

AMERICAN SPRING 2019
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A PUBLICATION OF THE AMERICAN SOYBEAN ASSOCIATION

SOY FORWARD

The Future of Plant Breeding

SOY FACES

Multiple Pathways to Profitability

INDUSTRY PERSPECTIVE

Soy Farming Innovation

ISSUE UPDATE

New Food Labeling Requirements



SOY
innovation

Paves Path for Sustainability



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The American Soybean Association (ASA) represents U.S. soybean farmers on domestic and international policy issues important to the soybean industry. ASA has 26 affiliated state associations representing 30 states and more than 300,000 soybean farmers.

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ASA leadership corner

When was the last time you used a rotary-dial phone—or, for that matter, even saw one outside of a museum or movie set? Remember the corded, touch-tone phones, often in era-appropriate colors, that were quickly surpassed by cordless? A couple of years ago, I was waiting for an oil change, and on the wall in the kids' area was a phone with a cord attached. My children had no idea what it was and were intrigued you could hear a funny sound when you picked it up. The funny sound was, of course, a dial-tone, and it struck me as amusing how they didn't know something so "basic" as a dial-tone. How fast innovation happens!

A majority of seed used to be bagged. Some of you remember mixing seed treatments by hand in the individual planter hoppers. I remember planting test plots during summers in college, and the joke was how you could, "get more seeds in a crooked row." No more! Technology is changing how we farm. Auto-steer is remarkable. It allows you to pick up your phone—without hearing a dial-tone—and check social media! Seed treatments are more refined, allowing us to treat a lot of seed with multiple modes of action, more evenly and in a safer way than ever before. Irrigation pivots can be adjusted through your cell phone. Sensors in grain storage allow for better quality control throughout the year.

What's next? Data-driven farming is young but shows a lot of promise. ASA hosted an event with our industry partners in March to hear from Microsoft, which is developing technology that uses white noise in television channels to act as a large Wi-Fi system. This new innovation will potentially allow all the sensors and computers around your farm to connect.

How are you farming differently today than you did just a decade ago? What about a decade from now? And, where do these developments on the farm intersect with ASA policy? We are charged with considering how, as an organization, we can assure we have the right policy in effect to make you the most successful farmer in the world. Right now, we are advocating for improved infrastructure to allow our soybeans and soy products to get to market. We are fighting to make sure future trade agreements cover the technology to which you need to have access. And, we are always striving to make sure the right farm policy is in place to help you appropriately manage your risk.

Innovation comes from within. Just recently, we reassessed the structure of our ASA Board Advocacy Teams, elevating how often farmer-leaders engage in issues. Over the last year, we began an overhaul of our communications platforms,

Ryan FINDLAY



Ryan Findlay, ASA CEO

meaning improvements to this magazine, our issues correspondence to you, social media outreach, and, hold the phone!—a redesigned website to be launched before this issue hits your mailbox.

In the middle of yesterday's rotary phones and today's smart phones existed the enviable bag phone for your car and those big brick phones that are laughable when you see an old TV character hoisting it to their ear. ASA is knocking on the door of its 100th anniversary this year, so from flip phones to farming, we've witnessed and facilitated a lot of innovation in that time. No matter where we are along the continuing innovation spectrum, ASA is helping craft the policy to help you better compete as the world innovates. Anyone hear a dial-tone?

NEWS

soy



SOY INNOVATION

Rendering courtesy of Missouri Soybean Association

Missouri's New Center for Soybean Innovation to Connect Community to Innovation

The Missouri Soybean Merchandising Council's efforts to drive research and education for all things soy started 2019 with groundbreaking on the new Center for Soybean Innovation.

When it opens in early 2020 in Jefferson City, the Center for Soybean Innovation will bring together the many organizations working with and on behalf of Missouri's soybean growers in one location, and serve as a hub for business development and incubation, as well as value-added agriculture.

From the Missouri Soybean Association and Merchandising Council to the Biodiesel Coalition of Missouri and Foundation for Soy Innovation to the administrative functions for farmer-owned biodiesel plants and Missouri Farmers Care and the Ag Education on the Move programs, it will be a one-stop-shop.

The center will connect developments in soybean innovation with farmers and industry partners and provide education and training space, as well as a community room. The building will also feature soy-based building materials and demonstrate new uses for soybeans, from soy-based countertops, flooring and insulation to turf, asphalt sealant and biodiesel/BioHeat.

Beyond the construction site, the partnerships supporting the Center for Soybean Innovation and the vision for educational programs and spaces within the facility are growing, too. In addition to the generous support from Thompson Coburn LLP and the Missouri Soybean Association's partnership—contributing \$800,000 to the project—the Missouri Soybean Merchandising Council recently confirmed partnerships with the Goppert Foundation to support the education space, with ADM for the mid-sized conference room and with the Biodiesel Coalition of Missouri for a biodiesel boiler and heating system. Work on the content for the education space is under way as well, thanks to support from the United Soybean Board.

To learn more about the Center for Soy Innovation, including opportunities to be involved, visit mosoy.org or contact the Missouri Soybean Merchandising Council in Jefferson City.

Source: Missouri Soybean Association

Ghanaian Father-Daughter Team Introduces U.S. Soy to Customers in Emerging Markets

American Soybean Association (ASA) World Initiative for Soy in Human Health (WISHH) partners, like the winning father-daughter team at Yedent Agro Group in Ghana, are introducing new customers in emerging markets to U.S. soy.

Yedent Agro Group is a supply chain partner that markets soy-based foods to meet Ghana's protein needs and also manufactures soy-based livestock feeds. To expand its ability to process U.S. soy flour, Yedent installed extrusion equipment from Iowa-based Insta-Pro International. The company is the first to win the National Best Agro-Processor award from Ghana's Ministry of Food and Agriculture.



Ghana nutritionist and food scientist Soteria works for Yedent Agro Group, a supply chain partner that markets U.S. soy-based foods to meet Ghana's protein needs.

WISHH has used USDA Foreign Agricultural Service funds to support its work with Yedent, including USDA Cochran Program funding allowing Soteria Aba Yedua Ntim-Adu to join WISHH for 2018 U.S.-based training. Both Soteria and her father, Samuel, attended WISHH's Indiana Soybean Alliance-supported Protein Workshop in 2018.

"To be in the food industry and to be in the nutrition industry is a great business opportunity," Soteria said. "I have great pride in the fact that I'm a nutritionist and I'm a food scientist, and this work falls directly in line with my passion." To learn more, visit WISHHSoybeans on YouTube.

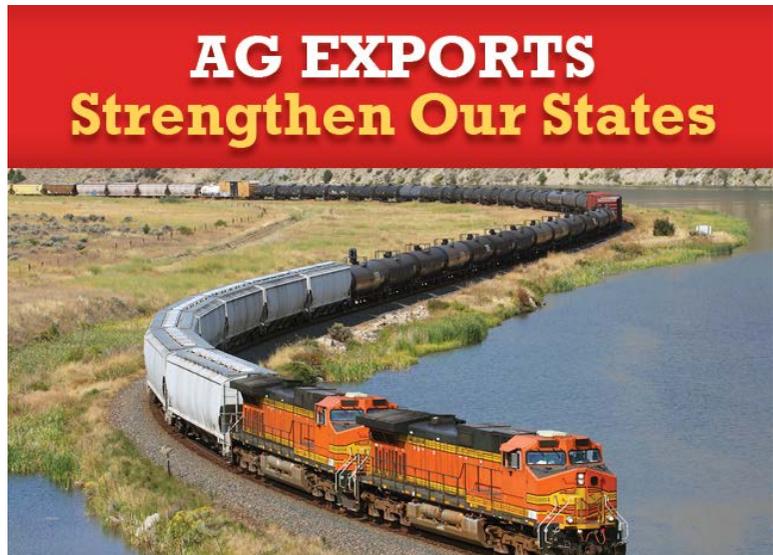
EMERGING MARKETS

Leading Agriculture Organizations Endorse USMCA

The American Soybean Association (ASA), National Corn Growers Association (NCGA), National Association of Wheat Growers (NAWG) and National Sorghum Producers (NSP) this spring announced their support for the U.S.-Mexico-Canada Agreement (USMCA).

Mexico and Canada account for 25 percent of all U.S. agriculture exports, and USMCA preserves and builds upon the existing trading relationship between the United States, Canada and Mexico. Members representing the four organizations will continue advocating members of Congress to ratify USMCA this year, while also urging the Administration to keep the current North American Free Trade Agreement (NAFTA) intact until the new agreement is ratified.

“Passage of USMCA would



boost both national and rural economies, and for soybeans, it would assure us tariff-free access to two strong markets, including Mexico, which is our number two market for whole beans,” said Davie Stephens,

ASA president and a soybean grower from Clinton, Ky. “Under NAFTA, soybean exports to Mexico quadrupled and to Canada doubled. We would like to continue that positive trade momentum with our neighbors.”

ASAAP Meeting Focuses on Rural Challenges



Members of the ASA Action Partnership (ASAAP) met in Washington, D.C. this spring for discussion focused on trade, rural infrastructure and communications. Special guest Jason Hafemeister, U.S. Department of Agriculture (USDA) Trade Counsel, provided valuable insights and information during his dinner presentation. The meeting also included presentations on infrastructure and connectivity featuring Wole Moses, director of Federal Cloud

Solutions at Microsoft, and on sharing the ag story by Sarah Sampson, series producer/director of Maryland Farm & Harvest.

ASAAP is a collaborative effort of all soybean industry sectors with a stake in the growth and profitability of the industry. The forum provides the opportunity for ASA’s state affiliates, state and national checkoff organizations, industry partners and national grower-leaders to engage in critical industry-focused dialogue.

USMCA AND FARM BILL



In Washington this spring, ASA's Board of Directors and other leaders in the soybean industry met for annual March meetings. After a day of advocacy team meetings and updates, soy growers headed to Capitol Hill, where they met with legislative staff, a primary objective of which was to push for completion of USMCA. Growers vocalized the importance of Farm Bill implementation and extending the biodiesel tax incentive. While in D.C., the industry continued to reiterate the importance of removing the China 301 tariffs and developing new markets, including through Market Access Program and Foreign Market Development funding. Pictured: (left to right) ASA Director Monte Peterson, North Dakota Soybean Growers Association Executive Director Nancy Johnson, North Dakota Director Spencer Endrud and ASA Director Josh Gackle discuss top soybean policy issues with North Dakota Sen. John Hoeven's legislative assistant, Brita Endrud (right).



Attendees discuss answers to a match game during a breakout session at ASA's 2019 Soybean Leadership College—a two-day training on how to effectively promote the soybean industry, communicate key ag messages and work to expand U.S. soybean market opportunities.



ASA's Hanna Abou-El-Seoud (second from left) joined USDA Under Secretary Ted McKinney (left) and representatives from National Pork Producers Council and American Farm Bureau Federation to talk trade for the National Ag Day Newsmakers Session in D.C.

BIOTECH REGULATION



The Biotech Working Group featured a panel of speakers from the U.S. Department of Agriculture (USDA), the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA), providing their perspectives on gene editing and the future of biotech regulation since each of these agencies play a role in the development of the regulations. Speakers on the panel included (left to right) USDA Animal and Plant Health Inspection Service Associate Administrator Michael Gregoire, EPA Chief of Emerging Technologies Branch Mike Mendelsohn, and Policy Analyst for the FDA's Center for Food Safety and Applied Nutrition Jason Dietz. ASA President Davie Stephens (right) moderated the discussion.



U.S. Soybean Export Council CEO Jim Sutter, American Soybean Association Director Ron Moore and United Soybean Board Director David Williams chat with COFCO President Patrick Yu during the China Intentional Import Expo (pictured right to left). Moore was also able to tour an aquaculture pond and milling company during the event, which provides opportunities for countries and regions to do business, strengthen cooperation, and promote common prosperity of the world economy and trade. Photo courtesy of U.S. Soybean Export Council



ASA Director Caleb Ragland of Magnolia, Ky., delivers opening remarks and promotes the U.S. Soy Advantage to Chinese swine producers and feed millers during the 7th U.S.-China Swine Industry Symposium in Beijing. Photo courtesy of U.S. Soybean Export Council



LAIB 2018-19



Farmers from 12 states graduated from the 2018-19 ASA Leadership At Its Best program this spring in Washington, D.C. The program is sponsored by Syngenta and develops leadership, communication and advocacy skills in farmers who have already shown potential to be strong leaders through the positions they hold on their state soybean association boards. Front row (left to right): Rob Holman (TN); Ben Furnish (KY); Angela Berben (NC); Spencer Endrud (ND); Doug Bartek (NE); and Dan Keenan (MI). Back row (left to right): Andrew Lauver, Syngenta; Jeff Thompson (SD); Jeff Frank (IA); Brett Neibling (KS); Steve Trebiatewski (WI); and Andy Stickel (OH).

NEW LAIB



ASA farmer-leaders from eight states participated in Syngenta's new 2019 Leadership At Its Best program in Raleigh, N.C. and the Washington, D.C. area. The leaders received training in agricultural issues, communications, media, and effective advocacy in Washington and through social media. 2019 Leadership At Its Best Class (left to right): Darin Johnson (MN), David Walton (IA), Jordan Scott (SD), Tyler Clay (MS), Jared Nash (KS), Josh Gackle (ND), Charlie Roberts (TN), and Kent Grotelueschen (NE).

BIODIESEL



Iowa Sens. Chuck Grassley and Joni Ernst work with industry and farmers from Illinois, Iowa, Michigan and Wisconsin to advance America's premium biofuel during a fly-in this spring. ASA Directors serving on the Biodiesel and Infrastructure Advocacy Team participated in more than 30 meetings with targeted congressional offices to push for a multi-year extension of the biodiesel tax credit. Several of the directors also participated in meetings with key Administration officials on the importance of maintaining anti-dumping and counter-vailing duties on unfairly subsidized biodiesel imports. ASA grower-leaders participating in the fly-in included Rob Shaffer, Chair (IL); Chris Hill (MN); Gerry Hayden (KY); Dean Coleman (IA); Ken Boswell (NE); Morey Hill (IA); Matt Stutzman (MI) and Brad Kremer (WI). Photo credit: Brad Kremer



ASA YOUNG LEADERS

The 35th class of ASA Corteva Agriscience Young Leaders completed its training during Commodity Classic in Orlando, Fla. The Young Leaders participated in training focused on leadership development, industry issue updates and outreach. The group was also recognized at ASA's annual awards banquet. Photo credit: Joe Murphy

time to shine! Orlando 2019



February 28 -
March 2

Soy Growers 'Shine' at Commodity Classic in Orlando



ASA directors serving on the Commodity Classic Committee, Chairman Wade Cowan, Bill Wykes, Brad Doyle and Gerry Hayden, are among the Commodity Classic Joint Venture team members at the ribbon cutting ceremony to celebrate the grand opening of the 2019 Commodity Classic. Photo credit: Steve Dolan



U.S. Department of Agriculture Secretary Sonny Perdue walks the trade show floor and chats with soybean growers of all ages.



ASA President Davie Stephens (left) discusses top soybean policy issues with emcee Mark Mayfield (right) during the Presidents' Roundtable at the General Session. Photo credit: Steve Dolan



ASA President Davie Stephens talks Farm Bill with Brownfield Ag News reporter Nicole Heslip at the ASA booth during Commodity Classic in Orlando. Photo credit: Steve Dolan

ASA CEO Ryan Findlay (second from left) and ASA President Davie Stephens (fourth from left) were among the ag organization leaders who attended a lunch with U.S. Department of Agriculture Secretary Sonny Perdue (center) during his visit to Commodity Classic in Orlando. Photo credit: Steve Dolan





Attendance at Commodity Classic exceeded 9,100, including approximately 4,500 farmers. The huge trade show had 404 exhibiting companies comprising a total of 2,105 booth spaces that presented the latest in technology, equipment, inputs, services and innovation in agriculture. Photo credit: Steve Dolan



ASA Director Jim Kukowski of Minnesota discusses a policy resolution during the Voting Delegates Session in Orlando. Photo credit: Steve Dolan



ASA and state farmer-leaders participate in a resolutions subcommittee meeting to discuss proposed changes and additions to ASA policy resolutions for 2019. Three resolutions subcommittees met concurrently to approve recommendations submitted to the full Voting Delegates body of 159 representatives from 26 state affiliates. Photo credit: Steve Dolan



ASA Vice President Bill Gordon (left) and President Davie Stephens at the ASA Soy Social & Auction, one of many events they attended while at Commodity Classic. Photo credit: Steve Dolan



On March 2, 159 delegates representing 26 state soybean associations affiliated with the American Soybean Association gather to review, discuss and approve a 2019 slate of policy resolutions that will guide the work of ASA for the year. Photo credit: Steve Dolan



During the ASA Awards Banquet, Paul Casper from South Dakota accepts the Pinnacle Award—ASA's highest honor, recognizing individuals who have demonstrated the highest level of contribution and leadership within the soybean family and industry throughout their lifetime. Casper received the award for his work over many years to add value to soybeans by helping establish soybean processing plants and locally-owned agribusiness companies in at least eight states. Photo credit: Joe Murphy



ASA President Davie Stephens (right) presents ASA Director and past President Ron Moore (left) from Illinois with the Distinguished Leadership Award during the annual awards banquet. Moore is a strong advocate on issues like farm bill, trade, transportation and infrastructure, farm safety net, biofuels and regulations. Photo credit: Joe Murphy



ASA Treasurer Brad Kremer (left) jokes with spotter/ASA Director Brandon Wipf (center) and auctioneer/ASA Director Eric Maupin (right), as they call out a bid during the annual ASA Soy Social and Auction. Photo credit: Steve Dolan



Retired ASA Director Jim Miller (left) from Nebraska accepts the Outstanding State Volunteer Award from ASA President Davie Stephens (right). Miller is recognized for his dedication, passion, and many hours of volunteer commitment over nearly two decades of service. Photo credit: Joe Murphy



ASA presented the 2019 Conservation Legacy Awards to: (left to right) Southern region winner Fred Sipes; Northeast region winner Rick Clark; Midwest region and National winner Rob Stout; and Upper Midwest region winner Dan Gillespie. Photo credit: Joe Murphy

SAVE THE DATE

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CLEARLY



Soy-backed artificial grass from SYNlawn is strong enough to handle the crowds at the Kennedy Space Center Visitor Complex in Florida. The product benefits from soy's performance and sustainability. Photo courtesy of SYNlawn

Soy Takes Giant

U.S. soy is gaining traction in diverse products found everywhere from Kennedy Space Center's launch viewing site to Minnesota roads to New York City fleets. Soy offers performance and sustainability as an ingredient in artificial grass, flooring, roads, roofing, tires and many more products.

For example, the SYNlawn company's soy-backed artificial grass now covers commercial and residential spaces ranging from Kennedy Space Center to the 6,300-square feet of yard and putting green at financial guru Suze Orman's vacation home. Soybean growers who come to Washington, D.C. this summer can join hundreds of families and architects who will stand on SYNlawn grass in a massive multi-story exhibit at the National Building Museum. SYNlawn also exports its soy-backed product from a state-of-the-art manufacturing plant in Georgia.

Soybean oil is an abundant and quality ingredient, offering performance as well as renewable content for innovation in roads, too. "We believe it's time for the asphalt industry to look beyond recipe specifications and focus more on real-world results," said Justin Black, global category leader, Cargill. "Investments in research and development have yielded advances in asphalt technology, but industry standards haven't always kept pace."

Soy-based road products can be found in Minnesota, New York, Illinois and other states.

Tires rolling down the road are also driving demand for soy. A United Soybean Board-supported breakthrough with soybean oil as a replacement for petroleum oil resulted in Goodyear tires winning the prestigious Tire Technology International Award for Innovation and Excellence in the category of "Environmental Achievement of the Year" at the 2018 Tire Technology Expo in Germany.

Goodyear discovered that soybean oil could improve tire flexibility at low temperatures, helping the rubber to remain pliable in cold weather and enhancing traction in rain and snow simultaneously. Additionally, Goodyear discovered that soybean oil mixes more easily with rubber compounds and reduces energy consumption, which improves tire manufacturing efficiency.

In a typical tire, the amount of petroleum oil is around 8 percent. In the Assurance Weather Ready, we were able to replace about 60 percent of that oil with soybean oil, which included 100 percent of the oil in the tread compound," said Goodyear Chief Engineer, Polymer Science and Technology Robert A. Woloszynek. *(continued on page 14)*



Leaps in Innovation...

...Paves Path for Sustainability

By Karen Coble Edwards

(continued from page 13)

ASA boosts biobased markets through the Farm Bill

To help speed America's transition to these soy-biobased products, ASA worked alongside multiple manufacturers and other stakeholders to secure Farm Bill language and funding for the Biobased Market Program.

"ASA and soybean farmers are always seeking to expand and diversify their markets, and biobased products are a natural opportunity," said Rob Shaffer, ASA director from Illinois and chair of the Biodiesel and Infrastructure Advocacy Team. "ASA is pleased that Congress, following the noteworthy support and leadership of Senate Agriculture Committee Chairman Pat Roberts and Ranking Member Debbie Stabenow, recognized the importance of funding the Biobased Market Program."

The Biobased Market Program (Section 9002 of the Farm Bill) is the only Farm Bill Energy Title Program to receive an increase in funding. The program will receive \$3 million in mandatory funding per year for five years, for a total of \$15 million.

As recommended by ASA and its fellow members of the Biobased Products Coalition, the Farm Bill elevates the Biobased Market Program to become part of the U.S. Department of Agriculture's (USDA) Rural Development Agency (RDA). The transition to RDA creates new opportunities for USDA to work closely with the U.S. biobased manufacturing industry on mission-driven strategies to increase demand for America's biobased products.

In this regard, the Farm Bill includes ASA-advocated language that directs USDA to establish and promote public-private partnerships for Biobased Market Program activities that increase U.S. purchasing of biobased products. Allocating funding to support public-



private partnerships would allow biobased manufacturers and allied stakeholders to identify potential customers—ranging from military bases to private-sector fleets and facilities—and to design and implement effective outreach.

The Farm Bill also encourages USDA to further promote and give a preference to the procurement of agricultural biobased products within USDA's RDA programs, including rural housing and rural electrification. These actions will expand on USDA's current efforts that include working with federal agencies and their contractors to buy biobased products.

Soybean growers can grow demand by buying biobased

Soybean growers can help by using their own buying power to send

market signals to manufacturers to use soy. Companies like Casey's offering biodiesel makes it easier than ever for soybean growers to support the companies that support U.S. soy demand. Casey's has now converted more than 590 stores to biodiesel and plans to expand the use of biodiesel to another 300 locations.

The United Soybean Board's (USB) website, soybiobased.org, offers success stories on biobased products based on USB outreach and education to city governments and other large customers. These successes can also help soybean growers and their communities transition to soy-based products, which further builds brand loyalty for companies to use U.S. soy.



Okabashi brand sandals are 45 percent U.S. soy by weight. The company uses a soy-based compound for its shoes because soy aligns with its commitment to sustainability and manufacturing domestically. Photo courtesy of Okabashi

Here's a sampling of the many choices:

Cabinets and Funeral Caskets—Columbia Forest Products has used soy in nearly 100 million panels of its formaldehyde-free PureBond® hardwood plywood found in offices and homes. One creative funeral company is even using it to meet the growing demand for “green burials.”

Carpet—Signature Accord Flooring uses soy in its backing and is a proven performer in hotels, restaurants, senior care and more.

Cleaning and Corrosion Control—Minnesota-based Cortec offers 14 products made with soy. Their soy offerings range from EcoLine® Surface industrial-grade surface cleaner and degreaser to a general purpose lubricant to tackle everything from loosening rusty bolts to metal cutting.

Electrical Transformers—Ask your electrical cooperative to use Cargill's biobased natural ester transformer oil, FR3. It's more energy efficient and safer. FR3 can also be used in buildings with indoor transformers.

Groundwater Remediation—Travis Air Force Base won the 2017 Secretary of Defense Environmental Restoration Award for Installations after the California-based Air Force installation implemented a sustainable Groundwater Treatment Program using soy oil. Base staff reported notable results: cost savings of more than \$250,000 per year and an annual carbon dioxide emissions reduction of approximately 930 tons—the equivalent of taking 200 cars off the road.

Roofs—Soy-biobased product Roof Maxx reverses aging in asphalt shingles and is recognized as a USDA Certified Biobased Product in the USDA BioPreferred Program. The product has a tested biobased content of 86 percent. An application of Roof Maxx extends the life of shingles for five years and can be re-applied to extend the life of a roof for up to 15 years. The Ohio Soybean Council is working with Roof Maxx on the product's ability to clean roofs, too.

Sandals—Made with 45 percent U.S. soy by weight, Okabashi sandals are helping customers shrink their environmental footprint in style. “Here at Okabashi Brands, we made the choice to go with a soy-based compound for our shoes because it aligns with our commitment to sustainability and manufacturing domestically,” said President Kim Falkenhayn.

Vehicle Greases, Hydraulic Fluids and More—The District of Columbia Water Authority and the Port Authority of New York and New Jersey are two of the fleets that succeeded with B20, so USB helped them take the next step to additional soy-biobased products. D.C. Water's latest successful trial is with a soy-biobased fifth-wheel grease from Iowa company Natural Soy Products.



INNOVATIVE

FOOD

Fodder for Innovative Food Conversation

By Wendy Brannen

Among the most compelling characteristics of soy are its utter versatility, and in turn, its sustainability. The “bang for the buck” in every bean is remarkable, with endless possibilities for ways to stretch the utility of each little sphere, including soy foods and even ways to support other foods.

Claire Schlemme, founder of Renewal Mill, Oakland, Calif.,

uses soy byproducts to create baking flour. The eco-conscious company reduces global food waste by making the flour from “upcycled” okara, a flavorful superfood harvested from the pulp of organic soybeans, which is created during soymilk production.

First, soybeans are processed into soymilk. The liquid fraction is siphoned off, leaving behind the pulp, or okara. The wet okara is conveyed into a dehydration unit and dried into a shelf-stable product. The dried okara is then finely ground into a high protein, high fiber flour that is packaged and sent directly to consumers, wholesalers, foodservice outlets (restaurants, etc.), and ingredients companies.

Renewal Mill's innovative process has earned it accolades in the food industry, including the tech and digital space. And, last fall, the company secured a research and development partnership with Cargill that could broaden the visibility and appeal of its ingredients to food manufacturers. Renewal Mill's flour line is available to consumers online, along with its own chocolate chip cookies, at renewalmill.com.

Hodo Foods, the organic soy brand that sells tofu to major grocery chains including Whole Foods, big box stores like Target, and fine chefs, sells a fraction of the pulp it has left over from processing its tofu—made by curdling soy milk—to Renewal Mill. Every pound of soy milk produces an equal amount of wet pulp, which is a lot of pulp to repurpose. Hodo traditionally has stored and shipped all of its byproduct to dairies and other outlets for use in animal food.

Another soy reuse finding traction among food industry innovators is using okara from Hodo and other processors for growing mushrooms, from oysters to shiitakes. Back to the Roots, started by two Berkeley grads, sells mushroom growing kits in more than 250 Whole Foods nationwide and, among other companies, is a regular repurposer of Hodo okara. Essentially, the okara are used in a “sawmill” blend that provides a nutritious ground base in which the fungi are grown.





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INDUSTRY

perspective

By Chris Crawford

Planting Seeds for the Future: Soy Farming Innovation

As soy growers face challenging times, industry leaders are looking to innovation to keep U.S. soybean growers competitive and protect their ability to farm profitably.

GreenLight Biosciences Inc.

GreenLight Biosciences Inc., Medford, Mass., develops high-performing RNA solutions for, among other things, crop management and plant protection.

"GreenLight is inspired by nature, applying RNA-based technology to bring greener solutions to agriculture," said Mick Messman, chief commercial officer for GreenLight. "We are using nature—and nothing else—to develop biocontrol solutions that deliver a new mode of action to control pests so they no longer destroy plants. Targeting only the problem pest will allow farmers to grow healthy crops without harming important insects like pollinators."

GreenLight's first RNA-based product will target the Colorado Potato Beetle, which can rapidly develop resistance to pesticides that are used repeatedly for control, Messman said. GreenLight plans to expand its offering into other crops, including soybeans.

RNA technology is highly targeted, which makes it effective in controlling specific pests with limited to no impact on soil health. RNA has low toxicity and is biodegradable with little persistence in the soil, he said.

And, as demand for agriculture and food products increases around the world, Messman said new solutions to current challenges are critical.

"GreenLight Biosciences is part of a new wave of innovators in ag that brings cutting edge technology and products that provide improvements for plants, people and the planet."



Mick Messman, GreenLight chief commercial officer

Indigo Ag

Indigo Ag's mission is to harness nature to help farmers sustainably feed the planet.

"The problems facing agriculture must be solved with systems innovation," said David Perry, CEO of Boston-based Indigo Ag.

Perry said Indigo Ag believes the current system of agriculture must be de-commoditized to benefit everyone:

- Farmers will earn more for growing high quality and sustainably produced grain
- Buyers will source that grain to deliver on consumer preferences
- Consumers will have access to a traceable and nutritious food supply

Indigo Ag is providing the digital and microbial tools to support this de-commoditized system, Perry said.

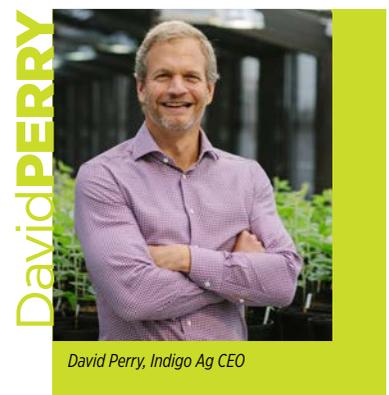
"If successful, this system will drive incentives for new innovations that enable quality and sustainability," he said.

Perry said the problem with the current system is farmers aren't making money, consumers aren't getting the best food, and farming is consuming too many resources.

To help solve these issues, the company has launched Indigo Marketplace and Indigo Transport. Indigo Marketplace helps growers buy and sell their products at a premium based on consumer demand. Indigo Transport offers them a machine-driven algorithm to best match carriers to ship their haul.

Perry said he expects Indigo Marketplace to increase five- to tenfold on both the buyer and seller sides in the coming years.

"I've been building technology companies for years, and this is the fastest growing thing [Indigo Marketplace] I've ever been a part of," he concluded.



David Perry, Indigo Ag CEO

(continued on page 18)

INDUSTRY perspective

TechAccel

TechAccel LLC, Overland Park, Kan., describes itself as a research engine that invests in stranded, stalled or otherwise unavailable innovation in agriculture, animal health and food technology.

As for what TechAccel can do for soybean growers, Michael Helmstetter, Ph.D., president and CEO of the company said, "Our solution isn't tied to a short-term planting/harvesting cycle—as a technology and venture development firm, we work to bring stranded innovations from an early-stage proof-of-concept to market readiness."

Helmstetter said TechAccel looks for innovations that can drive significant and sustainable

improvements. For example, highly specific biopesticides or technologies to deliver improved traits in crops.

The biggest challenges he sees today for the soybean industry are economic, tariff and trade related.

"That economic pressure leads to challenges of generational farm sustainability and the need for strategic investments while managing with low margins," Helmstetter said. "Long term, the challenges are the same as those faced throughout the agricultural ecosystem: applying tools of digital technology and biotechnology to maximize production, using energy and water efficiently, and creating new products or markets."



Michael Helmstetter, TechAccel LLC
CEO/president

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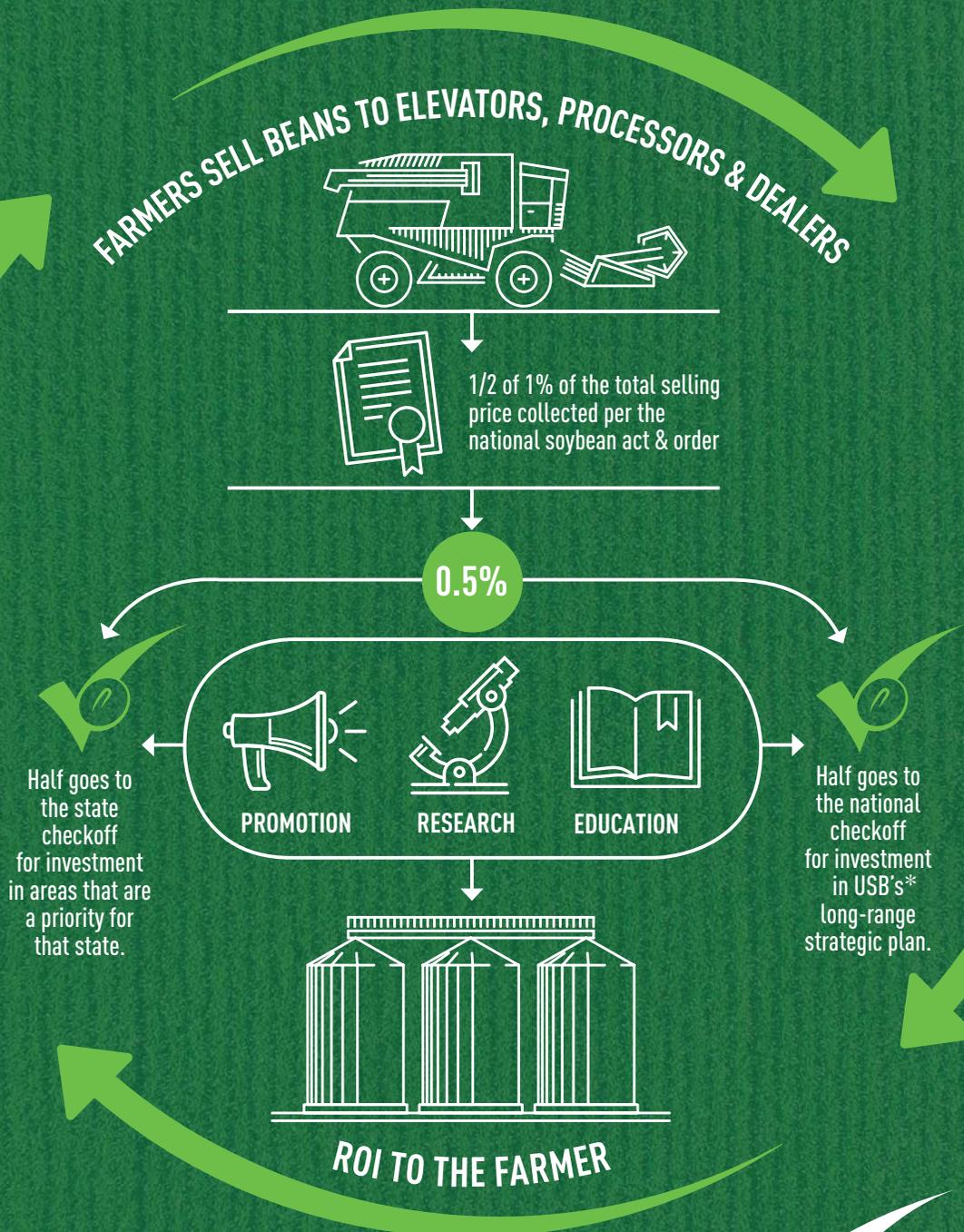
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HERE'S HOW THE SOY CHECKOFF WORKS. The national soy checkoff was created as part of the 1990 Farm Bill. The Act & Order that created the soy checkoff requires that all soybean farmers pay into the soy checkoff at the first point of purchase. These funds are then used for promotion, research and education at both the state and national level.



* Led by 73 volunteer soybean farmers, the United Soybean Board (USB) invests and leverages soy checkoff dollars to MAXIMIZE PROFIT OPPORTUNITIES for all U.S. soybean farmers.

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SOY checkoff news

U.S. Soy Sets Export Record

Farmer investments in international markets produced strong results in 2017/2018, despite trade dynamics developing as the export period closed.

According to the U.S. Census Bureau, U.S. soybean farmers exported a record-breaking 2.6 billion bushels of U.S. soy and soy products, valued at more than \$28 billion last market year. The U.S. also set a new record high in combined volume of the whole soybeans, soybean meal and soybean oil exported in 2017/2018, with soybean meal exports accounting for the greatest growth.

Derek Haigwood, a soybean farmer from Newport, Ark., and chairman of U.S. Soybean Export Council (USSEC), as well as a director for United Soybean Board (USB), said he expects to see the impact of trade issues in the next, 2018/2019, marketing year. Exports during the 2017/2018 marketing year would not have been largely impacted by the tariffs introduced by China as shipments abroad normally take place after harvest (October-December).

USSEC recently initiated the “What it Takes” strategy to grow U.S. soybean demand worldwide and mitigate export losses to China. The program provides opportunities for industry experts and farmers to remind buyers about the intrinsic feed value of U.S. soy, mainly its exceptional amino acid content, the nation’s reliable transportation system and sustainable farming practices.

“Particularly at a time when global trade flows have dramatically changed, it is critical that we ensure access in all markets that want to purchase U.S. soybeans and soy products,” stated Haigwood.

Keith Tapp, chair of USB and farmer from Sebree, Ky., said the dedication to opening new markets for soy has been and will remain a priority USB investment and support.

“Our work to build the preference for U.S. soy is more important than ever,” he said. “Soy production is growing worldwide, and we continue to work across borders, industries and disciplines to find and develop markets for U.S. soy products.”

In cooperation with USB and USSEC, the American Soybean Association (ASA) is a key partner in the collaboration to expand international markets for soy.

“U.S. soy is exported to more than 100 markets today,” Liz Hare,

executive director of ASA’s World Initiative for Soy in Human Health program (WISHH) said, “and there are opportunities in emerging markets with lots of room to grow.”

In 2017, the U.S. soy industry launched an effort to shift a sizable portion of its efforts to markets where there is significant future potential due to factors such as large populations, improving economic conditions, and currently low per capita protein and oil consumption. As a result of the coordinated work by these three soy organizations through programs such as WISHH and “What It Takes,” sizable export growth was seen in developing markets including Pakistan, Egypt and India. Globally, demand is forecasted to grow by about 15 million tons in 2019, according to economists at the USSEC.



Photo courtesy of United Soybean Board

U.S. Soy Sees Potential in Aquaculture

Soybean meal is the No. 1 protein source used in aquaculture worldwide, and farmed fish currently comprise almost half of the global fish protein intake around the world. The current growth potential of this market appeals to several feedstuffs, including soybean meal.

“The aquaculture sector continues to expand and improve at a very rapid pace. Today, almost all aquaculture species use soy products in their feeds,” said Robert White, United Soybean Board farmer-leader from Virginia Beach, Va. “Soy has become an essential ingredient in aquaculture feeds.”

Many U.S. soybean farmers have also realized the potential of the aquaculture industry as a market.

“Just a few years ago, soybean farmers were very skeptical of aquaculture,” said White. “However, through educational opportunities and partnership between the soy checkoff and the Soy Aquaculture Alliance, farmers have seen the vast opportunity to move more soy products into the aqua arena.”

Relatively new, teeming with opportunity

Aquaculture is still relatively new as a livestock industry in comparison to land-dwelling animal livestock. However, thanks to the efforts and foresight of the soy checkoff, soy products are already widely used and accepted in aquaculture feed. Soy went from a possible fishmeal substitute to a critical ingredient in most aquafeeds. With its high protein density and desirable amino acid profile, U.S. soy is well suited for the aquaculture sector. As with any growing industry, there are opportunities for improvement in production and understanding nutritional needs.



Photo courtesy of United Soybean Board

“As production improves and nutritional needs are understood, the desire and requirement for high-quality ingredients like U.S. soy will continue to grow,” added White.

There are more than 300 aquaculture species being raised globally, according to Lukas Manomaitis, aquaculture program technical contractor for the U.S. Soybean Export Council. However, most of the market is comprised of just a few species including tilapia, salmon and shrimp. Fisheries will continue to raise other species, but on a much smaller scale and mostly for niche markets.

Asia, the world’s largest aquaculture market, continues to flourish. Producers in other countries such as Egypt, Turkey, Norway and Chile have created

new production centers to keep up with this growing aquaculture demand.

U.S. soy is the big fish

As global population and wealth increase, seafood and fish are in greater demand. With the help of U.S. soy, expanding feed-based aquaculture can address the needs of both supply and demand. The future of soy inclusion in the industry is bright: There are no viable alternatives that can provide the volume needed to keep up with increasing demand, added Manomaitis.

White predicts, “Collaboration among the soy checkoff, the Soy Aquaculture Alliance and many others have been and will continue to create many opportunities to increase soybean use in aquaculture.”

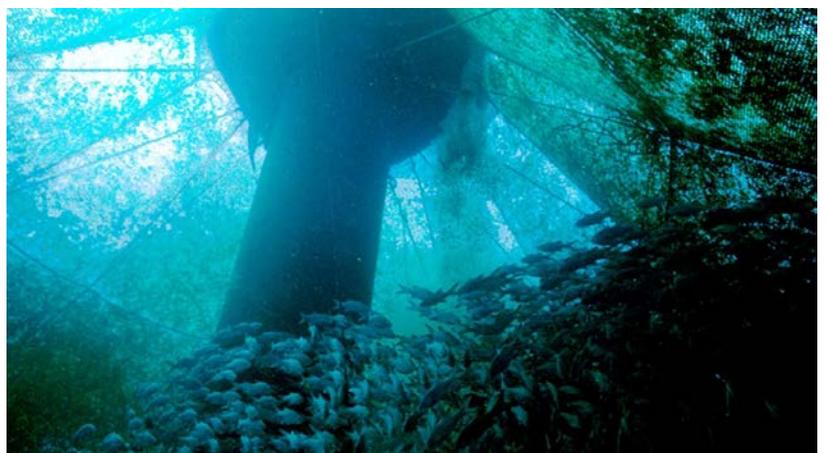


Photo courtesy of NOAA Fisheries



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Understanding the New Food Labeling Requirements

On Dec. 20, 2018, U.S. Secretary of Agriculture Sonny Perdue announced the publication of the National Bioengineered Disclosure Standard. This rule was a long time in the making and came after much hard work by U.S. soybean growers. Facing problematic state-by-state laws on labeling bioengineered, or “BE” foods (also known as “GMOs”), the American Soybean Association and other groups advocated for a nationwide approach. Working with Congress and the ag value chain, ASA was successful in seeing the National Bioengineered Disclosure Standard signed into law in July 2016.

Then began another challenge: Ensuring the rules that the U.S. Department of Agriculture (USDA) was directed by Congress to establish were consistent with the letter and intent of the law and did not disparage the technology. Soybean farmers are proud of how they grow their crops, and with more than 90 percent of U.S. soy produced with bioengineering, it was essential that the disclosure standard gave consumers more information about their food, but was not misleading about the safety of the technology. After all, the new standards are for marketing purposes, not safety or health concerns.

The rule requires disclosure of BE foods or foods that contain BE ingredients. This includes anything from the whole food such as the Arctic™ apple variety and BE sweet corn to a muffin mix with a single BE ingredient like corn meal. There are some exemptions for very small food manufacturers

and ready-to-eat items, among others. While all intentional BE foods or ingredients require disclosure, there is an exemption for an, “inadvertent or technically unavoidable presence of bioengineered substances of up to five percent for each ingredient.” This is important because it means that a trace amount of a BE substance isn’t going to trigger disclosure, and this approach minimizes the potential burden on trade.

The law defines bioengineering as a food, “that contains genetic material that has been modified through in vitro recombinant deoxyribonucleic acid (DNA) techniques; ...” The way that USDA enforces this portion of the law is highly consequential for the soybean industry and how food products with soy are labeled. Soybean oil is the most widely used edible oil in the U.S., and new varieties like high oleic soybeans open even more markets in the food industry. Soybean oil, like many other oils, sugars and corn syrup, goes through a refining process before it hits the shelves. This process eliminates the modified, or BE, DNA that was present in the original raw commodity. The rule says that if there is no detectable modified DNA in the final product, then it does not need to be disclosed.

As we are seeing today, many food companies are choosing to go above and beyond the requirements of the law and disclose that their products contain bioengineered ingredients, such as soybean oil. ASA fully

supports this voluntary disclosure coming in response to the growing interest of consumers in understanding their food. But it is important that the requirements are based on the law and don’t force companies to disclose, especially given that these requirements come at a cost—and we expect that cost will be passed on to consumers.

The mandatory date for compliance with the rule isn’t until Jan. 1, 2022, but don’t be surprised to see new BE symbols on packages starting earlier as companies prepare. Meanwhile, similar work continues as states and localities increasingly require labels that imply risks where they don’t exist, such as California’s cancer warning for coffee. ASA has joined the Coalition for Accurate Product Labels and is working with Congress to pass the Accurate Labels Act, which would establish a federal standard for labeling and ingredient disclosure requirements that is risk-based and substantiated by sound science.

Renee Munasifi is on the ASA Washington, DC staff



Multiple Pathways to Profitability

Today's farm environment requires greater creativity. With slim margins, soybean farmers must look for smart ways to improve profitability. With innovative thinking and a sensible level of risk, farmers may find that soil, technology and customers can be pathways to success.

Net income mindset for better soil health

Rocky Bateman's family homesteaded near New Salem, N.D., in 1897 on rolling and rugged land that annually sees only 14-16 inches of rain.

Facing challenging economics in the late 1990s, the fifth-generation Bateman took a fresh look at the farm and chose a new production strategy grounded in better soil health.

"Going 100-percent no-till was the first step. Crop diversity and incorporation of cover crops was the second," Bateman said. "We moved from a conventional, high-yield approach to a net income mindset, and it continues to pay off 20 years later."

The Batemans have increased organic matter from one percent up to 4.5 percent. Erosion is no longer a problem. They see improved water quality and water-holding capacity, and proven yields have tripled for spring wheat and corn.

"A true no-till system gives you all of this for free," he said. "As soil health improves and the biology above and below ground come back into balance to where they were as native prairie sod, there is a reduction and even elimination



Rocky Bateman moved from a conventional, high-yield approach to 100-percent no-till, and the decision continues to pay off for the North Dakota producer. Photo courtesy of Rocky Bateman

of weeds and pest management needs."

Multiple crops help. "I do not use a business-as-usual rotation. I dynamically vary my use of soybeans, peas, oats, spring wheat, durum, corn, sunflower, canola and alfalfa," he said. "Cattle apply the fertility to the soil as they graze crop residue."

Bateman soil tests annually and follows up on areas that need special attention. He then uses cover crops to speed up biological time and restore soil to a more productive state.

"I use 10 or more warm and cool season grasses and broadleaf plants," he said. "My goal is to mimic the native prairie's ideal soil profile and restore its attributes. Since eliminating tillage, we have created a year-round food supply for wildlife in this area."

So passionate is Bateman about his efforts, he helped develop a soil health mentoring program offered through the local soil conservation district. "Shop Talks" are held at various farms so

neighbors can compare notes with each other and with soil health experts.

"The results of a good soil health program adopted on a farm-wide basis are undeniable," he said. "This is a long-term process we will be working on for generations to come."

Technology with ROI potential

Joshua Stutrud of Barton, N.D. farms with his dad and grandfather, raising barley, wheat, canola and soybeans. He also is passionate about identifying and trying various precision agriculture technologies that will improve return on investment and operation efficiency.

"You have to be willing to push the envelope, especially as farmers must increasingly address customer demand," Stutrud said. "There is growing pressure to meet their expectations, including production sustainability and crop quality in the same marketplace. Precision agriculture can reduce



Todd (left) and Joshua Stutrud try various precision agriculture technologies that will improve return on investment and operation efficiency. Photo courtesy of Joshua Stutrud

your environmental impact and increase your profitability.”

The Stutrud family employs full-farm variable rate seeding and input application practices. With use of Normalized Difference Vegetative Index (NDVI) imagery, they make maps during different stages of crop growth to evaluate crop health and identify production zones for soil testing to build and maintain fertility, especially for phosphorus.

To improve accuracy and efficacy of herbicide applications, they use an intelligent nozzle control system that delivers better coverage and consistent droplet sizes. Their combine has cameras on the clean grain and tailings elevators to show crop samples in real time and make any necessary adjustments in the sieves and fans to maintain cleanliness, keep samples consistent and increase bushels harvested. The combine also can adjust for moisture levels throughout the day. The Stutruds use temperature and moisture cables to rehydrate soybeans and add test weight.

“We also have an on-combine Near InfraRed (NIR) analyzer that measures protein, fiber and oil in real time, taking samples every 6-11 seconds,” he explained.

“During winter, we take the data and evaluate it to see if we need to make changes in zones to manage quality the next season.”

In selecting technologies, the Stutruds always study potential return on investment first.

“Everything has to meet our ROI and efficiency focus,” he said.

“There has only been one or two times when technology we tried did not pan out as expected.”

Stutrud encourages other farmers to be innovative about trying new precision ag tools.

“Don’t be afraid to ask your dealer to consider carrying a product you want to try. That is what we did with one technology. In return, I agreed to share my data so the dealer could show other farmers how it works,” he said. “Keep your eyes and ears open to change and try new things.”

Food-grade customer niche

Bob Sinner’s family business, SB&B Foods, Inc., Casselton, N.D., has been in production agriculture since 1906 and diversified into food-grade product processing and marketing in 1990. They never stop innovating to attract new customers and maintain established relationships.

“For generations, we’ve been adopting new technology, embracing new techniques and perfecting them,” he said. “Our most distinct and valuable trait is our ability for small-scale, service-minded thinking. Each of our customers has unique needs to meet.”

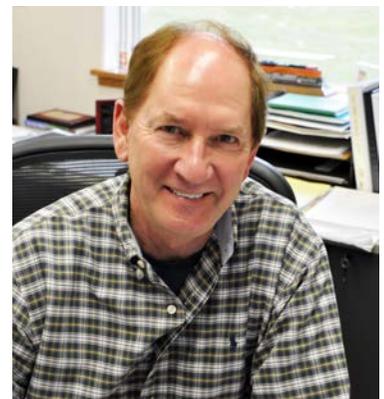
SB&B, which includes fourth and fifth generation family members, has been supplying food-grade soybeans in the U.S. and Asia for more than 25 years, expanding facilities as needed.

“Times were tough when we started in the late 1980s. Our company had the flexibility to allow me to travel to Asia and

develop a direct-to-customer business,” he said. “We had pride in the product we produced, but listening to what customers needed in a specific variety was critically important. We put together a business that made sense for us, making certain to concentrate on an effective breeding program.”

SB&B added its own research capabilities to evaluate food-grade soybean varieties for different food uses. The goal is to identify beans that support both customer and producer objectives.

Sinner encourages those with a passion for the food industry to explore the numerous opportunities available. Food-grade soybean production requires a stronger attention to detail to capture the benefits, but he says producers interested in direct marketing can be successful if they have good support on the farm. Sinner advises that international travel builds customer relationships and trust.



Bob Sinner’s family business, SB&B Foods, Inc., has been supplying food-grade soybeans for more than 25 years. Photo courtesy of Bob Sinner

“There is nothing magical about marketing. Develop and maintain a reputable relationship and business will happen,” he said. “Growing food-grade soybeans really creates a personal feeling of production with a purpose.”

ASA's WISHH, USDA and Cambodian Government Launch CAST Strategic Partnership for Aquaculture

The American Soybean Association's (ASA) World Initiative for Soy in Human Health (WISHH) leaders joined Cambodian and U.S. government officials, along with partners in Phnom Penh to launch a strategic partnership that will grow trade and development of Cambodia's important aquaculture sector.

Cambodia's Minister of Agriculture, Forestry and Fisheries, Veng Sakhon, and Chargé d'affaires of the U.S. Embassy in Cambodia, Michael Newbill, officiated at the Jan. 31 launch ceremony of ASA/WISHH's U.S. Department of Agriculture (USDA)-funded Commercialization of Aquaculture for Sustainable Trade (CAST) - Cambodia project.

"CAST is another exciting WISHH opportunity for U.S. soybean growers to work in Southeast Asia thanks to USDA funding," said WISHH Chairman Daryl Cates, an Illinois soybean grower who attended the event. "Cambodia's small- and medium-sized entrepreneurs are well positioned to drive commercial growth in the aquaculture sector—both to produce a consistent supply of quality fish and increase market demand for quality-assured inputs like fish feed and related aquaculture support services."

His Excellency Veng Sakhon described how the project will strengthen value chain linkages from hatcheries to producers, buyers and distributors. Newbill, who is the U.S. Embassy's ranking representative in Cambodia, said, "The CAST project is unique because it uses an abundant resource—soy—and utilizes it as a feedstock for Cambodia's growing aquaculture industry. This project means increased



Soybean growers from Illinois, Missouri, North Dakota and South Dakota joined WISHH's trade team to visit the international WorldFish research center, as well as the first aquaculture feed mill in Cambodia. The company purchases whole U.S. soybeans for extrusion and is developing a risk management program with WISHH assistance.

sales of U.S. soybeans to Cambodia. The result will be increased production of locally raised high-quality protein source that Cambodians will enjoy eating and greater ties between our two countries."

CAST will accelerate production of high-demand fish species for the Cambodian market and develop a lasting aquaculture industry. A key aspect of the five-year project strengthens local production of high-quality feed and fish. CAST makes it possible for Cambodia's private sector and universities to work closely with U.S. soybean growers and businesses, as well as academic and non-governmental organizations.

Cambodia's gross domestic product has increased by more than 7 percent per year since 2011, growing the demand for animal and aquaculture-sourced protein. CAST's anticipated local economic impact exceeds \$300 million over the life of the project, and Cambodia's aquaculture industry demand for soybean protein is projected to reach 100,000 metric tons per year by 2030.

WISHH's CAST project benefits from the strategic expertise of key partners, including the U.S. Soybean Export Council (USSEC), Kansas State University, Auburn University, World Vision, and local universities in Cambodia. Importantly, Cambodia's local private-sector feed mills and hatcheries and the Cambodian Ministry of Agriculture, Forestry and Fisheries are all collaborating with WISHH to implement CAST.

In addition to Chairman Cates, WISHH Program Committee Members at the event were Craig Converse (SD), Scott Gaffner (IL), and Dawn Scheier (SD). North Dakota Soybean Council Director Daniel Mock attended, as well as Missouri Soybean Merchandising Council Board Members Kyle Durham, Tim Gottman and Bob Littleton, and Director of Business Development Tony Stafford.

While in Southeast Asia, the WISHH trade team also traveled to Myanmar, where WISHH is leading USDA-funded activities to grow the soy food market and USSEC is active in the animal feed and aquaculture sectors.

#SOY SOCIAL

As we head into spring and #Plant19, here's a look at what a few of our industry partners and collaborators are doing to enhance habitat for a resilient monarch butterfly population, along with information you can use to support those efforts in your fields and on social.

BASF Living Acres

Through Living Acres and its research partnerships, BASF aims to restore the monarch's habitat by providing actionable guidance for farmers looking to cultivate milkweed in non-crop areas of their land. In 2015, BASF introduced the Living Acres #MonarchChallenge, drawing on its expertise in research and development, providing farmers with practical best practices for establishing and maintaining milkweed plants on land not reserved for crops, in play areas of golf courses and other agricultural areas.

Since its introduction, the program has provided more than



35,000 milkweed stems to farmers, golf courses and other agriculture advocates in the U.S. and Canada. More than 5,000 farmers have learned about the #MonarchChallenge and their role

in protecting biodiversity. Learn more about Living Acres: agro.basf.us/living-acres

 Follow @**BASFAgProducts** and join the **#MonarchChallenge**

Corteva Grows Pollinator Habitat

Through the Corteva Grows Pollinator Habitat program, Corteva Agriscience, Agriculture Division of DowDuPont, will engage 4-H youth to help increase pollinator habitats and populations, supporting biodiversity. The program will also strengthen pollinator education efforts through Pheasants Forever's Youth Pollinator Habitat Program. At each location, Corteva Agriscience will provide land and financial support for the pollinator habitat, which will be planted and maintained in

part by the site's employees and 4-H youth leaders. Pheasants Forever will provide expertise and support including habitat seed, site preparation, planting support and ongoing mowing. The first sites will be planted in the spring of 2019. Additional site plantings will take place through 2020. The majority of locations reside along the monarch butterfly flyway, the Interstate 35 corridor between Minnesota and Texas.

 Follow @**corteva**

Educating and Providing Milkweed Plants

Bayer Crop Science helps fund the efforts of Monarch Watch, a nonprofit education, conservation and research program established at the University of Kansas. Monarch Watch places an emphasis on monitoring the monarch's fall migration, as



well as the production of free milkweed plants that are placed along the monarch's migratory path stretching from Canada to Mexico. Since fall 2015, more than 300,000 free milkweeds have been distributed by Monarch Watch and Bayer's partner nurseries for habitat restoration

projects, thanks to the grant from Bayer. Bayer also offers financial assistance to the Youth Pollinator Habitat program. Learn more at: monarchwatch.org

 Follow @**monarchwatch**

Working with Landowners to Establish High Quality Pollinator Habitat



The Bee & Butterfly
Habitat Fund

A Unique Conservation Solution.

Through its Seed A Legacy Program, the Bee & Butterfly Habitat Fund (BBHF) works with private, public

and corporate landowners to establish pollinator habitat by providing free or discounted precision seed mixtures. The organization also provides guidance on how to prepare, establish and manage habitats for at least five years.

Bayer Crop Science, BASF, Corteva, Syngenta, and Valent are some of the corporate supporters. Since its pilot program launch in 2015, the BBHF has established 225 pollinator projects on 2,560 acres. Learn more at: beeandbutterflyfund.org

Monarch Collaborative

The Keystone Policy Center brought together a diverse group of committed stakeholders, including farmers, scientists, conservationists and the private sector, to form the Monarch Collaborative and find solutions to strengthen monarch populations and habitat. ASA is a member of the Collaborative and



supports its ongoing efforts to develop strategies to promote and implement actions that will aid monarchs in agricultural landscapes and identify how partnerships in the farming and ranching community can support and enhance habitat for a sustainable monarch population.

 Follow @TheKeystoneCtr

Farmers for Monarchs



Farmers for Monarchs is another initiative of the Keystone Monarch Collaborative. It's a broad-based collaboration

aimed at addressing on-farm conservation efforts—an unprecedented, united effort by farmers, ranchers, landowners, the agricultural industry, conservation groups and others that seeks to encourage and enable the voluntary expansion and establishment of pollinator and

conservation habitat. The initiative includes planting milkweed and other habitat along the monarch butterfly seasonal migration route in North America. Learn more at: farmersformonarchs.org

 Follow #FarmersForMonarchs

Monarch Butterfly and Pollinators Conservation Fund

The Monarch Butterfly and Pollinators Conservation Fund (MBPCF) supports work that advances the conservation of the monarch butterfly and other at-risk native insect pollinators. In 2015, Bayer Crop Science made a three-year, \$3.6 million financial commitment to this public-private

partnership, alongside the National Fish and Wildlife Foundation (NFWF) and five government agencies. Their contributions represent a desire to fund projects that allow organizations of all sorts to create sustainable models for biodiversity efforts over time. Since its launch, the MBPCF has helped

direct more than \$30 million to habitat and outreach projects. This allocation, spanning across 75 projects, has led to the restoration and enhancement of 175,000 acres and the propagation of 785,000 native milkweed/nectar plant seedlings. Learn more at: nfwf.org/monarch

Syngenta's Haven for Pollinators

Operation Pollinator is a global program that helps restore pollinators in agricultural, golf and other landscapes by creating essential habitats. Developed by Syngenta more than 15 years ago, this research-based program uses specially selected wildflowers to attract a variety of pollinators—native bees, honey bees, butterflies and other beneficial

insects—and increase biodiversity.

In addition to helping restore vital populations of pollinators, Operation Pollinator provides habitats for small mammals and birds. Today, more than 1,350 acres of U.S. farmland have Operation Pollinator sites. Based on scientific research and the experience of selected farmers,

Operation Pollinator has not only helped restore vital populations of pollinating insects, but also, with careful site planning and management, it significantly reduces soil erosion and helps protect valuable water resources from soil and nutrient pollution.

 Follow @SyngentaUS and #OperationPollinator



One of the most important things
you can do with weeds this year?

Plant them.

No one cares about the land more than you, and no one is in a better position to help preserve it through the Monarch Challenge. Plant milkweed in a ditch or grassy area and help rebuild a critical habitat for the iconic monarch butterfly, at no cost and without affecting your crop production. You'll also improve the biodiversity on your operation, which can help sustain your land for future generations.

Sign up at MonarchChallenge.com

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SOY FORWARD

By Bethany Shively

The Future of Plant Breeding

Looking for a silver lining in the contentious U.S.-China trade dispute? In January, Chinese regulators gave the green light for importation of grain produced from five genetically modified crops, including soybeans, corn and canola.

The biotech approvals are good news for the soybean industry, which has been hit particularly hard by the U.S.-China trade tensions. However, as we look toward the future of the industry, biotech is just one piece of the puzzle: What can we expect down the road? When it comes to the future of soybeans and agriculture at large, it all starts with the seed. And in seed, it's all about innovation.

Evolving plant breeding methods like gene editing could hold the key for addressing some of our most pressing societal challenges. It's simply the most recent breakthrough—and is certainly not the last—in a continuum of breeding methods that have been used to develop better crops for centuries. Through its highly targeted approach, gene editing can allow scientists to work within a plant's own DNA to make improvements with greater precision than ever before—and in years rather than decades.

Recognizing plant breeders' long track record of safety and quality, the U.S. Department of Agriculture (USDA) has rightly reaffirmed its existing position that if products of

gene editing are similar to or indistinguishable from products obtained through traditional plant breeding methods, they should be treated in the same way from a policy perspective. The U.S. is also taking a leadership role at the international level in working with its counterparts to ensure consistent, science-based policies for the treatment of plant breeding innovation around the globe.

The first gene-edited food product to hit the U.S. market is a high oleic soybean oil produced by Calyxt™, Inc. Calyno™ Oil was launched in February of this year and is sold to the foodservice industry for use in frying, salad dressings and sauce applications. The soybean is domestically grown by farmers as part of Calyxt's identity-preserved supply chain. Calyxt's High Oleic Soybean was developed in alignment with the company's high quality standards and according to applicable USDA and Food and Drug Administration requirements.

Down the road, consumers could see other direct health benefits of gene editing—from wheat that's higher in fiber or lower in gluten to vegetables that are more nutritious and flavorful, just to name a few. Research is currently underway on everything from row crops, to cover crops and vegetables—with real-world, problem-solving applications

Bethany SHIVELY



Bethany Shively is vice president, strategic communications, at the American Seed Trade Association (ASTA).

for the benefit of our planet, our health and our food.

There are a number of reasons to be excited about the future of plant breeding, and there is too much at stake to not get this right. That's why the American Seed Trade Association, ASTA, in partnership with the Biotechnology Innovation Organization, BIO, recently launched Innovature—an online platform to engage people in a thoughtful dialogue about innovation in food and agriculture.

We encourage you to join the conversation by following @InnovatureNow, visiting Innovature.com to share your story ideas, and engaging with influencers in this space. You can reach ASTA at info@betterseed.org.

Together, let's seed the way for innovation in the future!



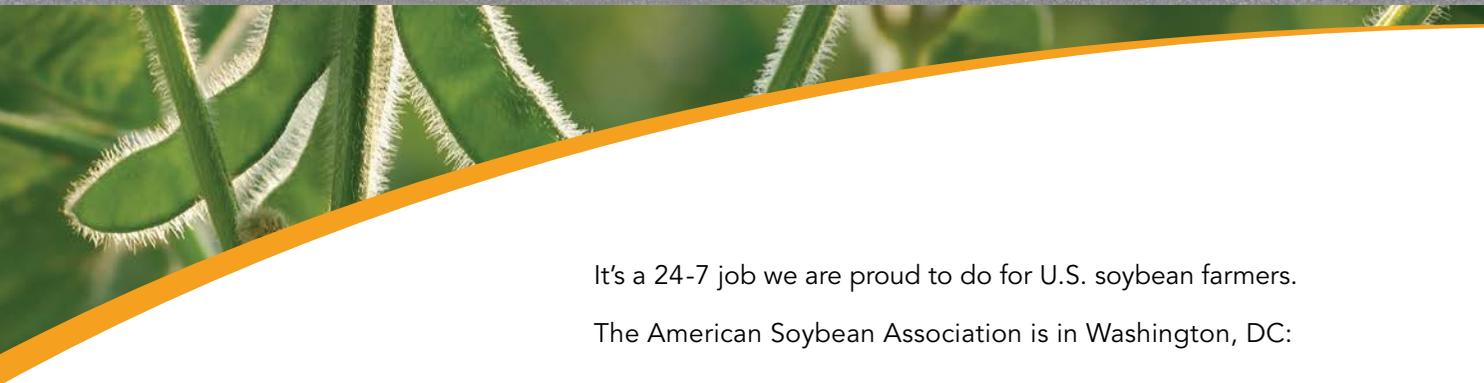
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