 trucks in 2018 and expect that all of our fleet—about 540 trucks in total—will have the lane departure warning system within the next few years.

Our delivery vehicles were the first medium-duty fleet trucks to hit the road with the new electronic stability control system, according to truck manufacturer Navistar, which called our commitment to the technology an “industry-leading decision” and a “significant milestone.”

Camera Ready

We have installed in-dash cameras in our entire fleet of 540 as part of an effort to better protect our employees and our company in the event of an accident. SmartDrive® isn't intended to be a “big brother” watchdog. The two-camera system—one directed inside the cab at the driver, the other pointed out the windshield toward oncoming traffic—does not record constantly, and footage cannot be monitored remotely in real time. Rather, cameras only record when triggered by a G-force event, such as a crash or a sudden lane swerve, capturing 10 seconds before and 10 seconds after the incident.

With many trucks on the road each day, there are numerous recordings, ranging from the benign (e.g., hitting a pothole or a speed bump) to the more serious. Analysts with SmartDrive review the recorded episodes and send reports to us so we can understand the root cause of any incident and learn from it.

The footage captured has been illuminating for a variety of reasons. In some cases, we could clearly see that a driver was using a cell phone at the time of the episode—in violation of Smithfield's policy. We have a strict policy against cell phone use when driving, and anyone caught in violation for a third time is fired. To date, we have dismissed five employees who have violated the cell phone use policy.

The video footage also helps to demonstrate who is at fault in an accident. Historically, courts have sided against truck drivers and large companies in the event of a lawsuit. Individual drivers, as well as Smithfield Foods, can be held liable. The video footage, however, can establish who was in error. For example, one camera recorded a heart-stopping video of a direct store delivery (DSD) driver who suddenly had to veer out of the way when a wrong-way driver came speeding directly toward him. Fortunately, neither driver was injured.

Some employees initially rejected the idea of cameras in trucks, concerned that the company would be watching their every move. But they quickly understood why cameras are important—and how they could help protect the drivers from false accusations of wrongdoing behind the wheel.

We finished installing the cameras on our entire Smithfield Direct fleet in 2017, with already impressive results. We examined data from the same period one year apart. In the first year, we had 20 preventable accidents with two trucks significantly damaged; the following year, we had eight preventable accidents with zero truck losses—a 60 percent reduction. In 2018, we expanded the camera systems into our hog production trucks with test pilot locations.

We also have been adding a new camera technology system that reads speed limit signs and alerts the driver if the vehicle goes over the limit. We installed this equipment on 180 trucks in 2017 and will continue to add more in the future. We also have been adding the OnGuard™ radar system, which provides lane departure warnings and adaptive cruise control. The feature, which is designed to keep the driver from drifting off the road or across the center line, emits an audible alert if it detects erratic driving behavior. The radar will also detect if the vehicle is approaching slower traffic and will alert the driver to slow down.

Improved Equipment

Another recent improvement to the vehicles has had a measurable impact on safety. Prior to 2014, our delivery employees accessed the cargo in our trucks using straight up-and-down folding ladders, similar to what one might see in a swimming pool. Workers would walk up forwards and down backwards, all while carrying heavy boxes of products.

We saw that this presented a serious risk of accident and injury. We added lift gates that moved up and down automatically, enabling employees to load and unload products using handcarts and reduce the number of times we had to enter and exit the backs of the trucks. While these lift gates showed some safety improvement, they did not have any safety barriers, leaving employees at risk of falls while retrieving products.

After coming up with an initial concept for adding handrails, a group of DSD operations employees worked with a lift gate company to design, test, construct, and install new lift gates on our trucks. The new gates with handrails must be engaged before the employee can use them. As a result, we have reduced fall-related injuries by as much as 80 percent.

The addition of lift gates earned us second place in the Safety Nationals 2016 Safety First Awards.

Recognition & Awards

External Recognitions

Our significant safety efforts continue to be recognized by our industry. In 2017, the North American Meat Institute recognized 33 of our facilities with worker safety awards.

Eight Smithfield locations received the Worker Safety Award of Honor, the highest award bestowed by the organization. The awards program is administered by the National Safety Council and based on evaluation of each eligible facility's safety record, as well as its implementation of various key components of an effective safety and health program.

The following received the Award of Honor:

- Bolingbrook, Illinois
- Charlotte, North Carolina
- Salt Lake City, Utah
- Sioux Falls, South Dakota
- Wilson, North Carolina

Hog Production

- Warsaw, North Carolina
- Rose Hill, North Carolina
- Smithfield Premium Genetics, Rose Hill, North Carolina

In addition to the locations highlighted above, 25 other facilities received Worker Safety Awards for outstanding achievements in workplace safety.

Internal Recognitions

Smithfield also has our internal Health & Safety and Workers' Compensation Awards program as part of the annual Safety and Workers' Compensation Claims Conferences. On the safety side, we presented five categories of awards to recognize outstanding performance. Three of the awards are performance-based awards, for which the winning facilities are selected through a scoring system that reviews their efforts against our vision of being an industry leader for worker safety and health.

During the review process, facilities are scored on a number of categories, including effective implementation of a health and safety management system that meets the requirements of Smithfield's Injury Prevention System (SIPS), monthly safety scorecard measurements, regulatory compliance and audit results, injury and illness rates, and implementation and developments toward other key initiatives such as U.S. Occupational Safety and Health Administration (OSHA) performance, Voluntary Protection Program (VPP) status, Behavioral Risk Improvement (BRI), and innovation.

The performance-based awards are the President's Circle Award, given to locations with outstanding performance for the year; and the coveted President's Award, given to an individual location with the highest level of performance.

Our 2017 performance-based award winners:

- President's Award—Wilson, North Carolina
- President's Circle:
 - American Skin, Burgaw, North Carolina
 - Bolingbrook, Illinois
 - Clinton, North Carolina
 - Coastal Protein, Hog Production Unit, North Carolina
 - Elizabeth, New Jersey
 - Junction City, Kansas
 - Kinston, North Carolina
 - Martin City, Missouri
 - Omaha, Nebraska
 - Peru, Indiana
 - Salt Lake City, Utah
 - Sioux Center, Iowa
 - St. Charles, Illinois
 - Wichita, Kansas
 - Wilson, North Carolina

Two additional health and safety awards presented at the safety conference are the Safety Professional of the Year and the Innovation Award. Winners of these awards are chosen based on nominations from people and organizations across Smithfield. A panel of judges, consisting of companywide core team and senior leaders, as well as several external partners that work closely with Smithfield in our worker safety efforts, reviews each nominee before deciding the winners.

Our 2017 Safety Professional of the Year and Innovation Award winners:

- Safety Professional of the Year—Ben Strickland, Hog Production, North Carolina
- Innovation Award—Milan, Missouri; Lincoln, Nebraska

Our Workers' Compensation Claims Management Awards program includes four individual award categories:

- **Claims Professional of the Year Award** recognizes that individual who has shown unequalled commitment to his or her claims management role within the organization and whose efforts have had a profound and measurable impact to injured workers, location, operating segment and/or the organization as a whole.
- **Workers' Compensation Innovation Award** is given to an individual or location whose creativity and innovation have generated measurable and meaningful financial savings or process improvement for the company.

- **Organizational Excellence Award** is intended to reward an individual location for its ongoing performance and sustained positive results in the area of claims management. This award measures results from the prior performance year in combination with historical performance.

Our 2017 Workers' Compensation Award winners:

- Claims Professional of the Year Award—Tami Kunc (Crete, Nebraska)
- Workers' Compensation Innovation Award—Aaron Stegman, Danette Nickell, Callie May (Milan, Missouri)
- Organizational Excellence Award—Wilson, North Carolina

Talent Development

Retaining the best talent requires constant support and training so that each individual can continue to grow—and so that we can grow even stronger as a company.

At the supervisory level, we encourage managers and supervisors to be equipped with the right skills to excel at their jobs, while also helping others become better at theirs. Across our operations, we conduct a number of supervisory trainings to continue to ensure strong leadership across the company.

Our Smithfield Leadership Institute and Emerging Leaders programs target employees with management potential, helping to prepare them for new roles with greater levels of responsibility. Every year, we also conduct our Smithfield Leads program (formerly known as the Top Gun Leadership Program), a 12-month commitment to strengthen and develop high-performance leaders through formal classroom training with case studies, executive briefings, and team projects. Over the past seven years, we have produced over 160 Smithfield Leads graduates, with a 79 percent retention rate.

We offer our Manufacturing Excellence: Understanding Yields, Labor, and Quality Program to help frontline managers understand the business operations of the company, including hands-on instruction about yields, margins, and cost efficiencies, as well as meat science and meat processing techniques.

A number of locations also offer Spanish classes for English speakers who want to improve channels of communication with their Spanish-speaking colleagues.

Overall, about 4,750 employees attended training sessions at 27 plants, two distribution centers, and three Smithfield offices. This represents a 30 percent increase over 2016 training enrollment.

Mentorship Opportunities

Our ACHIEVEmentorship Program matches individuals with a more experienced mentor based on their interests and expertise.

ACHIEVEmentorship Testimonials

"Mentoring has enabled me to learn about the bigger picture at Smithfield. The mentoring relationship is a win/win. Without it, I would have never known my mentee, Sharnell, or understood her side of the business. This has been a great way to improve communications and add new development opportunities. The good news is that I have found a friend as well."

– Darra Johnson, mentor and regional claims manager

"I see this relationship as an opportunity to gain honest feedback and seek critical advice in efforts to influence both personal and professional development. My mentor, Darra, went above and beyond from day one. While we work in two completely different parts of Smithfield, her fresh perspective and influence are far reaching!"

– Sharnell Weathersby, mentee and brand manager, Armour brand

"As a mentor, it was great having a mentee that was all in on what a mentor could bring. I believe a successful mentor/mentee pairing revolves around two parties willing to put the time, energy, and engagement into the process. This is a great program and allows people to build a base of relationships that can serve them for their career."

– Conley Nelson, mentor and Midwest general manager, Smithfield Hog Production

"As both a mentee and mentor within the Smithfield Mentoring program, I came away with highly valuable experiences. As a mentee, I was blessed with a mentor who was invested in me as a person and employee. This relationship will bring value to my career for years to come. On the other hand, as a mentor, I was impressed with the drive and talent of my mentee. Her eagerness to learn and grow helped to inspire me to push myself more as well."

– Justin Fix, mentor, mentee and director, Smithfield Premium Genetics

Educational Opportunities

Education is an important part of our employee engagement strategy, and our employees often need to learn skills in order to gain a promotion within the company.

In addition to our many on-the-job training programs, we offer support for employees who are going back to school to earn college or graduate degrees. To help employees pursue their educational goals, we offer a tuition reimbursement program for eligible employees. In 2017, this program provided over \$849,000 to employees continuing their education.

The Smithfield Foundation, our company's philanthropic arm, also provides scholarships for the children and grandchildren of employees. In 2017, the Foundation awarded 144 scholarships totaling nearly \$660,000, up from around \$400,000 in 2016. In order to be eligible, a student must be a dependent of a Smithfield employee who has been with the company for at least 18 months, demonstrate financial need, and be accepted by one of 12 schools we have named as partners. Since the inception of this program, we have awarded 697 annual scholarships worth more than \$4 million.

In addition, we offer online training geared toward workers in our office locations as part of the Smithfield University program. Available through our company intranet, Smithfield University courses can be self-led or instructor-led and offer a range of topics, including computer skills, leadership trainings, sales knowledge, and public speaking and communications. In 2017, about 2,650 people enrolled in online learning courses, up 91 percent from the previous year.

We are continuing to see growing interest in our Career Foundation Program from both recruits as well as managers. The program, which was launched in 2014, brings in 25 recent college graduates as new employees and enrolls them in 18- to 24-month rotation periods in several areas of our business. Whether they're focused on engineering, operations, or business management, these employees spend six months each in three to four positions at our company under the mentorship of a key business unit leader. The program allows employee participants to understand more clearly the specific challenges and opportunities that we face, while also giving them a valuable and holistic understanding of the company's work. This helps to not only strengthen their skill set and identify future career paths, but also helps to build a well-rounded talent base within the company.

Benefits

Competitive wages and benefit programs vary according to facility, location, and position. In 2017, the average hourly wage for all Smithfield business segments was \$19.30—significantly above the current federal minimum wage of \$7.25 an hour. Hourly positions are hired locally whenever possible.

Comprehensive health insurance and benefits packages are offered to employees in recognition of the value employees bring to the company. These include 401(k) and pension plans, life insurance, and vision and dental care. Smithfield has made about \$800 million over four years in voluntary pension contributions over the last three years. With these contributions, the pension plan is more than 90 percent funded.

Diversity & Inclusion

Workforce demographics are changing in significant ways across all industries, including the meat industry. As baby boomers begin to retire in large numbers, Smithfield and many other companies face a challenge in attracting new talent.

We understand that our success depends in large part on fully leveraging the unique strengths of everyone who comes through our doors with a desire to build a career with us. We also understand that our consumer base is very diverse, and we strive to make our workforce more reflective of the people who buy our products.

On the whole, the meat industry tends to employ large numbers of minorities and women in lower levels of employment, such as production and processing. But there is far less diversity in the higher rungs of management. At Smithfield, we are trying to correct this trend by taking a more deliberate approach to recruiting under-represented groups at all levels of the organization. We participate in industry groups, such as the Agriculture Diversity and Inclusion Roundtable and the STEM Food & Ag Council, which are focused on engaging the next generation in STEM-related careers in the agriculture industry.

Supporting Our Vets

Smithfield has a long history of supporting military families through food donations, volunteerism, and collaboration with partner organizations like [Operation Homefront](#). Now, we are taking that support to another level through [Operation 4000!](#)—an initiative to employ 4,000 veterans at Smithfield Foods by 2020. This goal represents 10 percent of our domestic workforce, up from 3 percent of current Smithfield employees who have prior military service.

We believe that this is not only the right thing to do for the country, but also the right thing to do for Smithfield. We are constantly looking for skilled workers with a technical background. Meanwhile, a large number of qualified veterans are seeking long-term employment. These men and women have faithfully served our country and embody one of our core principles—responsibility. Operation 4000! will help Smithfield continue to fulfill its mission to produce “Good food. Responsibly.®”

We announced Operation 4000! in November of 2016 and rolled it out in early 2017. Our recruitment efforts rely on local hiring managers, with distinct hiring goals for our individual locations. We are engaging directly with military transition offices, which provide resources for families returning to civilian life, in areas where we operate to help facilitate the recruiting process. In the first year of the initiative, Smithfield attended several military-exclusive job fairs at bases around the country, with plans to reach more fairs in 2018. We also became a Virginia Values Veteran (V3) certified company, showing our commitment to hire veterans in that state, and joined the Veteran Jobs Mission, a national collaboration of over 200 companies aiming to hire 1 million veterans. We also launched the Military Fellowship Program, an 18-month rotational leadership development program for high-caliber, recently transitioned military leaders. And we are developing specific onboarding programs for new veteran employees.

While we are continuing to post all open positions on employment networks that serve veterans and transitioning military personnel, our hiring teams also are leveraging our regular military-related brand events, for example with Eckrich® and Operation Homefront, to raise awareness about job opportunities for veterans.

We also have launched a new veterans-focused Employee Resource Group (ERG) called Smithfield Salutes, to ease the transition of veterans into the company and provide support resources for existing employees with prior military service. Smithfield Salutes' participants also aid local hiring managers in outreach and recruitment efforts.

Heroes MAKE America

Smithfield recently began partnering with **Heroes MAKE America**, a full-time, 10-week career skills program that is helping service members transition from military to manufacturing careers. Created by the Manufacturing Institute in partnership with a military transition assistance program at Fort Riley, the program gives manufacturers direct access to industry-credentialed and industry-qualified veteran candidates with workplace skills. The program reduces on-the-job training expenses, enhances job productivity, and supports our nation's heroes during their transition to civilian employment.

Smithfield hosted the inaugural class of Heroes MAKE America for a visit at our Junction City, Kansas, facility. Participants were given a tour of the plant and sat down with veterans in our organization to discuss the challenges and opportunities of moving from military to manufacturing careers. Students also learned about Smithfield's Operation 4000! initiative and received job transition advice.

Expanding the Pipeline

Smithfield is committed to increasing diversity at all levels of the company. As part of this, we are adjusting and expanding the way we recruit employees.

In 2016, we set new diversity goals for our companywide internship program, which provides a small group of students an opportunity to experience the work culture of Smithfield. In 2017, 27 percent of our internship participants were people of color, up from 7 percent the previous year and just below our goal of 30 percent. We are also committed to maintaining a 50/50 split between men and women in the program.

The internship program is also steadily expanding. Interns are recruited for a range of positions across our organization, including roles in finance, engineering, animal care, and marketing. Participants get to tour Smithfield facilities and receive training courses that provide a broad overview of the company, as well as "lunch and learn" events that aim to teach workplace skills such as effective communication. Through the program, students also take part in key management meetings, participate in meaningful projects and community outreach, and became integral members of the Smithfield team.

According to a survey of interns in 2017, 100 percent of respondents said they felt they took away real-world experience and would recommend the internship, while 88 percent of intern managers recommended their intern for full-time employment. Nearly 40 percent of Career Foundation Program openings were filled with summer internship participants.

In addition to the many animal science programs from which we have traditionally recruited employees, we have expanded hiring outreach at historically black colleges and universities and schools associated with the Hispanic Association of Colleges and Universities in an effort to improve our diversity metrics. We also engaged our Smithfield NEXT employee resource group for on-campus events and coordinated more than 70 on-campus events altogether, compared to 60 events in 2016.

Employee Resource Groups (ERGs)

ERGs are a valuable way for Smithfield to engage with our people while creating new professional and personal connections among employees across all levels and divisions. Over the past few years, we have expanded the number of ERGs at Smithfield, which has been well received. At the same time, we recognize that most ERG participation comes from our salaried workforce, and we are exploring ways to better engage our hourly employees.

Our two newest ERGs—one aimed at female employees and the other at millennials—help facilitate a network for talent development and learning opportunities across the company.

The Women's Connect ERG was initially started in 2013, but was reinitiated in 2015 after a pause in activity following the transition to "One Smithfield." The group organizes lectures, panels, networking events, and other enrichment opportunities that help support its four "core competencies": Leading Business, Leading Culture, Leading People, and Leading Self. In 2017, Women's Connect kicked off a "lunch and learn"

platform to enable small group discussions between employees and leaders and also launched Quick Connect, a publication on information and industry news that aligns with the group's mission.

Our Smithfield NEXT group was launched in 2016 as part of our work to expand the definition of "diversity" beyond just race and gender to also include age and thought processes. The group connects employees of the millennial generation to learning, networking, and development opportunities. But membership has not been limited to just millennials—employees from all age groups have shown interest in the speaking, networking, and community engagement opportunities arranged by group leaders. For example, about 225 employees from across the company attended a series of speaking sessions on managing perceptions in the workplace by Dr. Ken White of the College of William & Mary. Smithfield NEXT members also participated in successful food bank drives and volunteering sessions throughout the year.

Both the Smithfield NEXT and Women's Connect leadership teams include representatives from our plants, farms, and offices across the country.

We do not discriminate against any employee or any applicant because of race, color, religion, ethnic or national origin, gender, sexual orientation, age, disability, veteran status, or any other status protected by federal law. The company works hard to provide employees of all backgrounds with opportunities for training and advancement at all levels. All facilities adhere to our Equal Employment Opportunity policies and programs.

We are proud of the progress on diversity that we have made in recent years and are continually aiming to be the best in our industry, but we also acknowledge that there remains room for improvement.

2017 Employee Diversity	Executives	Hourly employees	Salaried employees	Companywide
American Indian or Alaskan Native	0.0%	1.5%	1.2%	1.4%
Asian	2.8%	8.4%	3.2%	7.4%
Black or African American	3.7%	32.8%	12.0%	28.9%
Hispanic	0.9%	33.8%	12.1%	29.7%
Native Hawaiian or Other Pacific Islander	0.0%	0.2%	0.1%	0.2%
Two or More Races	0.0%	0.7%	0.7%	0.0%
White	92.6%	22.7%	70.9%	31.8%

2017 U.S. Workforce by Age and Gender	Female	Male	Under 30	30-50	Over 50	Total
Governance bodies (leadership)	11	99	0	38	72	110
Number of full-time employees	14,440	25,137	7,643	20,115	11,824	39,582
Percentage of employees	36.5%	63.5%	19.3%	50.8%	29.9%	

We do not have a substantial number of part-time or seasonal employees. Therefore, we do not report them separately. Smithfield's work is not substantially performed by workers who are legally recognized as self-employed, or by individuals other than employees, including employees and supervised employees of contractors. All figures represent the domestic workforce as of the end of 2017. Five employees did not provide their gender.

Employee Wellness

The ability to live a healthy life that includes work-life balance is an important part of our commitment to our employees. We believe that investing in employees' health and well-being pays dividends in the long term. Healthy employees feel better, perform better, contribute to a more positive work environment, and drive down overall company healthcare costs.

Work in the meat industry can be extremely demanding, and our employees often work long hours. Finding ways to emphasize a healthier work-life balance is a top priority for Smithfield, and we are looking for new ways to provide greater support to our employees, including newly created Employee Resource Groups, mentorship programs, and healthy living resources.

Technology-Fueled Healthy Habits

We have a wellness program that provides direct incentives to salaried employees, encouraging them to form healthy habits. Participants are given a Fitbit™ fitness tracking device after they have completed a biometric screening, an initial health assessment, and joined at least two of several health activities offered by Smithfield.

Over the course of the year-long program, the Fitbit tracks everyday activity levels, and participants earn points based on Fitbit data. Participating employees who earn a total of 100 points over the year receive a \$600 wellness bonus. In 2017, we also added program rewards for preventative dental and primary care visits and made the program more competitive by increasing Fitbit step goals.

We also continue to offer more traditional health and wellness programs, which vary from location to location across the company. Some examples include hiring a full-time personal trainer for employees, professional counseling services, blood pressure and cholesterol screenings, free mammograms, massages, intra-office weight-loss competitions, flu shots, and more.

Promoting Healthy Behaviors

Our "fit" wellness program, which is offered to employees at several locations, represents our commitment and responsibility to support good health for employees and their families. It offers enhanced benefits, such as diabetes management, smoking cessation programs, and maternity management for a healthy pregnancy—including a \$200 gift card for new parents. We also host regular "lunch-and-learn" events to discuss healthy living topics such as stress management, weight control, and employee assistance program services.

Several offices offer annual health fairs that include blood pressure screening, cholesterol checks, massages, mammogram screenings, and more.

Weight Loss and Exercise

Several of our locations have formal participation programs with local Weight Watchers® chapters. These programs add on to other, more informal weight loss and exercise programs at other offices. For example, some locations offer to reimburse employees 50 percent of the Weight Watchers joining fee if they complete the majority of their weigh-ins and meetings, while other offices host on-site gyms for employee use. In 2016, employees at our Milan, Missouri, facility transformed an unused space in the transportation center into a fitness center accessible (and free) to employees 24 hours a day, seven days a week. Several of our employees are even certified yoga instructors who lead regular classes for their colleagues.



Human Rights

Our formal [Human Rights Policy](#) ensures the fair treatment of employees throughout the company.

The policy spells out the expectations we have in the areas of equal opportunity; health, environment, and safety; harassment and violence; the rights of employees; and other key topics.

We provide copies of the policy to all employees, including new hires, and encourage workers to call a toll-free hotline number to report any violations. We also communicate our Human Rights Policy to all major suppliers and expect them to comply. In addition, our [Supplier Code of Conduct](#) promotes adherence to all relevant laws and regulations, including those addressing slavery and human trafficking.

Our long-standing [Code of Business Conduct and Ethics](#) is also part of our governance framework and is designed to help create a safe and fair work environment. The Code is communicated to all employees and sets forth our expectations for appropriate employee behavior, as well as corporate hiring and disciplinary policies. For more information on ethics, see the [Governance & Management](#) section.

Policies & Statements

Human Rights Policy

Smithfield¹ is committed to the protection and advancement of human rights, as enshrined in the Universal Declaration of Human Rights (UDHR) issued by the General Assembly of the United Nations on December 10, 1948.

The Smithfield Human Rights Policy is grounded in the [Smithfield Code of Business Conduct and Ethics \(PDF\)](#) (the “Code”), and operates in conjunction with the Code. The Code, in conjunction with the Human Rights Policy, sets forth Smithfield’s policies and practices relating to conducting our business in an ethical and responsible manner that supports and respects the protection of human rights. It reflects the company’s core values and high ethical standards.

As used in this Policy and the Code, the term “Smithfield” means Smithfield Foods, Inc., and all foreign or domestic operations and joint ventures in which Smithfield has a majority interest and/or management responsibility, the terms “employees” or “representatives” mean and include all Smithfield employees, officers, and directors, and the term “supervisor” refers to the person to whom an employee reports. Smithfield will communicate this policy to its direct supply chain partners.

The Compliance Committee is responsible for the oversight and implementation of this policy, and shall define the company’s implementation and monitoring efforts to conform to this policy and advance our commitment to continuous improvement.

1. Equal Opportunity

Smithfield does not discriminate against any employee or applicant for employment because of race, color, religion, ethnic or national origin, gender, sexual preference, age, disability, or veteran status. This applies to recruitment, hiring, training, promotion, disciplinary practices, and other terms and conditions of employment. Discrimination against any employee or applicant for employment is a serious violation of equal employment opportunity law and of Smithfield’s corporate policies. It is the responsibility of every supervisory employee to ensure that discrimination does not occur and for every employee to report violations to our policy or the law.

Smithfield will take action to ensure that qualified applicants are given equal opportunity to be employed and promoted. All personnel actions and company-sponsored programs shall continue to be administered on a nondiscriminatory basis. Violations of policy will be reviewed, investigated, and appropriate action taken based on the facts.

2. Health, Environment, and Safety

Smithfield is committed to ensuring the health, safety, and well-being of our employees, the people living and working in communities near our facilities, and the environment and will provide the human, physical, and financial resources necessary to meet this commitment. These resources will be used to enable employees and contractors to work safely and comply with company policies and the law, to prevent pollution, and to protect the environment. Our employees are expected to comply fully with company policies and to adhere, at a minimum, to the applicable health, environmental, and safety legal requirements of their host country. Training will be provided to our employees on these company policies and legal requirements.

3. Harassment and Violence

Smithfield is committed to providing our employees with a non-discriminatory work environment free of any type of harassment per company policy and the law. Supervisory employees must investigate all complaints of harassment and employees are advised on their responsibility to report violations. The company will take appropriate disciplinary actions for violation of policy or law.

All verbal and physical threats of violent behavior are unacceptable and should be reported as outlined in the Code. Every report of violence or threats of violence will be investigated. Employees who engage in violence or threats of violence will be subject to disciplinary action, up to and including termination of employment as well as criminal prosecution.

4. Rights of Employees

Smithfield does not use forced or compulsory labor. Workers are recruited and receive competitive wages and benefit packages. Smithfield will not use child labor and respects the rights of children to be protected from economic exploitation. Smithfield recognizes and respects employees' rights and freedom to choose whether to join or not join third-party organizations or to associate freely and bargain collectively. Where applicable, Smithfield supports the rights of its employees to make these choices through fairly conducted secret ballot elections. Smithfield recognizes that in some countries workers are not free to organize and join unions, and in such circumstances the company is open to other forms of worker representation.

5. Implementation

This Human Rights Policy will be implemented by Smithfield through communication and training programs for staff on human rights issues generally, and on the requirements of Smithfield's Human Rights Policy specifically.

Health & Safety Policy

Smithfield Foods¹ recognizes our workers as our greatest asset, and firmly believe the health and safety of every individual working or visiting one of our locations is our responsibility. Just as we strive to be an industry leader in producing wholesome food products, following best-in-class animal welfare practices, and protecting the environment, we also strive to lead the industry in occupational safety and health. To that end, Smithfield Foods has developed and is currently implementing the Smithfield Injury Prevention System (SIPS).

SIPS delivers our commitment to provide safe and healthy working conditions and to prevent injury and ill-health to workers and visitors by:

- Maintaining a corporate and local level leadership team to steer the overall process;
- Providing professional safety resources across all organizational levels;
- Maintaining compliance with all federal, state, local laws, and Smithfield corporate safety requirements;
- Defining roles and responsibilities for all workers affecting safety performance, and measuring adherence to those responsibilities through performance reviews;
- Conducting initial and ongoing risk assessments that identify control measures;
- Developing management plans, processes, and procedures that utilize the hierarchy of controls for the timely abatement and reduction of hazards;
- Promoting active participation of all workers within the ongoing delivery of SIPS, training, awareness of potential hazards, auditing, continuous improvement processes, and evaluations;
- Developing measurements and auditing systems to ensure standards of performance are being achieved and opportunities for improvement are identified;
- Involving senior and local level management in the on-going development of the SIPS system;
- Continuously improving SIPS using information gathered through the implementation of our safety systems and programs, and through performance reviews.

To maintain a safe and healthy working environment, every worker and visitor must comply with the requirements specified in SIPS.

This policy shall be reviewed and revised as necessary, at least annually, and will be communicated to every worker as well as to other interested parties.

Reviewed and accepted on this date: February 1, 2018

Diversity Statement

Smithfield¹ understands that its customers, employees, and suppliers are critical to its success as a global food company.

“Good food. Responsibly.®” Means a Commitment to Diversity

Smithfield understands that its customers, employees, and suppliers are critical to its success as a global food company. Smithfield is committed to partnering with customers, employees, and suppliers of diverse backgrounds and geographic locations, and to conduct our business in an ethical and inclusive way. Our global perspective and commitment to inclusion are central to our mission to produce good food, responsibly, and ultimately maximize shareholder value.

Therefore, Smithfield has established a Diversity Advisory Committee to help the company identify opportunities to strengthen relationships with our customers, our employees, our suppliers, and in the communities where we have operations.

Customers

Smithfield Foods is always seeking new markets for its products. We continually strive to reach out to a diverse customer base and produce good food that will be enjoyed by families across the globe. Our new initiatives include product development, marketing and advertising with diverse media outlets, sponsorships, and forming successful partnerships with key influencers.

Employees

Smithfield is committed to attracting, training, and maintaining a diverse workforce that is reflective of the marketplace. We strive to implement a company culture that is inclusive, positive, and performance-oriented. Having a diverse workforce allows us to benefit from a variety of perspectives and strengthens our global competitiveness.

Explore the many opportunities available across our family of companies. Visit our [Careers](#) page for our most recent employment information. Apply today!

Community

We believe that being an active and sustaining partner in the communities in which we operate is not only good business, but also our role as a responsible corporate citizen. Some examples of our activities include:

- College scholarships for the children and grandchildren of our employees, in partnership with numerous colleges and universities in the United States, including several historically black colleges and universities (HBCUs).
- Our Helping Hungry Homes[®] initiative, through which we partner with Feeding America and local food banks to feed families in need.
- Partnerships with organizations to support young students in the educational quest for careers in the agriculture industry.

¹ All references to “Smithfield,” “we,” “us,” and “our” are terms of convenience used to refer collectively to Smithfield Foods and all of its subsidiaries. Similarly, the terms “division” and “business unit” may be used to refer to one or more subsidiaries, which are independent operating companies.



Governance Overview

At Smithfield, we're passionate about producing good food, the right way. We aim to be an ethical food industry leader that sets industry benchmarks for sustainability.

We do this in part through sound governance and management principles and practices, which provide the foundations for trust, transparency, and progress at our company. Our systems for ethical conduct, the way we engage with stakeholders, our approach to public policy, and our management of supply chain issues are all important elements of our sustainability strategy, cutting across our key pillars and creating value for our company and for our stakeholders.

Smithfield Foods is a wholly owned subsidiary of WH Group Limited, a publicly traded company in Hong Kong. Operationally, we are part of an enterprise that shares our belief in global opportunities and our commitment to the highest standards of product safety and quality. Our CEO reviews the sustainability performance of our company on at least an annual basis.

In this section of our report, we discuss **ethics and compliance**, our **governance and sustainability management** structures, our **sustainability targets**, our **stakeholder engagement** efforts, and **public policy** issues of interest to our company. This section also discusses the results of our most recent **materiality analysis** that we used to better understand—and better report on—the issues that are of greatest importance to our company and to our stakeholders.

Materiality Analysis

Materiality, which identifies our company's key issues, plays an important role in our reporting. We regularly analyze our material issues to better understand the perspectives of both internal and external stakeholders on the most important sustainability topics for Smithfield Foods. As much as is practical, we weight discussion around the topics that have been identified as most important to our business and to our stakeholders.

We also use the results of our materiality analysis to guide our sustainability strategy and to manage the issues of concern to our stakeholders and to our company. This informed decision-making demonstrates our commitment to leadership in responsible food production.

In the fall of 2017, we conducted a detailed materiality analysis¹ using a four-step process: identify issues, prioritize issues, review and revise the issues, determine what to report.

To identify the issues, we interviewed more than two dozen internal and external stakeholders. External stakeholders included representatives from customers and supply partners, nongovernmental organizations and nonprofit organizations, and government regulators and community representatives, among others.

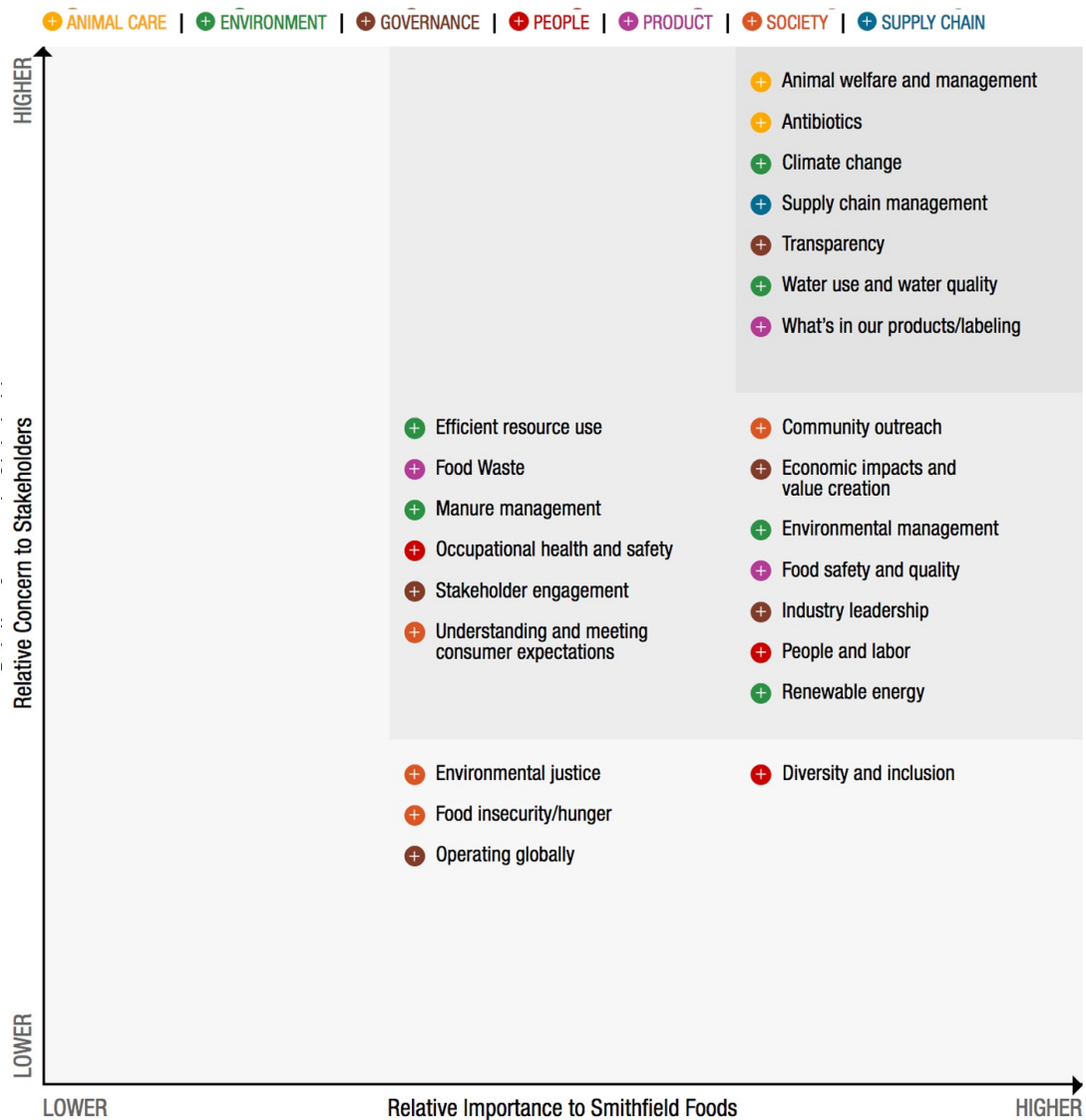
Overall, we reviewed more than 60 inputs, which also included reporting frameworks, such as the Global Reporting Initiative (GRI), GRI's Food and Beverage Sector Supplement, and the Sustainability Accounting Standards Board (SASB); peer company materials and reports; media articles on the meat industry; industry analyses; and the United Nations' Sustainable Development Goals, among other inputs.

We then condensed and prioritized the list of potential material issues based on the significance of their potential impact, stakeholders' level of concern about the issues and their likelihood of influencing stakeholder decision-making, their perceived impact to the company, and the frequency with which issues were raised. To confirm the accuracy of the ratings, we validated and finalized the analysis with a group of internal Smithfield stakeholders and external sustainability experts.

For this year's report, we found that the majority of the material issues, as well as their rankings of importance, were consistent with our previous materiality analysis, though some issues moved up or down in importance to the company and/or stakeholders. In addition, industry leadership was identified as a material issue. We also created a broader, more holistic issue of people and labor, consolidating what had previously been three separate material issues. We believe this better captures our organization's focus on our employees.

Materiality Matrix

This matrix illustrates the results of our materiality analysis. Issues in the upper right box are most important to both stakeholders and the company. Issues are color-coded based on the broad categories used to organize this report. The material issues listed below are the most critical to our company's ability to create and sustain value today and in the future.



What's included in our material issues?

Below we provide additional insight into how we define our material issues, including the boundaries of where the primary impacts associated with each issue occur. All of our material issues are directly linked to Smithfield's operations. To determine the external boundary for each issue, we assessed the importance and impact of issues across our value chain, from upstream in the supply chain to downstream product consumption and disposal. We define the external boundary based on the entities in our value chain that are most directly associated with the issue. We also analyzed the stakeholders most affected at each value chain stage. In addition, we have identified the relevant GRI aspects associated with each of our material issues, a requirement of the "in accordance" level of the GRI Standards.

Animal Care

Animal welfare and management

- Issue definition: Our policies and performance as they relate to the health, safety, and comfort of our animals
- External issue boundary: Contract growers, regulatory entities
- Other stakeholders: Customers, consumers, nongovernmental organizations
- Related GRI aspects: Animal welfare

Antibiotics

- Issue definition: Our policies, practices, and administration of antibiotics; this issue includes stakeholder concerns about perceived overuse in the industry and antibiotics resistance
- External issue boundary: Contract growers, suppliers, regulatory entities
- Other stakeholders: Customers, consumers, nongovernmental organizations
- Related GRI aspects: Animal welfare

Environment

Environmental management

- Issue definition: Our policies, performance, and systems for reducing our footprint and going beyond compliance
- External issue boundary: Regulatory entities, contract growers
- Other stakeholders: Local communities, nongovernmental organizations
- Related GRI aspects: Compliance, environment overall, emissions, effluents and waste, water

Manure management

- Issue definition: Our policies, programs, and performance for managing manure; this issue includes our systems for treating and utilizing manure, as well as our programs to turn manure into a renewable energy source
- External issue boundary: Regulatory entities, contract growers
- Other stakeholders: Local communities, nongovernmental organizations
- Related GRI aspects: Compliance, effluents and waste, water, energy

Water use and water quality

- Issue definition: Our policies and programs to manage fresh water use responsibly, especially in water scarce areas, and to eliminate water quality impacts of our operations
- External issue boundaries: Regulatory agencies, contract growers, grain suppliers
- Related GRI aspects: Compliance, water, effluents and waste

Climate change

- Issue definition: Addressing global climate change by reducing our carbon footprint
- External issue boundary: Contract growers, suppliers
- Other stakeholders: Local communities, regulatory entities, nongovernmental organizations
- Related GRI aspects: Energy, emissions

Renewable energy

- Issue definition: Advancing the use of renewable energy, including finding innovative ways to turn manure into an energy source
- External issue boundary: Regulatory entities, contract growers, local utilities
- Other stakeholders: Local communities
- Related GRI aspects: Energy, effluents and waste

Efficient resource use

- Issue definition: Producing more while using less water, energy, and materials and generating fewer emissions and solid waste
- External issue boundary: Regulatory entities
- Other stakeholders: Local communities, nongovernmental organizations
- Related GRI aspects: Water, energy, materials

Governance

Transparency

- Issue definition: Explaining what we do and how we do it through proactive and clear communications
- External issue boundary: Contract growers, suppliers
- Other stakeholders: Customers, consumers, regulatory entities, nongovernmental organizations

Operating globally

- Issue definition: Addressing challenges related to diverse export markets, free trade, and risk management
- External issue boundary: Suppliers
- Other stakeholders: Customers, regulatory entities, suppliers
- Related GRI aspects: Procurement/sourcing practices, market presence, anti-competitive behavior

Stakeholder engagement

- Issue definition: Working with our customers, regulators, investors, and others to understand their concerns and needs and to share our efforts to address them
- External issue boundary: Local communities, contract growers, suppliers, customers, nongovernmental organizations
- Related GRI aspects: Local communities

Economic Impacts and value creation

- Issue definition: Creating value for our own business and for our customers, employees, investors, and society
- External issue boundary: Local communities, contract growers, suppliers, customers
- Related GRI aspects: Economic performance, local communities, market presence, indirect economic impacts

Industry leadership

- Issue definition: Leveraging our scale and promoting innovation to operate as sustainability leaders in our industry
- External issue boundary: Contract growers, suppliers, competitors
- Other stakeholders: Customers, nongovernmental organizations
- Related GRI aspects: Procurement/sourcing practices, economic performance, market presence, indirect economic impacts

People

Occupational health and safety

- Issue definition: Policies, practices, and performance related to keeping our people healthy and safe
- External issue boundary: Regulatory entities
- Related GRI aspects: Occupational health and safety

People and labor

- Issue definition: Creating jobs, providing professional development opportunities, and fostering a work environment that allows our employees to stay and grow with us throughout their careers
- External issue boundary: Regulatory entities
- Other stakeholders: Local communities
- Related GRI aspects: Employment, training and education, labor/management relations, market presence

Diversity and inclusion

- Issue definition: Being an equal opportunity employer that values all our people and fosters an environment of diversity and tolerance
- External issue boundary: Regulatory entities
- Other stakeholders: Local communities
- Related GRI aspects: Diversity and equal opportunity

Product

What's in our products/labeling

- Issue definition: Clearly communicating what's in our products; using labels to help our consumers make informed dietary choices
- External issue boundary: Contract growers, suppliers, regulatory entities
- Other stakeholders: Customers, consumers, nongovernmental organizations
- Related GRI aspects: Customer health and safety, product and service labeling, compliance, marketing communications

Food safety and quality

- Issue definition: Producing safe, high-quality meat products for our consumers
- External issue boundary: Contract growers, suppliers, regulatory entities
- Other stakeholders: Customers, consumers
- Related GRI aspects: Customer health and safety, product and service labeling, compliance

Food waste

- Issue definition: Reducing food waste through innovations in packaging and optimized logistics
- External issue boundary: Suppliers, customers, consumers, regulatory entities
- Related GRI aspects: Effluents and waste

Society

Understanding and meeting consumer expectations

- Issue definition: Predicting and responding to our consumers' evolving needs and preferences
- External issue boundary: Customers, consumers, contract growers, suppliers
- Related GRI aspects: Healthy and affordable food

Community outreach

- Issue definition: How Smithfield supports local communities through social outreach and engagement
- External issue boundary: Local communities, nongovernmental organizations
- Related GRI aspects: Indirect economic impacts, local communities

Food insecurity/hunger

- Issue definition: Providing food to those in need
- External issue boundary: Local communities, nongovernmental organizations, customers
- Other stakeholders: Consumers
- Related GRI aspects: Indirect economic impacts, local communities

Environmental justice

- Issue definition: Understanding and addressing the potential for inequitable distribution of impacts and benefits
- External issue boundary: Local communities, nongovernmental organizations
- Related GRI aspects: Emissions, local communities

Supply Chain

Supply chain management

- Issue definition: Working with contract hog farmers and grain producers to optimize performance on environmental and social issues and working with non-agricultural suppliers to minimize our use of resources such as cardboard and other packaging materials
- External issue boundary: Contract growers, grain producers, suppliers
- Other stakeholders: Customers
- Related GRI aspects: Procurement/sourcing practices, indirect economic impacts

¹ Smithfield conducts a robust materiality analysis every other year. In the interim years, we typically go through a materiality "refresh" review process to ensure we're still focusing on the most important topics.

Ethics & Compliance

Safeguarding integrity remains a critical business priority. Ethical and lawful conduct is an essential part of our company's culture, and we are committed to conducting our business with the highest standards.

Smithfield maintains a **Code of Business Conduct and Ethics** (the Code) for all employees and corporate officers. We publish the Code in the five major languages of the countries in which we have operations. It conveys policies and practices for conducting business in accordance with applicable laws and the highest ethical standards.

Our executive-level Ethics and Compliance Committee, chaired by our chief legal officer, oversees the full range of compliance issues for Smithfield and administers the Code. All executive officers are required to complete an annual certification relating to ethics and compliance, the Code, and other company policies.

We also provide employees with opportunities to report ethics violations or similar concerns through an anonymous telephone hotline. The company reviews and responds to all hotline complaints.

Our email Code of Conduct certification process promotes awareness of our Code and the values that we expect our employees to demonstrate in their day-to-day work. Each year, we send emails to the approximately 10,000 employees who have email accounts, and they must acknowledge compliance. Certain supervisory/managerial personnel who do not have active email accounts certify compliance by paper-based methods.

Sustainability Management

Overall management of Smithfield's sustainability program rests with the chief sustainability officer and a core team of senior managers and subject matter experts from business units and facilities.

This cross-functional team facilitates decision-making, recommends sustainability goals and promotes sustainability, reviews best practices, and coordinates and disseminates key sustainability data.

In Smithfield's business segments, coordinators are charged with communicating sustainability goals and targets through our operations. Each segment/location tracks individual progress to the goals, providing data through a centralized information gathering system.



Chief Sustainability Officer Stewart Leeth

We developed our sustainability management strategy more than a decade ago. At that time, we identified several sustainability areas that merited a more consistent management approach across the company to meet our goal of leading the industry with our practices. The first such area was environmental management. We implemented and certified environmental management systems at all farms and processing facilities. Over the years, we expanded that approach to other areas such as animal care and employee health and safety. We formed corporate committees to develop and implement consistent approaches, including committees focusing on environmental compliance, and animal care. Common elements of the management systems developed in these areas include policies, employee training, goal setting, corrective action, third-party auditing, and executive review.

International Operations & Acquisitions

While our sustainability program initially focused on operations in the United States, the program also applies to our operations in Europe. Of course, regulatory frameworks vary from country to country. Therefore, we, like many other companies, are working hard to align our goals and approaches to important issues, such as environmental management, with international operations.

In early 2017, we announced the **completion of the acquisition** of Clougherty Packing LLC, parent company of Farmer John and Saag's Specialty Meats brands, and PFFJ LLC farm operations from Hormel Foods Corporation. Later in the year, we announced the full acquisition of Kansas City Sausage Company, LLC, with which we had formed a 50/50 joint venture in 2013. And in Europe, we announced the acquisition of Pini Group's packaged meats companies. The Polish acquisition includes Pini Polska, a meat processing and packaging plant; Hamburger Pini, a case ready meat plant; and Royal Chicken, an investment project currently in development. We also added three pork processing plants and five distribution centers in Romania through our acquisition of Elit SRL and Vericom SRL.

When we acquire a new company, we conduct various reviews, including an assessment of the company's practices related to key sustainability areas such as employees, safety, sow housing, and the environment. We also try to address the current relationship with local regulators and the communities in which they are based. Following an acquisition, we promptly implement our environmental and health and safety management systems (described in the respective areas of our sustainability program on this site) and identify practices already in place, as well as gaps. We then use our corporate-level training programs and intranet sites to communicate best practices.

We also make available our environmental management expertise and safety expertise to the companies in which we hold a minority interest, and we encourage them to utilize environmental and safety compliance practices that are consistent with our own.

Enterprise Risk Management

Risk management continues to be an important concept for Smithfield Foods. We continue to enhance our Enterprise Risk Management (ERM) program as part of an effort to promote an aligned, integrated ERM framework across the entire company.

Our ERM program is based on the Committee of Sponsoring Organizations of the Treadway Commission (COSO)¹ ERM Integrated Framework. The objective of our ERM program is to have a sustainable process in place that can identify complex and emerging risks (both internal and external) that, if not addressed, might prohibit us from achieving our strategic, financial, and compliance objectives.

Through our parent company's (The WH Group) listing on the Hong Kong Exchange (HKE), Smithfield is required to demonstrate that an effective ERM program is in place. This HKE requirement took effect for fiscal years ending as of Dec. 31, 2016. The WH Group, and, by extension, Smithfield Foods, must demonstrate that we have a formalized ERM program that includes, but is not limited to, risk identification and annual risk assessment, mitigation processes and controls, management and monitoring of key risks areas, and timely and effective reporting.

Although we had annually assessed our ERM program through a robust risk assessment process, a formal audit/evaluation of the effectiveness had not been performed until the 2016 HKE requirement. Although we identified 22 key risk areas, the annual audit process prioritized 10 key risks for the assessment, including commodity prices, food safety, planning and strategy, animal welfare, customer relations, environmental, international markets, capital adequacy, competitor activity, and ethics and compliance.

Based on the results of the internal audit, we believe that the employees responsible for each key area understand and own the risks for their specific parts of the business and that our ERM program meets the "effectiveness" definition as set forth by the HKE.

¹ COSO defines ERM as a "process effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives."

Supply Chain Management

Suppliers are integral to our commitment to produce “Good food. Responsibly.®”

Our [Supplier Code of Conduct](#) helps ensure that suppliers continue to meet or exceed our high standards. The Code, which is incorporated into all new and renewed contracts with our largest suppliers, sets forth the business conduct requirements for all suppliers who do business with Smithfield.

The degree to which suppliers comply with the requirements—and the extent of their sustainability efforts—will be a consideration for future business with Smithfield. The Code outlines expectations around legal compliance, environmental sustainability, and business integrity, as well as labor and human rights issues. We monitor our suppliers’ performance, although we do not conduct formal audits.

We maintain standardized vendor requirements, which include food safety, equal employment opportunity, and animal welfare guidelines, for all ingredient and packaging suppliers. (See the [Animal Care](#) section for a detailed discussion of management policies and practices around hog supply, including our relationships with contract producers.)

We also conduct regular surveys of our largest suppliers to understand what they are doing in areas such as energy reduction, natural resource use, employee safety, and community giving. Over the last two years, we have been working with the Global Environmental Management Initiative (GEMI) on a supply chain harmonization project that offers a standardized process for collecting, compiling, and sharing environmental and other sustainability information within and across value chains. The new guide for strategic buying and supplier collaboration will be beta-tested in 2018.

Learn more about our [Supply Chain](#) in the Environment section.

Sustainability Goals & Targets

We first adopted a series of ambitious environmental goals and corresponding targets in our domestic operations in 2010. We reached several of our targets ahead of schedule and, in early 2015, refined all of our goals and targets to better align them with our performance and with a new, more unified company structure.

In 2016, we added a new goal, one that we believe to be leading the protein industry. We aim to reduce our absolute greenhouse gas emissions by 25 percent by 2025. Read more in the [Environment](#) section.

In 2017, we reached our industry-leading goal to convert to [group housing for pregnant sows](#) on all company-owned farms in the United States.

Our goals and targets include an updated suite of environmental resource reduction targets. These goals build upon lessons learned and best practices that we have developed over the last few years. We intend to continue to push for improvements across our company, reaffirming our role as a leader in our industry.

Each of our goals is discussed in greater detail in the relevant sections of this website, including the [Transparency Scorecard](#). Going forward, we will continue to refine our goals and targets and adopt new ones as our sustainability programs evolve.

Stakeholder Engagement

We define stakeholders as all persons or organizations that are affected by the operations or practices of the company.

We routinely conduct internal analyses to identify stakeholders and have identified and defined the following stakeholders as groups we engage with regularly:

- **Internal stakeholders**, including employees, facility management, and corporate management, among others.
- **External stakeholders**, including the customers and suppliers with whom we do business; the end consumers of our products; federal, state, and local governments and regulatory entities; nongovernmental organizations; industry groups and trade organizations; and the communities in which our employees live and work.

In recent years, we have put particular emphasis on engaging with employees to acquire more input from them. We also have increased our efforts around proactive stakeholder engagement, reaching out to a variety of groups to talk about who we are, what we do, and how we might be more responsive to each other's needs. These groups include members of the media, opinion leaders on issues of food production, religious organizations, and student groups. One area we've focused on is sustainable food production—an increasingly urgent issue as the world's population continues to grow. You can watch our video below: We engage with stakeholders in a number of ways and forums, and our communications vary depending on their respective needs. For example, we encourage suppliers to adopt practices that will reduce their impacts on the environment. We also make the most of the membership organizations to which we belong—communicating with third-party stakeholders, gaining perspective on important issues, and developing management tools others can use to improve performance. We engage with other stakeholders on an as-needed basis in response to particular issues that arise.

In addition, in order to meet our sustainability targets, we encourage our segments and facilities to meet with community stakeholders to highlight our programs and obtain input.

Other examples of engagement include the following:

- We funded research at the University of Minnesota's NorthStar Initiative for Sustainable Enterprise that helped us better understand our environmental footprint. Environmental Defense Fund provided guidance as we developed our **greenhouse gas (GHG) reduction goal**. The GHG models built by the University of Minnesota will also help other protein companies quantify their environmental impacts.
- The government is an important stakeholder, and Smithfield continues to explore innovative initiatives with elected officials. For example, Smithfield is partnering with the **U.S. Environmental Protection Agency's Nutrient Recycling Challenge**. This effort is designed to discover and promote innovative technologies that transform manure into cost-effective products that can be used by farmers.
- Our chief sustainability officer sits on the board of directors of the Center for Food Integrity, a non-profit organization that shares similar goals with Smithfield of increasing transparency and understanding about modern food production and earning consumer trust.
- In early 2018, our assistant vice president for environmental affairs was named chair of the **Global Environmental Management Initiative (GEMI)**.
- Our sales teams regularly engage with our customers (e.g., the supermarkets and retail chains, restaurants, and foodservice companies that buy our products). They highlight the work we are doing in the environment, including our new GHG reduction goal, and animal care, particularly around our commitments to **sow housing** and our industry-leading use of, and transparency around, **antibiotics**.
- We're engaging with our contract growers to provide guidance and advice on how they can convert sow housing on their farms.
- Increasingly, our customers are hearing from their customers—the ultimate consumers—about issues of concern to them. We participate in supplier surveys and communicate directly with customers, including working with our customers to develop approaches to issues ranging from animal care to nutrition to environmental and health and safety practices. We are responding in numerous ways, including offering products with ingredients that are easier to understand. The sales force, which provides the primary customer point of contact, communicates our approach to sustainability, so various team members can interact knowledgeably with customers on these issues.
- We participate in the North American Meat Institute (NAMI) Environmental Committee, which reviews regulations that affect our industry. NAMI's annual conference promotes sharing of best practices in wastewater treatment, employee training, materiality assessment, chemical management, and other topics.
- We have helped GEMI create training tools for companies looking to increase employees' awareness of how sustainability impacts business value and find ways for employees to enhance sustainability efforts.

See the **Environment** section for information on how we're engaging with renewable energy companies to create electricity from hog manure and processing wastewater.

Smithfield Association Membership

Our engagement with diverse stakeholders is reflected in the list of organizations in which we hold memberships.

National Organizations

- American Meat Science Association (AMSA)
- American Polish Business Council
- American-Romanian Business Council
- American Society for Microbiology (ASM)
- Animal Agriculture Alliance
- Center for Food Integrity

State and Regional Organizations

- Alliance for the Chesapeake Bay
- Bladen County Committee of 100 (North Carolina)
- Bladen County Livestock Association (North Carolina)
- California Chamber of Commerce
- Cape Fear River Assembly (North Carolina)
- Clinton 100 Committee (North Carolina)

- Corporate Environmental Enforcement Council
- Democratic Attorneys General Association
- Democratic Governors Association
- Environmental Law Institute
- EPA (U.S. Environmental Protection Agency) Office Water Stakeholder Meeting Agriculture/Manufacturing
- Food Marketing Institute
- Food and Beverage Environmental Conference
- Global Environmental Management Initiative
- Global Harvest Initiative
- Institute of Food Technologists
- International Association for Food Protection (IAFP)
- McDonald's Corp. Sustainability Council
- National Agriculture in the Classroom (NAITCO)
- National Association of Manufacturers
- National Farm Ranch & Rural Communities Committee (U.S. Environmental Protection Agency Federal Advisory Committee)
- National Pork Board (NPB)
- National Pork Producers Council (NPPC)
- National Renderers Association
- Network of Executive Women (NEW)
- North American Meat Institute (NAMI)
- Organization for International Investment
- Republican Attorneys General Association
- Republican Governors Association
- U.S. – China Agriculture and Food Partnership
- U.S. – China Business Council
- U.S. – Mexico Business Coalition
- U.S. – Poland Business Council
- U.S. Meat Export Federation (USMEF)
- Washington Agribusiness Council
- Washington International Trade Association
- Women in Agriculture
- Women's Foodservice Forum
- Duplin Agribusiness Council (North Carolina)
- James River Association
- Missouri Agribusiness Association (MO-AG)
- Missouri-Kansas Forum
- Missouri Pork Producers Association
- Nebraska Chamber of Commerce
- North Carolina Chamber of Commerce
- North Carolina Farm Families
- North Carolina Forever
- North Carolina Foundation for Soil and Water Conservation
- North Carolina Meat Processors Association
- Palmetto Agribusiness Council (South Carolina)
- Sampson County Friends of Agriculture (North Carolina)
- Various state pork associations
- Virginia Agribusiness Council
- Virginia Chamber of Commerce
- VA Department of Health – Water Advisory Committee
- Virginia FREE
- VIRGINIAforever
- The Virginia Public Access Project (VPAP)
- Wallace Committee of 100 (North Carolina)

These lists are not meant to be exhaustive and may not include every association of which we are members.

Public Policy

We participate in legislative and regulatory processes both as an individual company and through industry associations.

We believe that engagement in the political process is important in making our views heard on issues of significance to the business. Smithfield has participated in many cross-industry boards and commissions at the national and state levels.

The following are among the most significant current public policy issues for our company and industry:

- **Trade Policy.** Smithfield and the U.S. pork industry depend on free and open export markets to support our growing business. We are an American manufacturer, producing value-added food products that depend upon exports. Because of trade, the U.S. pork industry is an economic success story: U.S. exports of pork have increased by 1,550 percent in value and nearly 1,300 percent in volume since 1989, the year the United States started opening international markets for value-added agriculture products. Today, of the 150 million pigs produced each year in the United States, one out of every four is exported. These same pigs are huge consumers of American corn and soybeans. For us, trade creates more manufacturing and agriculture jobs in the United States. We support the vigorous pursuit of new trade agreements with export partners, and we continue to advocate for these agreements to increase Smithfield's exports. We are also focused on preserving our access in existing free trade agreements, which have created tremendous opportunity for Smithfield.
- **Tax Reform.** Smithfield Foods supports a pro-growth tax system that enables companies like ours to reinvest in local communities, create jobs, and spur economic growth. Prior to tax reform, the U.S. tax system put Smithfield and other U.S. exporters at a competitive disadvantage. As a domestic manufacturer, Smithfield paid a high effective tax rate. In 2017, Congress passed the Tax Cuts and Jobs Act. This monumental change to the tax code will enable Smithfield to be more competitive and invest savings derived from the reduction in the corporate tax rate back into the United States in the form of new facilities, equipment, and other job-creating investments. It will also enable Smithfield to invest more in our employees.
- **Grain Inspection, Packers and Stockyards Administration (GIPSA) Rules.** In 2016, the U.S. Department of Agriculture's (USDA) GIPSA issued new regulations that would have exposed Smithfield Foods and the meat industry to rampant, frivolous lawsuits, added costs, and lower profitability. These rules have long been opposed by both the packer industry as well as livestock producers. They would have fundamentally altered contracting and marketing practices between packers and producers across all species, limiting the ability for packers to reward superior producer performance and exposing packers to broad litigation risks. As a result of our collective efforts with the meat industry to oppose these rules, USDA announced in 2017 that it would effectively rescind the rules.
- **Renewable Fuel Standard (RFS) Reform.** RFS, which requires huge volumes of corn to be processed into ethanol at ever-increasing volumes irrespective of market conditions, is a law we have worked for years to reform. The RFS diverts 40 percent of the nation's corn supply into fuel, artificially driving up demand, reducing supply, and increasing the cost of food. Our work has resulted in growing awareness of the drawbacks of the RFS and the steady erosion of public support. 2014 marked the first time that a majority of the U.S. House of Representatives (218 members) was on the record in support of reforming the RFS. Smithfield supports the passage of H.R. 1315, the "RFS Reform Act of 2017," in the U.S. House of Representatives. This bill would eliminate the federal mandate for corn ethanol while keeping in place incentives for the development and commercialization of advanced ethanol.
- **Immigration.** Since many valued employees are legal immigrants, we pay close attention to debates on immigration reform. This immigrant workforce brings a rich diversity to our operations and the communities in which we live. We support comprehensive U.S. immigration reform that ensures we can maintain an adequate and stable workforce and provide opportunities for legitimate workers who seek employment at companies like ours. We believe the United States should protect legal immigrants and their employers.

Policies & Disclosures

California Slavery and Human Trafficking Disclosure

Smithfield¹ is committed to the protection and advancement of human rights, as enshrined in the Universal Declaration of Human Rights (UDHR) issued by the General Assembly of the United Nations on December 10, 1948. Smithfield and its employees adhere to the Smithfield Human Rights Policy (our "Policy"), which is grounded in the [Smithfield Code of Business Conduct and Ethics \(PDF\)](#) (our "Code of Conduct"). A primary tenet of our Policy is "Smithfield does not use forced or compulsory labor."

Effective January 1, 2012, the California Transparency in Supply Chains Act of 2010 requires Smithfield to make the following disclosure as to our efforts to eradicate slavery and human trafficking from our direct supply chain:

- **Verification of Supply Chain.** Smithfield has been preparing a code of conduct for our suppliers (our "Supplier Code"). A primary tenet of that code will be adherence to all relevant laws and regulations, including those addressing slavery and human trafficking. We will update this disclosure once our supplier code of conduct is in effect.
- **Audit.** Smithfield does not currently conduct audits of suppliers to evaluate supplier compliance with company standards against trafficking and slavery in supply chains.
- **Supplier Certification.** Once our Supplier Code is in effect, our suppliers will be required to certify compliance with our Supplier Code.
- **Accountability.** Smithfield is committed to ethical and socially responsible conduct in the workplace. Upon hire, Smithfield requires all employees to read and acknowledge receipt and understanding of our Code of Conduct. Employees recertify this acknowledgment annually. Our Code of Conduct includes, among other things, certification that the employee will comply with all applicable laws and regulations. Human trafficking and slavery is a violation of such laws, and would constitute a violation of our Code of Conduct. Such a violation could result in disciplinary action against the employee, including termination.
- **Training.** As noted above, Smithfield requires annual certification from our employees that they understand and will adhere to our Code of Conduct. We do not conduct specific training at this time on our Code of Conduct or on our Policy.

Supplier Code of Conduct

Smithfield¹ continues to focus on its vision of being the most trusted, respected, and ethical food industry leader. This vision supports our promise to customers that we will produce "Good food. Responsibly.®" Our suppliers are integral to maintaining and improving on these goals by providing sustainable products and services. This Supplier Code of Conduct has been implemented to help ensure that our suppliers continue to meet and exceed these high standards.

It sets forth the business conduct requirements for all suppliers (suppliers, vendors, contractors, and consultants) who do business with Smithfield as well as strategies to support a sustainable future. These requirements are in addition to other contract terms and conditions that apply. The degree to which suppliers comply with these applicable requirements and the extent of their sustainability efforts will be considerations for future business with Smithfield.

Legal Compliance

Suppliers must comply with all applicable laws, regulations, and rules for the products and services they manufacture, distribute, or otherwise provide. This includes compliance with federal, state, local, and international requirements. Examples include, but are not limited to, the following areas:

- Environmental
- Health and Safety
- Labor/Employment

- Labeling/Packaging
- Transportation
- Record Keeping and Accounting
- Securities/Insider Trading
- Import/Export
- Antitrust/Fair Competition
- Foreign Corrupt Practices
- Data/Copyright
- Immigration

Labor and Human Rights

Suppliers shall treat all employees with respect and dignity at all times. Adherence to laws and regulations governing labor and human rights is a prerequisite for this to occur. Smithfield recommends suppliers go beyond the legal requirements and implement policies and procedures that help foster improved employee relations.

Human Rights Policy

Forced Labor

All labor used by suppliers must be voluntary. The use of forced labor of any kind is prohibited, including indentured service, involuntary prison labor, bonded labor, and labor performed due to physical threat.

Child Labor

Suppliers and their subcontractors shall not use child labor as defined by federal and state regulations and international standards. Smithfield prefers suppliers do not employ anyone under the age of 16.

Working Hours

Suppliers shall not schedule employees to work more hours or days than allowed by applicable laws. Voluntary alternative schedules and overtime are acceptable if conducted in compliance with legal requirements and collective bargaining agreements.

Compensation

Employees shall be fairly compensated for their work, which must meet minimum wage requirements where applicable. Wages should be comparable to those of similar companies in the local area. Overtime shall be paid as required by law or at least the same as the hourly wage.

Freedom of Association/Collective Bargaining

Suppliers must respect the rights of employees to freely associate, organize, and bargain collectively.

Harassment and Abuse

Suppliers must ensure that their facilities are free from employee harassment, threats, punishment, or other forms of abuse.

Product Safety and Quality

Smithfield is dedicated to providing the highest-quality meats and packaged foods to our customers. Suppliers of meat products and ingredients

have a direct impact on our ability to meet this commitment and, therefore, must have in place policies and procedures to manage the safety and quality of products delivered to us. Smithfield reserves the right to inspect supplier facilities and request documentation to verify that these systems are in place and are being fully implemented.

Animal Well-Being

Smithfield is committed to being the industry leader in animal care practices to assure respectful and humane treatment of animals that we own or process, to produce wholesome food products for our customers, and to analyze our operations and practices, including internal and third-party audits, to ensure continual improvement. Suppliers that provide animal products to our facilities are expected to have similar operating policies and procedures in place to ensure the humane treatment of their animals during all stages of production, transportation, and processing. We invite our suppliers to review our [Animal Care Policy](#) and [Antibiotics Policy](#) for further guidance.

[Animal Care Policy](#)

Environment and Sustainability

At Smithfield, we are constantly striving to improve our environmental performance and we aim for leadership in our industry. Our suppliers must be an extension of these environmental stewardship efforts by adhering to applicable environmental regulations as a minimum. In addition, Smithfield expects its suppliers to pursue environmentally responsible leadership roles by proactively reducing its environmental impact and assisting our facilities in meeting their environmental objectives and targets whenever possible. Suppliers should consider the following environmental management best practices and sustainability goals:

- Smithfield prefers that suppliers adopt an Environmental Policy and implement an environmental management system;
- Obtain all permits and develop all applicable environmental plans required for your facilities and fully comply with their monitoring, reporting, and renewal requirements;
- Minimize waste generation and manage all wastes as required by law and in a responsible manner. Source minimization practices are preferred followed by direct reuse and recycling of wastes where feasible;
- Minimize water use and wastewater generation through conservation practices and reuse options;
- Minimize air emissions that affect human health and the environment, and effectively operate installed air emission control processes;
- Reduce energy consumption and the generation of greenhouse gases;
- Reduce packaging materials for supplied products and assist Smithfield in reducing the environmental impact of the packaging used for our food products. A life-cycle approach to packaging design is preferred; and
- Reduce the use of hazardous materials in manufacturing operations and inform Smithfield of any formulation changes that could adversely impact our environmental performance or food quality.

[Environmental Policy](#)

Health and Safety

At Smithfield, the safety, health, and well-being of our employees is more important than our most valued customer. Our suppliers must also give the health and safety of their employees the same priority. Again, compliance with health and safety legal requirements is mandatory. The minimum program requirements include:

- Provide employees with clean, safe, and healthy working conditions;
- Provide potable drinking water, adequate sanitation facilities, resources to respond to fire and medical emergencies, and personal protective equipment;
- Implement policies and procedures that help ensure equipment is maintained in a safe condition, identify and correct workplace hazards, monitor and report on workplace illness and injury, require health and safety education and training for employees, and encourage employee participation; and
- Minimize employee exposure to health hazards including hazardous chemicals, biological agents, and air pollutants.

Health and Safety Policy

Business Integrity

Smithfield expects its suppliers to always conduct business with high ethical, legal, and socially responsible standards. The [Smithfield Code of Business Conduct](#) may be referenced for a more detailed discussion of our expectations.

Ethical Behavior

Suppliers must not tolerate any form of corruption within their company or from their subcontractors such as fraud, bribery, extortion, or embezzlement. The improper use of insider information and price fixing are prohibited.

Conflicts of Interest

Suppliers shall notify Smithfield of any potential conflict of interest relating to financial interests or other arrangements with our employees that may be considered inappropriate. Gifts and entertainment offered to employees must not be excessive or construed as an attempt to influence business decisions.

Protecting Company Assets

Suppliers often have access to company assets and sensitive information that must be safeguarded. This includes trade secrets, intellectual property, production methods and equipment, and financial information. Disclosure of confidential information or use of trademarks and copyrighted information requires written approval. Smithfield reserves the right to have executed nondisclosure agreements on file with distributors and manufacturers although this shall not prevent Smithfield from conducting general business transactions.

Verification of Supplier Compliance

Smithfield will verify compliance with this Code of Conduct through the following:

- Smithfield reserves the right to audit supplier facilities following a reasonable request, with the expectation that suppliers will correct identified deficiencies.
- Suppliers shall inform Smithfield of any significant regulatory noncompliances or significant news events that may negatively impact public or governmental views of our company or jeopardize our legal compliance.

Suppliers shall complete an annual sustainability assessment survey, if requested, to develop a baseline of sustainability performance and identify improvement trends.

Code of Business Conduct and Ethics

The Smithfield¹ Code of Business Conduct and Ethics embodies our commitment to doing the right thing in all aspects of our business. Doing the right thing means acting in the best interests of those who count on us to do our jobs: our customers, our co-workers, and the public.

All employees are asked to sign a statement that they have read and understand the Smithfield Code of Business Conduct and Ethics, and that they will act in full compliance.

The Code of Business Conduct and Ethics is available in the following languages:

[English PDF](#)

[Polish PDF](#)

[Romanian PDF](#)

[Spanish PDF](#)

¹ All references to "Smithfield," "we," "us," and "our" are terms of convenience used to refer collectively to Smithfield Foods and all of its subsidiaries. Similarly, the terms "division" and "business unit" may be used to refer to one or more subsidiaries, which are independent operating companies.



Our Commitment to Sustainability Abroad

While our market presence is well known in the United States, many domestic customers don't realize we have significant operations in Europe and that Smithfield products can be found in 44 countries worldwide.

Our Polish hog production operation is the largest in the country, producing roughly 2.4 million market hogs per year. Our Polish poultry production operates three poultry-growing farms and four hatcheries that provide chicks to approximately 300 independent growers; these growers, in turn, supply our poultry processing plants with chickens. Our Romanian pork processing operation is the country's largest and receives the majority of its market hogs from 46 company-owned farms. Our Romanian operation also processes meat from 33 contract growers throughout the country.

Our international operations¹ adhere to Smithfield's corporate policies in our key sustainability areas and have developed their own specific performance goals and targets for advancing animal welfare, reducing environmental impacts, maintaining the highest standards of food safety and quality, helping those in need, and safeguarding employees.

Supporting Growth and Development in Europe

Smithfield has supported growth and modernization of the Polish and Romanian agriculture industries in several vital ways:

- Providing unique opportunities in grain and feed production, livestock farming, meat production, and product marketing;
- Making sizeable investments in infrastructure and helping our suppliers modernize;
- Sharing of vast industry knowledge; and

- Expanding market presence by acquiring respected and recognizable brands.

Celebrating 18 Years in Poland

- 1951: Animex founded by the Polish government.
- 1960: Animex buys the KRAKUS trademark.
- 1990: Animex becomes a private company, purchasing several meat and poultry plants, agricultural companies, and feed factories.
- 1994: Animex listed on the Warsaw Stock Exchange.
- 1999: Smithfield Foods becomes Animex's majority shareholder.
- 2000: Smithfield Foods expands Animex's hog production and feed factories in Poland to create the Agri Plus group of companies.
- 2002: Smithfield Foods becomes owner of 99 percent of Animex's shares and discontinues public trading.
- 2004: Animex acquires Morliny S.A. (and its brands Morliny and Krakus).
- 2007: The Animex Foundation (now part of the Smithfield Foundation) is created.
- 2017: Smithfield Foods acquires Pini Group's packaged meats companies.

Celebrating 14 Years in Romania

- 1967: Comtim Company is founded and soon becomes the largest pork producer in Romania.
- 1980: Comtim Company begins shipping products throughout Europe.
- 1998: Comtim Company reorganizes and, in 2002, becomes the Comtim Group.
- 2004: Smithfield Foods buys Comtim Group and Agrotorvis.
- 2007–08: Smithfield begins to modernize and expand production facilities, farms, and feed mills. First contract grower farms become operational.
- 2012: Smithfield Romania becomes the first European Union (EU) Meat Export Authorized Romanian meat producer.
- 2015: Smithfield Romania becomes the first Romanian producer to export to China.
- 2017: Smithfield Foods acquires Elit SRL and Vericom SRL.

¹ "International operations" refer to wholly owned Polish and Romanian operations specified in this section.

Value Creation

Our international operations demonstrate that cooperation between Central European and U.S. professionals can bring substantial value to local agricultural, animal husbandry, and food production industries.

Our international operations are among the largest agricultural and food processing companies in Poland and Romania. In 2017 we contracted with more than 1,000 Polish nurseries and finishing farms—to the tune of \$59 million¹—to supply virtually all of the hogs sold by our hog production operations. Our Polish processing operations have hog supplier contracts worth \$586 million and purchased an additional \$73 million of hogs on the open market from independent farmers. Our Romanian operations paid their hog suppliers \$16 million in 2017. These agreements provide multiple economic benefits to rural communities, including employment, steady income, and modernized agriculture.

We also infuse hundreds of millions of dollars each year into small businesses and the regional economy by purchasing only locally grown grains to feed our pigs. In 2017, we paid nearly 1,500 local farmers \$190 million. Buying local grains also reduces transportation demand, leading to fewer miles driven, less fuel consumed, lower emissions, and a smaller carbon footprint.

Supporting Local Grain Farmers	Romania	Poland
Number of suppliers	97	1,400
Local spending	\$48.3 million	\$141.6 million
Annual crop purchases (tons)	311,200	865,460

All values for 2017.

But it isn't just about buying raw materials and market hogs. We also want to help our partners' businesses thrive, which will ultimately reap benefits for our own business. To achieve this, we leverage our company's size and vertically integrated business model to assist local hog and grain farmers in developing their facilities and improving production. We provide useful advice to our suppliers, helping them design crop production schedules, diversify their earnings, modernize their farms, and secure loans to expand vital infrastructure.

We encourage local farmers to build modern hog production facilities. In Poland, our local suppliers have invested nearly \$58 million to erect 185 buildings and upgrade nearly 170 buildings since 2013. In Romania, our contract growers recently built seven contract wean-to-finish farms, which produce market hogs for processing operations.

In 2017, we invested nearly \$10 million in new organic growth opportunities. In Romania, several of our company-owned farms underwent a \$5.7 million improvement project, increasing the number of sows we can raise each year. We also spent \$4 million to renovate our processing facilities to operate more efficiently, producing more products while reducing energy use.

¹ All financial figures throughout this International Operations section are in U.S. dollars.

Animal Care

We take seriously our responsibility to raise our pigs in a healthy, safe, and comfortable manner and take the steps necessary to ensure we are at the forefront of Europe's hog production industry.

Neglect or abuse of animals in any form is not tolerated and is grounds for employee or contract grower termination. Offenders may also be subject to criminal prosecution under applicable local laws.

The European Union has adopted specific rules and regulations for the welfare of pigs and poultry on farms, during transport, and at processing facilities. Our international operations are regularly audited to ensure compliance.

Animal Care Policy

All international operations maintain a formal [Animal Care Policy](#) that is consistent with Smithfield's U.S. operations.

Our Animal Care Goal

- Keep animals safe, comfortable, and healthy

Our Animal Care Targets

- Provide group housing for pregnant sows and housing for laying hens per European Union (EU) requirements
- Provide pigs and poultry with the floor area and surface required by the EU
- Train relevant farm and plant employees in animal handling procedures
- Implement a written program for animal welfare at plants

Developing Animal Care Professionals

In Romania, the animal production department maintains an internal certification program for its animal caretakers, veterinarians, and technicians. The curriculum consists of several three-month classes covering theoretical and practical elements for each area of hog production, from gestation through finishing. Employees must pass one certification level to advance to the next.

The career development program, which offers opportunities for advancement within the company, is designed to better prepare employees, improve farm performance, and identify potential department managers. In 2017, 60 percent of eligible animal care professionals completed our internal certification program—up from 42 percent in 2016.

In Poland, the veterinary group employs more than 100 veterinarians and animal care technicians. We provide professional development guidance and financial support to the most promising among them to pursue post-graduate specialist studies. Each year, we send up to 40 animal care professionals to conferences or training sessions to learn the best practices in pig production.

Animal Handling

Every new employee receives animal care training upon hire and is certified by local agencies. All processing plant employees who work with live animals are also trained and supervised by state veterinarians. Each fresh pork plant has at least one designated animal welfare specialist responsible for animal care. These individuals undergo specialized training and report directly to the facility's managing director. Government veterinary authorities provide ongoing training and support.

Our animal handling protocols include the following elements:

- Comprehensive document controls to ensure traceability;
- Rigorous biosecurity protocols;
- Proper hygiene measures; and
- Humane euthanasia.

International pork operations use a slaughter procedure known as carbon dioxide (CO₂) anesthetizing, which stuns animals. Poultry slaughter operations use an electrical water-stunning process.

Audits

Government veterinarians work with local animal care and food safety authorities to regularly inspect our farms and plants. These external audits verify compliance with national animal care laws and biosecurity measures to reduce the risk of diseases. Further random inspections also take place throughout the year.

Specially trained internal auditors conduct twice-yearly audits of farming operations to verify compliance with animal care procedures, biosecurity and traceability, employee training programs, and transportation systems. Nonconformance is addressed with swift corrective action, and we provide support and technical assistance to help each facility with compliance.

In 2017, there were no penalties for animal welfare noncompliance at Smithfield's international farms or processing plants.

Animal Housing

Housing Pregnant Sows

A European Union (EU) ban on individual stalls for pregnant sows came into effect in 2013. Our company-owned farms and contract sow farms in Poland and Romania meet the requirements, which prohibit individual stalls during all but four weeks of the gestation period, and all applicable local regulations. Processing facilities only source pigs from farms that meet the sow housing requirements. We communicate this to suppliers and regularly monitor their performance.

Our Romanian operations recently completed a two-year sow housing expansion and renovation project using state-of-the-art technology design and production equipment to build three new barns and modernize eight others. In addition to infrastructure updates, the project streamlined production flow and established new partnerships with Romanian contract growers. These improvements increased housing capacity by 12 percent, reaching a total of 52,000 sows.

Housing Poultry

In Poland, we operate egg-laying farms and hatcheries to supply chicks to independent poultry producers. These poultry-growing farms use non-cage housing according to EU and Polish animal welfare requirements.

Antibiotics Use

The European Union banned feeding antibiotics and related drugs to livestock for growth promotion purposes more than 10 years ago. All company-owned and contract farms in Poland and Romania follow these strict guidelines and comply with all antibiotic withdrawal timelines.

Antibiotics are only given when animals are sick, injured, vulnerable, or exposed to illnesses. Our international operations only use water-based and injected antibiotics to treat individual hogs or poultry. Authorized veterinarians supervise antibiotics usage on company-owned and contract farms, monitoring them weekly. The antibiotics administration process is overseen and controlled by each country's respective regulatory agencies.

We track and report antibiotics administration based on the total active ingredient given to the pigs via water-soluble and injected products. In 2017, the total was 144.4 milligrams per pound. (Annual milligrams per pound represents the total amount of antibiotics administered to the animals divided by the total weight of live hogs produced.)

Antibiotic-Free Hogs

Our Polish hog production group raises a limited number of antibiotic-free hogs in response to increased consumer demand for meats raised without antibiotics, as well as European animal health legislation designed to minimize antibiotics use. In 2017, we began conducting regular audits to certify antibiotic-free procurement throughout our supply chain (feed mills, sow farms, nursery farms, finishing farms, and production plants). Each antibiotic-free piglet gets a green ear tag at birth to inform workers that it should not receive any water-based or injected antibiotics. However, if the pig becomes ill, we administer injectable antibiotics under the supervision of a veterinarian. That pig then loses its "antibiotic-free" status (along with its green ear tag) and rejoins the general population. Hogs that complete growth at the finishing farms with their "antibiotic-free" status intact are sold separately and are identified prior to slaughter. As of early 2018, we had raised more than 100,000 antibiotic-free hogs, nearly 10,000 of which have been certified.

Safe Transportation

Our operations maintain live-haul accident-response procedures consistent with our U.S. operations and also conduct extensive training for all employees who work in processing, security, and transportation. In 2017, our international operations had five accidents involving hogs carried from company-owned and contract farms.

Market Hog Transportation Accidents	2013	2014	2015	2016	2017
Number of accidents	0	6	0	6	5
Market hogs involved	0	874	0	1,072	846
Market hog transportation fatalities	0	76	0	160	214

Data for 2013 are reported by fiscal year (May 1–April 30). Data for 2014 and after are reported by calendar year.

Environment

Employees at our international operations are committed to producing more fresh and packaged meats while minimizing the use of resources and creating less waste.

For more information, please view our [Environmental Performance page](#).

Our Environmental Goals

- Reduce natural resource demand
- Eliminate notices of violation (NOVs)
- 100% compliance, 100% of the time

Our Environmental Targets and Progress

2020 Reduction Target
(based on 2014 baseline)

Progress
(as of December 31, 2017)

Our Environmental Targets and Progress	2020 Reduction Target (based on 2014 baseline)	Progress (as of December 31, 2017)
Greenhouse Gas (GHG) Emissions (normalized)	↓ 5%	↓-14.3%
Energy Use (normalized)	↓ 5%	↓-12.2%
Water Use (normalized)	↓ 10%	↓-12.3%
Solid Waste to Landfill (normalized)	↓ 10%	↓-42.4%

All targets and reduction figures are expressed as consumption rates (e.g., gallons per 100 pounds of product). We use these normalized figures to track trends in the efficiency with which we use resources year over year.

All hog farms, feed mills, and processing plants in Europe are ISO 14001 certified. International operations seek to reduce the environmental impacts identified by our environmental management systems through innovative programs. At processing plants, managers track each project and keep senior management informed of progress. Most facilities enter these projects for Smithfield's [Environmental Excellence Awards](#).

Optimizing Water Use

Our facility in Ilawa, Poland, earned one of Smithfield's 2017 environmental awards after implementing a suite of simple equipment upgrades that substantially reduced excess water pressure. The changes cut annual water consumption by 4.75 million gallons, saving the plant \$37,000 a year in utility bills and wastewater treatment costs.

Manure Management

Our hog production operations have dedicated environmental and manure management staff at the supervisory and field technician levels. The former coordinate permitting and compliance activities; the latter develop and implement nutrient management plans. This approach is designed to protect local water sources and effectively utilize a potentially valuable resource.

Most facilities either use storage tanks or combine manure with straw bedding before fertilizing crops, while the remaining farms use storage lagoons. Treatments and storage processes vary, depending on the facility.

Every year, we fertilize tens of thousands of acres of cropland with organic fertilizer, using the safest and most modern technologies. Manure as an organic fertilizer provides nutrients and promotes soil health while also providing financial benefits to local farmers. Each farm uses a comprehensive nutrient management plan when applying manure as organic fertilizer to local farmland. These plans must identify available land, include agrochemical and pedological studies, inform regulators of the nutrient content of the fertilizer, and evaluate the potential impacts that land application may have on local water bodies. In Poland, each plan is approved by local authorities. In Romania, the local authorities prepare detailed plans, which include crop descriptions and projected yields, soil and manure test information, and rates of application to balance with the crops' fertilization needs. Each of our Romanian farming operations must also maintain Integrated Pollution Prevention and Control permits, which require strict application practices, groundwater monitoring, and soil quality analyses throughout the year.

Producing Renewable Energy

Polish farming operations have manure supply agreements with biogas project developers who designed, financed, and constructed three biogas plants located in villages near our locations. These plants produce approximately 9.2 megawatts of electricity and heat energy annually.

Environmental Performance Summary

Data Collection and Management

This section provides performance highlights toward all of our environmental targets and commitments in Romania and Poland. We report some metrics in absolute terms (e.g., billions of gallons of water). Others, such as our environmental targets, are expressed as consumption rates (e.g., gallons per 100 pounds of product). We use these normalized figures to track trends in the efficiency with which we use resources year over year. See the [GRI Content Index](#) for more information on our methodology.

Greenhouse Gas (GHG) Emissions (normalized)

(metric tons CO₂e/cwt)
14–17 Change: -14.3%



CO₂e stands for carbon dioxide equivalent. CWT equals 100 pounds of product.

Direct and Indirect GHG Emissions	2014	2015	2016	2017	14-17 Change
Carbon dioxide (CO ₂) emissions (metric tons)	227,067	235,131	247,860	257,515	13.4%
Methane (CH ₄) emissions (metric tons CO ₂ e)	196	211	212	213	8.7%
Nitrous oxide (N ₂ O) emissions (metric tons CO ₂ e)	337	276	289	292	-13.4%
Total GHG Emissions (metric tons CO₂e)	227,600	235,618	248,361	258,020	13.4%

CO₂e stands for carbon dioxide equivalent. Smithfield reports GHG emissions using The Greenhouse Gas Protocol Initiative developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). Publicly available emissions figures are used where no reliable data are available from energy providers. We report on scope 1 emissions (direct) and scope 2 emissions, which include indirect emissions associated with the use of purchased electricity and steam. Data do not include hog production operations.

Energy Use (normalized)

(gigajoules/cwt)

14-17 Change: -12.2%



CWT equals 100 pounds of product.

Direct and Indirect Energy Use by Fuel Type (gigajoules in millions)	2014	2015	2016	2017	14-17 Change
Natural gas	0.87	0.91	0.99	1.07	
Propane	0.23	0.25	0.29	0.31	
No. 2 oil (includes transportation diesel)	0.09	0.10	0.11	0.10	
Coal	0.58	0.55	0.55	0.56	
Total Direct Energy Use	1.77	1.81	1.94	2.04	15.2%
Electricity	0.85	0.90	0.98	1.02	
Steam	0.01	0.01	0.02	0.02	
Total Indirect Energy Use	0.86	0.91	0.99	1.04	20.9%
Total Energy Use	2.63	2.72	2.93	3.08	17.1%

Water Use (normalized)

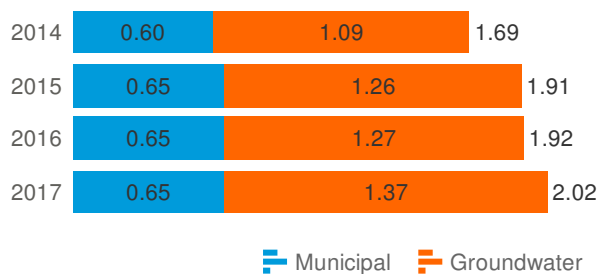
(gallons/cwt)
14-17 Change: -12.3%



CWT equals 100 pounds of product.

Water Use by Source

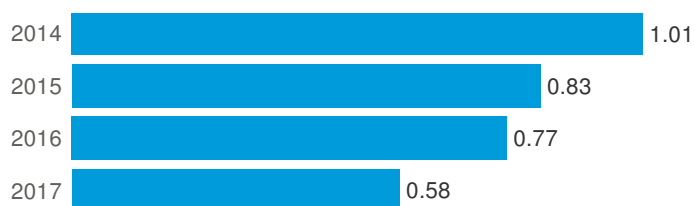
(billions of gallons)
Total Change: 19.7%



Reported volumes may have also been affected by improved data recording at our Romanian hog production operations.

Solid Waste to Landfill (normalized)

(pounds/cwt)
14-17 Change: -42.4%



CWT equals 100 pounds of product.

Solid Waste to Landfill

(pounds in millions)
14-17 Change: -23.6%



Compliance

In 2017, our Polish operations were assessed six environmental notices of violation (NOVs) and \$143 in penalties. Our Romanian operations received one NOV with a penalty of \$660. While the overall number of NOVs has increased slightly since 2014, those we have received relate to record-keeping issues that do not impact surrounding communities; as a result, the dollar amount of penalties imposed in 2017 is significantly lower than those imposed in 2014.

Compliance	2013	2014	2015	2016	2017
Notices of violation (NOVs)	8	5	6	7	7
Fines (\$U.S.)	\$2,030	\$6,155	\$750	\$120	\$803

We take any NOV or fine seriously and work quickly to determine how our management systems can be improved while we are making corrective actions. We also work with regulators to resolve all environmental issues as they arise.

Food Safety & Quality

Our international operations work with industry, government, and independent experts to provide safe and delicious foods that meet increasingly robust regulatory requirements and customers' evolving expectations. We focus on innovation and empower employees to contribute to process improvements so we can deliver the highest quality products for our customers.

Our Food Safety & Quality Goals

- Deliver safe, high-quality meat products
- 100% compliance, 100% of the time

Our Food Safety & Quality Targets

- Maintain Global Food Safety Initiative (GFSI) certification at all applicable facilities
- Assure a wide variety for different diets and needs, and include products designed to address health and wellness in accordance with accepted standards

We have rigorous food safety practices in all facilities, manufacturing processes, and distribution networks. Each facility maintains all applicable certifications to international and federal food safety standards (e.g., ISO 22000, BRC Global Standard for Food Safety, and International Food Standards) and is subject to routine—and often unannounced—third-party audits. In 2017, our international operations spent nearly \$4 million on capital projects to advance our food safety and quality efforts. We also inform consumers about nutrition and safe food handling through our product labels and additional outreach efforts.

Smithfield's international food safety systems are reviewed and validated annually by qualified third parties. All applicable facilities are certified to standards recognized by GFSI.

Training

Our employees undergo extensive training in food safety policies and procedures—tailored to each location—to keep food safe. Each worker is trained on various aspects of our Quality Management Systems procedures upon hiring and is retrained on a regular basis, depending on his or her job requirements.

In order to foster continuous improvement in food safety and quality, the food safety teams constantly look for new ways to incorporate emerging food safety innovations into products and processes. The teams also regularly present scientific papers at national conferences and attend educational seminars, professional meetings, and regulatory meetings. They use the latest techniques they've learned to train other employees.

Nutrition

Our international operations offer dozens of fresh meats and packaged food products that offer health and wellness benefits and satisfy a wide assortment of consumer needs and tastes while meeting all European Union nutrition and labeling standards. Some of our latest offerings from Poland include the following:



- Tygryski's new hot dogs are free of phosphates and artificial colors.
- Śląska Krakus Sausages are preservative-free.
- Three offerings from Morliny (Ostrodzkie Salami, Cooked Ham Mini, and Chicken Cooked Ham) and one from Krakus (Chicken Breasts) are low fat with no added sodium or glutamine. They are also available in smaller sizes to reduce food waste.
- Our new Krakus Polish Ham contains less than 3 percent fat.
- The Morliny Salad Loin is certified preservative-free, with no artificial colors.
- The Berlinski Classic hot dog is gluten-free.

Our Romanian operations have historically only produced fresh meat, which is not processed with sodium or other additives. They recently started to produce a range of semi-processed products (such as fresh sausages and minced meat).

Compliance

In 2017, the Polish processing operations were assessed one violation and penalized about \$1,300 due to labeling issues that led to a recall of about 16,400 pounds of product. There were no other significant penalties or fines associated with food safety. When violations are assessed, we work quickly to address any issues identified and to find ways to improve our systems and, therefore, decrease the potential for future violations.

Helping Communities

Our operations are committed to being good neighbors in places where large agricultural companies are often misunderstood.

As part of our efforts to form better relationships with our stakeholders, we work closely with local authorities and community leaders to provide a wide range of programs that are important to the people who live near our operations and that contribute to local economic development. We have a long history of organizing events and making sizeable donations that benefit our neighbors, friends, and families. We are proud of the impact we can make in peoples' lives. But employees are the real driving force. In 2017, our employees volunteered thousands of hours of their time to support local beautification efforts, raise money to help underprivileged students attend school, and host local cultural festivals.

Our Community Goal

- Provide food to those in need and enhance education in our communities

Our Community Targets

- Provide food-related assistance (food or funding) to those in need
- Interact with schools or students to provide help with supplies, facilities, or scholarship assistance
- Each facility/farm division to participate in two events involving agricultural education for local students
- Each facility/farm division to participate in at least one community cleanup day

We prioritize funding hunger relief efforts, education for local students, and environmental outreach. We also support cultural awareness programs that honor the rich heritages of the communities in which we operate.

Donations	2017
Cash (\$U.S.)	\$826,146
Food (cash value)	\$70,786
Food (servings)	306,231
Total value (\$U.S.)	\$896,932

Food donations are valued at production cost of the donated meat and finished product. Other donations (e.g., school supplies) are valued at cost.

Hunger Relief

As a food company, we believe it's important to provide much-needed sources of protein to individuals in need. In Romania, for example, our "Food for Souls" program has been providing fresh meats and hot meals to disadvantaged citizens near Timisoara for a decade.

In 2017 in Poland, our processing plants delivered nearly 56,760 pounds (227,040 servings) of food products to local people in need. Our Polish operations donated more than \$55,000 to the local schools to provide food for children in need.

Education

Our international operations support early education: helping students attend school, funding rural libraries, providing school supplies, and celebrating academic achievements in our local communities.

For more than a decade, our Romanian operations have supported more than 40,000 students in dozens of local villages through the "Back to School" program, which provides essential supplies to preschool and primary school children. Each year, roughly 100 volunteers travel thousands of miles to distribute backpacks, school supplies, and sports equipment for the school year.

We also support "Smithfield Academics," a collaboration with local universities and high schools designed to prepare future specialists in our industry (e.g., animal husbandry, food processing, veterinary sciences) through internship programs, conferences, seminars and field trips to our facilities. Seventy-four local students held internships at our locations in 2017.

Our Polish operations created the [Zygmunt Piwoński Smithfield Polska Foundation](#) to support the education of young people in the regions where we operate by awarding academic scholarships. Each fall, we encourage the children of our employees, suppliers, and contractors to apply by posting applications online. Our hope is that some of them will work with us after finishing their studies. In 2017, we gave about \$272,000 for 455 scholarships for children of employees and farmers from rural areas. Since its inception 11 years ago, the Foundation has granted more than 2,000 scholarships worth nearly \$1.2 million.

Environmental and Community Outreach

We embrace our responsibility to advance environmental stewardship where we operate, from beautification and cleanup projects, to tree planting, to support of World Water Monitoring Day. We also work with local organizations focused on the health and wellness of our neighbors in need.



In November 2017, more than 40 employees volunteered to plant over 200 linden trees near the company's offices.

Every spring, our international operations take time to revitalize the green space near our facilities. Each daylong event fosters interaction among employees who might not otherwise get to know one another. For example, in Romania, our cleanup projects often culminate with a family barbecue, complete with face painting, games, and other activities for children. In 2017, hundreds of volunteers—including our employees and their families and friends—participated.

We also prioritize community outreach. Romania, for example, is culturally diverse, with traditions observed by communities originating from Romania, Bulgaria, Germany, Hungary, and Serbia. Smithfield is proud to support a variety of traditional festivals, including concerts, dance contests, craftsmanship fairs, and sporting events, such as horse cart racing. We also participate in several programs that help local families in need, improve children's health services, and honor the rich heritages of the communities in which we operate.

People

Our international operations are one of the largest employers in their communities, offering good jobs in rural parts of Poland and Romania with high unemployment rates. But our operations are more than just a paycheck for many of our employees. We also offer new opportunities to grow professionally. Our operations are successful because our people work as a team and come up with innovative solutions to any challenges that we face.

In 2017, international employees were almost uniformly nationals and nearly half were women.

International Workforce by Age and Gender	Female	Male	Under 30	30-50	50+	Total
Number of full-time employees	5,710	6,089	2,274	6,455	3,070	11,799
Percentage of employees	48.4%	51.6%	19.3%	54.7%	26.0%	

Workforce data as of the end of 2017. Figures include operations in Poland, Romania, and the United Kingdom.

Employee Development

In order to attract the best local talent, our farming operations in Europe utilize centralized job posting programs, giving mid-level managers the ability to apply for positions of interest in any location. Removing perceived geographic barriers to employment has resulted in hires that improve the performance of several locations.

We also develop long-term educational projects with local agricultural universities to help promising students who may be interested in careers both in our international and U.S. facilities. For the past decade, the Romanian farming group has worked with Banat University of Agricultural Sciences and Veterinary Medicine to offer a six-week internship program to help students gain knowledge and real-world experience related to large-scale animal agriculture, including farming and slaughterhouse operations. Through this program, we send several veterinary students to our farms in the United States to learn more about modern production practices. The Romanian processing division also offers various internship programs in partnership with universities across the country. We also offer a three-year training program designed to develop highly qualified maintenance employees with specialization in the electrical and mechanical fields.

Our Polish operations have relationships with several life science and agricultural universities to enhance students' academic experience and to provide employment opportunities. Not only do our farms hire well-trained employees, but they also benefit from access to the universities' laboratories and scientific expertise.

Our Polish food processing operation maintains a robust internship available to more than 50 interns from nearly two dozen local secondary schools each year. Our training facility in Opole, Poland, develops skilled instructors and gives local students vocational education that can help prepare them for jobs at our company.

We want to make sure that the employees we hire stay with us and grow professionally. By focusing on in-depth training, career development, and succession planning, we can boost employee retention while cultivating a more highly qualified and satisfied workforce.

For example, our Romanian hog production and feed departments offer employees professional development opportunities through internal certification programs. These multi-year programs include up to 80 hours of theoretical training and 600 hours of practical training designed to address a wide variety of topics tailored to each employee's area of expertise.

To date, hundreds of employees have participated. In 2017, nearly 400 production employees completed certification programs. Since 2015, Smithfield Romania has offered regular training workshops designed to give our managers the skills and experience they will need to facilitate the transition to “One Smithfield.”

In Poland, our operations maintain an apprenticeship program that has helped hundreds of recent graduates develop into well-trained employees prepared to hold specialized positions. Once they are accepted into the program, apprentices are assigned to their own experienced mentors who will help them follow personalized development plans. For the first three months, the apprentice works in a variety of departments, acquiring basic skills and becoming familiar with food production. After deciding on an area of specialization, the apprentice spends another three months working in a department of his or her choice, with the goal of being placed in a permanent position. At the end of the program, the apprentice becomes a full-time employee, returns for further training, or pursues opportunities elsewhere.

Our Polish locations also offer a six-month career development program to cultivate skills in leadership, time management, public speaking, and financial management. More than 40 managers have completed the program.

Health & Safety

Our Health & Safety Goal

- Reduce employee injury rates

Our Health & Safety Targets

- Meet or beat general manufacturing industry national average for injuries
- All safety leadership trained to 10-hour food industry training programs
- Achieve 30% employee engagement each year
- Score average of “B” on monthly safety scorecard

All of our safety policies align with national regulations and European Union directives, including those of the European Agency for Safety and Health at Work. In 2018, we began to adopt Smithfield’s new corporate safety management program, called the [Smithfield Injury Prevention System](#), or SIPS. Our international locations will implement SIPS on the same schedule as our domestic operations, using the same monthly training programs and benchmarking scorecards.

Engaging and Empowering Our People to Manage Risk

Active engagement in formal safety processes improves health and safety program effectiveness. We encourage our employees to participate in safety program reviews and development of new systems, and we aim to achieve 30 percent engagement companywide each year. Many locations maintain employee safety teams, which can bring fresh perspectives on safety challenges and successes.

Engagement	2015	2016	2017
Poland	15.6%	24.5%	31.0%
Romania	10.2%	27.8%	30.0%

The 2015 and 2016 figures for Romania have been restated to reflect engagement participation rates rather than progress toward the goal.

Our international health and safety professionals achieved 30 percent employee participation in monthly safety prevention team meetings designed to train and develop skills in areas such as safety inspections, hazard identification and risk assessment, accident and incident investigation, and emergency response. They also invited all employees to participate in regular safety inspections and to watch formal presentations covering several health and safety topics. In addition, we launched a new series of web-based training programs at our Romanian hog production operations.

Our Romanian operations increased participation by encouraging employee involvement in the P.O.R.C. program:

P.O.R.C. stands for the following:

- “Prevenire” (Preventing accidents)
- “Observare” (Observing risks in all areas)
- “Reportare” (Reporting by all employees)
- “Corectare” (Correcting by the management system)

The program empowers employees to identify risks in several areas, including health and safety, biosecurity, animal welfare, environment, and food safety and quality. It aims to leverage our employees’ valuable insights into process improvements, improved compliance, increased certification and standardization, and optimized internal management procedures. Ultimately, these improvements should translate to new business opportunities and higher profits. Since 2012, the program has improved health and safety performance through 4,155 reported observations from employees.

Our Polish hog production group also promotes employee engagement at all levels of the organization. The group holds monthly team meetings to review occupational risk, confined space work, and corporate policy. Every location also undergoes a monthly safety review and inspection.