FALL 2015

AMERICAN soybean

Vol.3, No.2

People. Policy. Profitability.

A PUBLICATION OF THE AMERICAN SOYBEAN ASSOCIATION

SOY HORIZONS
Sold on Biodiesel, Brothers Started Making and Selling Their Own

SOY FUTURES
Combat Boots to Work Boots: Veterans Change the Face of Agriculture

SUSTAINABILITY
Common Sense Conservation

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The American Soybean Association (ASA) represents all U.S. soybean farmers on domestic and international issues of importance to the soybean industry. ASA's advocacy, education and leadership development efforts are made possible through voluntary membership in ASA by farmers in states where soybeans are grown.

ASA American Soybean Association

If you believe, belong.

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SOY news

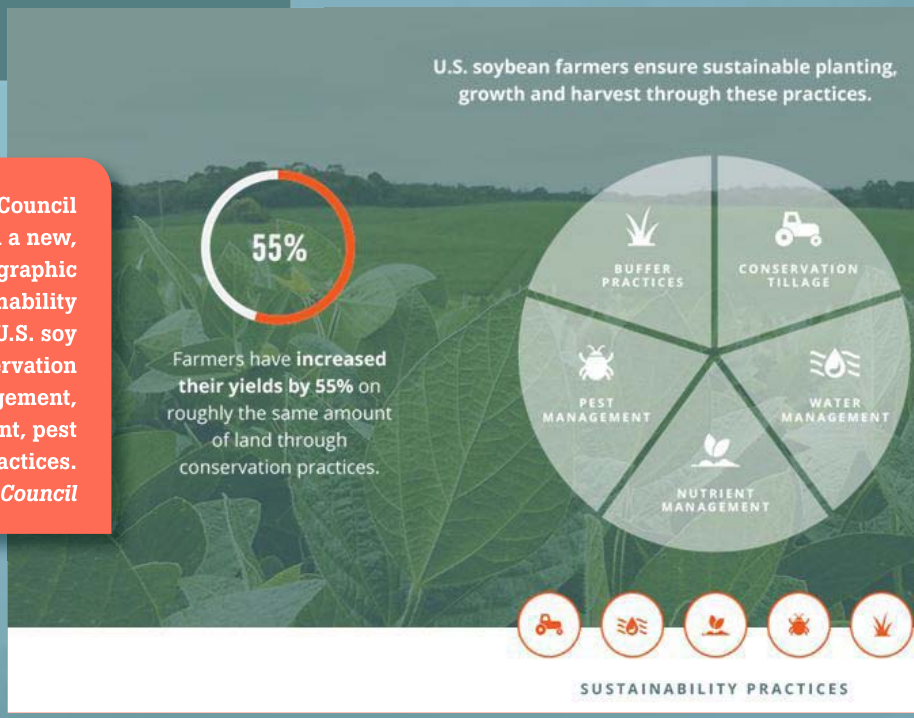
Many Turn to Soy as Avian Flu Forces Manufacturers to Find Egg Replacements

U.S. Agriculture Secretary Tom Vilsack told Congress the federal government is planning for 500 detections of bird flu this fall. That combined with the 35 million egg-laying hen deaths this spring, which represents a loss of about 12 percent of the U.S. egg industry, will place a significant burden on the food industry. In the wake of this supply-chain devastation, food manufacturers are seeking solutions to keep businesses operational with egg replacement ingredients.

Many ingredient companies are providing a wide range of soy-based options to manufacturers that produce, among other things, cookies and cookie dough, pancakes, muffins and cakes; pasta; vegetarian meat alternatives; sauces, dressings and dips; and breading and binding for meat and seafood. Several soy options are available for application-specific uses—from foaming to replace egg whites to oil-binding stability for mayonnaise-type salad dressing. Learn more at **www.soyfoods.org.**

Source: Soyfoods Association of North America

The U.S. Soybean Export Council (USSEC) recently launched a new, easy-to-understand infographic that demonstrates sustainability practices followed by U.S. soy farmers, including conservation tillage, water management, nutrient management, pest management and buffer practices. ***Source: U.S. Soybean Export Council***



Soybean farmer Sharon Covert checks out the new agriculture exhibit now open at the Smithsonian in Washington, D.C. Covert served as an advisor for project to help bring a true sense of agriculture to the exhibit. *Photo courtesy of United Soybean Board*

Soybean Farmers Lend Hand in Smithsonian Exhibit to Tell Story of Agriculture

Now open to the public, the American Enterprise exhibit at the Smithsonian's National Museum of American History has a strong agricultural flavor, thanks to some dedicated soybean farmers.

The exhibition's curator, Peter Liebhold said soybean farmer-leaders Sharon Covert, Phil Bradshaw and Roy Bardole were instrumental in helping him get a true sense of farming. The farmers met with Smithsonian staff and brought Liebhold to the Midwest for tours of farms and other agriculture facilities, immersing them in modern agriculture. The group also served as advisors along the way.

The soy checkoff committed financial support for the exhibit because of the opportunity it presented to reach a broad audience with the true story behind modern agriculture. The 8,000-square-foot exhibit tackles challenging subjects like biotechnology, animal agriculture and water consumption.

Source: United Soybean Board

BY THE NUMBERS

62,000
The number of U.S. jobs supported by the biodiesel industry. *(United Soybean Board)*

10
The number of years the Renewable Fuel Standard (RFS) has been in place. *(National Biodiesel Board)*

8.2 billion gallons
The amount of biodiesel that's replaced petroleum to cut 75.5 million metric tons of carbon pollution *(United Soybean Board)*

20 percent
The percentage of income that comes from exports for American farmers and ranchers. *(United States Department of Agriculture)*

129
The number of ag and food industry representatives that have been appointed by Agriculture Secretary Tom Vilsack and U.S. Trade Representative Michael Froman to the Agricultural Policy Advisory Committee and six Agricultural Technical Advisory Committees. *(United States Trade Representative)*

$397.6 billion
The amount that U.S. farmers spent on agricultural production in 2014, up 8.3 percent from 2013, the largest increase since 2008. *(United States Department of Agriculture)*

three-fourths
The fraction of the nation's 600,000 bridges that are rural. *(United Soybean Board)*

SoyFutures

Combat Boots to Work Boots

By **Darcy Maulsby**

Veterans change the face of agriculture

When Aaron White decided to serve in the U.S. Marine Corps, he couldn't wait to move on from his family's central Iowa crop and livestock farm.

"I wanted to get out of Iowa and see the world," said White, 32, who deployed in support of Operation Enduring Freedom in Afghanistan and earned the rank of sergeant.

As he prepared to return to civilian life in 2005, the idea of farming in Iowa took root. The time wasn't right, however, so he enrolled in college. "My plans to farm got put on the back burner, but the desire to farm was always there," said White, who met his wife, Dana, at Simpson College in Indianola, Iowa, where he earned his elementary education degree in 2009.

After teaching and coaching football in Wyoming for two years, White moved his young family back to the Midwest in 2011 so he and his wife could raise their son, Bronson, in Iowa. "I really wanted to start farming," said White, who landed a job teaching fifth grade in the Carlisle school district.

It helped that White's in-laws farm in the area. His father-in-law connected him with neighbors who rented him their pasture. Today, White's farming operation includes 20 cow/calf pairs, laying hens and a half-acre garden plot. White sells fresh produce at local farmers' markets, including one at the Veterans Administration Hospital in Des Moines.

"I appreciate the opportunity to farm, because I want to keep my kids connected to agriculture," said White, who helps with his father-in-law's corn and soybean operation. "It's not easy, but I have bulldog determination."

Resources help veterans grow a career in farming

A strong support network is also vital to farmer veterans like White. "Veterans sacrifice key working years when others are starting their careers," said Michael O'Gorman, executive director of the California-based Farmer Veteran Coalition, which receives inquiries from nearly 100 veterans a week. "We want to help them get started in agriculture."

In the past five years, the Farmer Veteran Coalition has awarded nearly 200 grants totaling almost $800,000 to help farmer veterans purchase livestock, machinery and more. The Kubota Tractor Corporation also donates a new tractor each quarter to the organization to distribute to qualified applicants.

Other resources include the Nebraska-based Center for Rural Affairs' (CFRA) Veteran Farmers Project, which provides information on land access, financing, business planning and more. CFRA also connects veteran-farmers with other veterans.

"While veterans face the same issues as other new farmers, they also have unique needs, from disabilities to the challenges of returning to civilian life," said Wyatt Fraas, CFRA project manager. "We want to ensure veterans can thrive as they build careers in agriculture."

Veterans from all walks of life are drawn to farming, including those who don't have an agriculture background. "They are united by a commitment to something bigger than themselves and a desire to serve their community and country by contributing to food security," said Dulanie Ellis, producer of *GROUND OPERATIONS: Battlefields to Farmfields.*

Veterans are assets to rural communities, Fraas added. "They approach each day with discipline, self-confidence, the drive to complete tasks, loyalty and a sense of service. Rural America appreciates the sacrifices made by our veterans, and we welcome them home."

White values the support he has received from the Farmer Veteran Coalition. "I'm going after my dream to farm full-time and am grateful that things are falling into place." ◘

After a career in the U.S. Marine Corps and teaching, Aaron White returned to his roots and began farming. Veterans from all walks of life are drawn to farming, even those who don't have an agriculture background. *Photo courtesy of the Farmer Veteran Coalition*

Do you know someone who represents the diverse, changing face of agriculture that should be featured in Soy Futures? If so, send an email to jbright@soy.org.

MarketAnalysis

Photo courtesy of United Soybean Board

Long Struggle for Vegetable Oil Market Share Awaits Soybean Farmers and Processors

By **Ed Maixner**

Look for soybean oil prices to stick around in the bargain basement for a long time, hemmed in by a bevy of forces in the U.S. and abroad. Fortunately for U.S. growers, soybeans deliver high-protein meal, cooking oil and renewable diesel fuel.

"A bright spot for U.S. soybean crushers has been the growth in demand for soy protein," said Thomas Hammer, president of the National Oil Processors Association.

Beyond sales of nearly half of the U.S. soybean crop abroad and the domestic demand for soybean meal, 25 percent to 30 percent of U.S. soymeal is exported (compared with about 10 percent of the oil).

"That has kept our margins at respectable levels," Hammer said, but added the future demand for soy oil "is a very large question for us."

First, soy oil faces a tidal wave of competition, especially from an ocean of palm oil, which comes mostly from Southeast Asian plantations. While world production of soybean, sunflower and rapeseed oils have climbed 40 percent to 50 percent in the past decade, palm and palm kernel oil output has soared by 80 percent, leaving the world with abundant supplies and very low prices.

Note, too, that palm oil expansions are long term: Once the trees are three years old, they produce for more than 20 years. Already, the global Food and Agriculture Organization's broad price index for vegetable oils has skidded to its lowest level since 2006.

With global soybean stocks already copious and record production expected, U.S. farmers will harvest their own near-record soybean crop

this fall. Meanwhile, the dollar's strong exchange rate, combined with ample and cheaper South American stocks, spell likely slippage in U.S. exports, so overall soybean use will be flat, despite a modest increase in the U.S. crush because cheap meal will encourage more meal for livestock.

According to the United States Department of Agriculture (USDA), the result will be U.S. 2016 ending stocks more than twice this year's and an average price to farmers of around $9 a bushel, the lowest in at least six years. Soy oil stocks will swell, too, and the price has plunged to 26¢ a pound at Midwest plants, more than 20¢ below the five-year average.

What's more, last summer the U.S. Food and Drug Administration (FDA) ordered termination in 2018 for all food uses of partially hydrogenated oils, the main source of trans fats in processed foods. The partially hydrogenated oil has long been used to add both texture and shelf life to edible oils. But since the FDA's earlier order nearly 10 years ago that trans fat content be listed on food labels, about 80 percent of partially hydrogenated oil – mostly soybean oil – has already been removed from U.S. processed foods. So, in the short term, "that market, as we've known it, is not available to us," Hammer said.

What's replacing all the soy oil in U.S. food products? Since 2005, palm oil imports are up almost five times, canola imports are up three-fold, said Richard Galloway, a United Soybean Board representative. "Imports of these two commodities account for every pound of reduction in edible soybean oil consumption," he said.

Galloway explained that palm oil, which is high in saturated fat, has been replacing soy oil especially where it's used to add structure to baked and confectionary products. Also, he said, oil from strains of high oleic canola, mostly from Canada, and sunflowers, which have been on the market for years, continue to advance in the evolving trans fat-free American food.

A sunny outlook for sunflowers?

John Sandbakken, executive director of the National Sunflower Association, said in sunflower producers' views, FDA's ban on trans-fat "opens up a whole lot of opportunities for us."

This fall's U.S. harvested acreage of sunflower seed for crushing will be up 18 percent, largely because growers are boosting acres of high oleic varieties that produce no trans fat, yet are stable under high heat, have a long shelf life, and add structure to baked goods. A patent on sunflower traits for very high – 80 percent to 90 percent – oleic fatty acids ended two years ago, and already 25 to 30 percent of this fall's crop will be those super-high oleic strains, he said. Besides that, there's a new variety that has a combined 90 percent or so of oleic and similarly desired stearic acids.

With 2016 world sunflower oil stocks projected at a nine-year low, high oleic sunseed is fetching over $18.50 a hundred weight in Kansas, and Sandbakken said the domestic food industry is rushing to claim nearly all of U.S. production: In 1995, just 20 percent of U.S. sunflower oil was used domestically; now, it's 80 percent.

High hopes for high oleic

Soybean growers and processors are fighting for a share of the trans fat-free U.S. market. For example, Galloway noted, U.S. refiners have greatly perfected a technology called interesterification, which replicates partial hydrogenation of soy oil without adding trans fat. It has been

(continued on page 10)

Photo courtesy of United Soybean Board

U.S. soybean farmers are working to regain edible oils market share by continuing to plant more high oleic soybeans that perform well for frying baked goods like donuts, and have good shelf life, texture and taste.

(continued from page 9)

used in Europe for decades, and some American food makers are adopting this alternative, creating potential for regaining some soy oil market share.

More significantly, U.S. farmers are already five years into raising very high oleic soybeans, with 250,000 acres of them to be harvested this fall in nine states. Next spring, Galloway said, look for 400,000 acres to be planted, and soybean growers and processors believe the new oil will sparkle in the edible oils market.

Galloway said it outperforms all other high oleic oils in every respect in laboratory testing for frying, shelf life, texture and taste.

So far, commercial release of the new varieties is tightly controlled because the European Union (EU) hasn't finalized its approval of soybeans carrying combined high oleic and herbicide tolerance (although the high oleic trait itself and herbicide tolerance genetics have both been sanctioned separately there). U.S. crushers don't want to risk accidental shipments of those varieties to Europe. Growers hope the EU's OK for those traits in DuPont Pioneer seed will finally come in 2016, Galloway said, and Monsanto is pursing the green light for similar stacked soybean traits in the EU and China. His association's target is 9 million acres, producing 4.5 billion lbs. of high oleic soybean oil, in the 2020 crop.

But American farmers are pressing ahead. In 2011, John Motter of north central Ohio was one of 12 U.S. growers to begin planting Pioneer's high oleic varieties. He's found since, that they compete very well with other top bean varieties in yield and plant vigor in his region's range of climate conditions. He also now grows Monsanto's high oleic varieties for its seed propagation.

"Monsanto and Pioneer are putting their high oleic genetics into their top varieties," he said, so he sees no disadvantage in growing them, and his entire soybean crop is now high oleic. The varieties must remain segregated through harvest, and for his chores in handling and extra trucking miles to deliver beans to Bunge warehouse, he gets 40¢-50¢ premiums per bushel over local going soybean prices.

Photo courtesy of United Soybean Board

ASA Keeps Pressure on China and EU to Speed Up Approval of New Biotech Traits

The American Soybean Association (ASA) continues to maintain pressure on the governments of the European Union (EU) and China, two of the most significant export markets for U.S. soybeans, to speed up and streamline the approvals process for new biotech traits like high oleic soybeans. The association also maintains a policy that approval in these export markets is a prerequisite for commercialization of the same trait in the United States. In the case of high oleic soybean varieties, the delays in approval of these traits had until earlier this year, stood in the way of our farmers' ability to meet the need for soybean oil in baking and frying applications without the addition of trans fats.

But why? Why do American farmers have to wait to grow products that are already approved by our government, simply because a foreign partner has yet to do so?

The answer lies in the way our traded commodities are received in our overseas export markets. Take, for example, China's rejection of a shipment of dried distillers grains (DDGs) containing traces of an unapproved biotech trait last year. The trait was approved in the U.S., but since it was not yet approved in China, the shipment was rejected at the port. In a commoditized grain stream like soybeans, even a small number of beans containing unapproved traits is potentially enough to reject a whole shipload. That, in turn, has the potential to significantly disrupt trade to that market.

In short, because soy is the world leader in the global farm trade, we simply cannot afford to gamble when it comes to approvals in our foreign markets.

Kevin Wilson, an Indiana grower, will soon harvest his third crop of high oleic beans for delivery to Archer Daniels Midland. He plans to boost his acreage of the new varieties to nearly 700 acres in 2016, more than half of his crop. Availability of the seed to him hasn't been limited. "It's going to be pretty much all I want," he said.

The biodiesel backstop

While soybean growers fight to regain edible oils market share, brisk growth in U.S. biodiesel fuel use in the past five years has provided a crucial economic backstop. Production is on pace to hit 1.9 billion gallons this year, 17 times the volume of 10 years ago. At least half of the biofuel will be made from soy oil, using up a fourth of the next year's soy oil production.

The rising production is despite cheap low-sulfur diesel fuel prices, now about $1.50 a gallon at major terminals – about half the usual of recent years, and the Department of Energy projects weak petroleum prices ahead. "When petroleum prices decline, especially significantly, they drag soybean oil prices with them," Galloway said.

Even though crude soy oil prices dropping to the lowest levels since 2006, market uncertainty linked to the national Renewable Fuel Standard (RFS) combined with the low petroleum prices, is squeezing biodiesel producers terribly. "Margins are extremely weak," said Alan Weber, a senior advisor to the National Biodiesel Board.

At least half of the biofuel will be made from soy oil, using up a fourth of the next year's soy oil production.

Photo courtesy of United Soybean Board

Growers are frustrated, too, with the annual volumes and the tardiness of biodiesel volumes that the Environmental Protection Agency (EPA) proposes in implementing the RFS. The agency has yet to set volumes for any biofuels for 2014 and 2015, though is expected to complete them by year end for both years plus 2016.

Weber pointed out that the EPA's intent to set this year's biomass-based diesel fuel mandate at 1.7 billion gallons is about 200 million less than what the industry expects to produce.

"I can't see how you justify having a yearly volume that is less than the current consumption," he said. "This industry has been consistent in asking for 300-million-gallon annual increases [in the RFS] and in producing more than is needed to meet those targets."

Thus, the industry calls for RFS volumes of "not less than 2.0 billion in 2016, and not less than 2.3 billion in 2017" representing less than the 300-million-gallon yearly hike it expects is on the way. Weber pointed out that this year's 1.9 billion gallons of biodiesel fuel is already 5 percent of 38 billion gallons – this year's projected use of diesel fuel.

A further channel of likely market growth: Heating with biodiesel. ASTM International, which sets industry standards for fuels, has approved new performance specifications for Bioheat, blends of 6 to 20 percent biodiesel fuel with traditional heating oil. These blends are gaining popularity so far in the northeastern states, where heating with oil is very common. ◘

A sample of the biofuel that gets pumped into delivery trucks at the storage and distribution staging area. *Photo courtesy of Emergent Green Energy*

Farmers Fueling a Cleaner Future

I By **Candace Krebs**

Sold on Biodiesel, Brothers Matt and Luke Jaeger Started Making and Selling Their Own

Brothers Matt and Luke Jaeger began experimenting with making their own homegrown farm fuel at their kitchen sink nearly a decade ago, before eventually getting into the commercial side of the business back in 2007.

Luke had started farming their maternal grandparents' land in Southwest Kansas when he first decided to give biodiesel a try.

"All the equipment ran really well on it, and he liked the fuel economy and that it was a farm product," Matt said. "It started out as a winter hobby project, but the more he looked at it, the more he thought that this might not be a bad idea for a business."

The biodiesel venture gave Matt, who was involved in high school coaching and youth ministry at the time, the opportunity to join the farm. The two brothers, who each have young families of their own, now farm roughly 6,000 acres together in rotational crops.

Since they first embarked on their biofuel adventure, the world has changed. Oil and gas prices have plunged by half and the on-again-off-again federal tax credit for biodiesel continues to flicker, leaving biofuel producers in the dark about what to expect next.

Though Matt concedes it's been challenging, especially since the oil crash earlier this year, if another farmer approached him today about whether to start a similar enterprise, he'd tell them to go for it.

That's because the Jaegers are sold on biodiesel's benefits for farmers and the environment, and because their company, Emergent Green Energy, allowed them to diversify their farm operation during what turned out to be one of the region's most historic and sustained droughts.

"We built the plant in 2008 and started selling fuel commercially in 2009," Matt said. "It's been full of challenges for sure. What we've seen is that those who have been able to survive are the really big plants producing 30 million gallons or more, and the smaller, niche plants, like ours, that can control feedstock costs and have direct access to the market."

Soy marketing efforts paved the way

More than 130 biodiesel production facilities of various sizes are in operation nationwide and low-level biodiesel blends have become common in virtually every community, according to the National Biodiesel Board (NBB). The industry's long-term goal is to capture 10 percent of the road diesel market by 2022, which is the equivalent of 4 billion gallons a year.

In the case of the Jaegers, they converted an old 40-ft. by 60-ft. equipment shed into a 1.2 million gallon production facility, designing and plumbing the production space themselves. After that, they built a large storage warehouse, service bay and office space next door on a tabletop-flat piece of ground about two miles from the small town of Minneola.

"We were profitable from year one," said Matt, who added that revenue from custom farming was used to fuel their leap of faith. "We spent very little on our initial investment and scaled it up as we went."

Located roughly 30 minutes south of Dodge City, they have several different feedstocks available locally including oilseed crops, chicken fat and beef tallow from nearby meat processing plants, and used cooking oil, which Matts calls "soybeans once removed."

Though the immediate area consists mostly of dryland crops like wheat, corn, winter canola and grain sorghum, typically a quarter to a half of their base oil comes from a soybean crusher in Emporia, Kan., about 240 miles east in the state's prime bean-growing region. Another part of their business is collecting used fryer oil from thousands of restaurants in a 400-mile radius, ranging from the Kansas City Royals baseball operations to restaurants along Colorado's Front Range.

Matt said soy remains their most requested biofuel feedstock.

"It's a pure oil. Our customers know what they're getting and it's what they've run and had good success with in the past. The cloud points are better for vegetable oil than animal fat, which in simple terms means that animal fat will gel quicker," he said.

In short, soy is still seen as the Cadillac of fuel oils. "Biodiesel wouldn't exist without soybean farmers and the investments they've made in marketing," Matt said.

Emergent Green Energy sells 100 percent biodiesel to around 50 wholesale and retail customers, leaving it up to them to do their own blending. From their own experiences on the farm, the Jaegers learned early on they didn't need to adjust their equipment to burn biodiesel efficiently.

"It behooves everyone operating equipment with a diesel motor to be running at least 5 percent biodiesel," Matt said. "Compared to ultra low sulfur diesel, it's really a premium fuel. You get good complete combustion and a lot of times see improvements from that. It's an oily fuel, so it provides good lubrication for your engine."

Since the Environmental Protection Agency (EPA) began limiting sulfur in diesel starting in 2006, eventually capping it at 15 ppm, the popularity of biodiesel blends has taken off.

"The changes are better for the air and the environment, but it leaves regular diesel very dry," Matt said. "Blending in biodiesel corrects some of that."

Keeping the blend at a low level in the winter also allows biodiesel to be used year round.

While the biodiesel industry has created a quality fuel component that is traditionally very price competitive, it has also added value to every bushel of soybeans. Fuel use now accounts for roughly 50 percent of the value of every bushel, a figure the Jaegers often recite.

That in turn has helped support prices for the grain complex overall as well as crop breeding advances that the Jaegers expect will eventually create the kind of heat and drought tolerant, shorter-season varieties that will allow farmers in their immediate area to grow more

(continued on page 14)

(continued from page 13)

beans in their crop rotations. In fact, they've seen that happening already.

"We've been talking to a lot of farmers who, through the drought years, saw soybeans react even better to the adversity than milo at times," Matt noted. "The genetics are clearly improving."

Speed bumps slow progress

The changing environment has created some new headwinds, however.

"Today's pricing structure does make biodiesel a harder sell," Matt said.

Five years ago, biodiesel was selling at a 50-cent discount relative to petroleum diesel. Today the price difference is closer to a wash, a yardstick that varies month to month. Matt said his company's retail business from farm customers dropped by half this year.

"Farmers want to support renewable fuels, but at the same time they are running a business. They have to make good business decisions," he said.

Aside from price competitiveness, another challenge for the industry is public perception.

As a board member with the National Biodiesel Foundation, Matt supports studies underway to update the energy life-cycle assessment of biodiesel, a measure of energy use efficiency, pollution emissions and other environmental factors that also provides a benchmarking tool for future progress.

It's frustrating to him to have questionable indirect costs attributed to biofuels' carbon footprint, but he believes the answer is to engage the public, tell a positive story and correct the record.

"If the commodity price goes up, that doesn't automatically mean more acres in production," he said, citing one example. "Double crop beans weren't initially included in the calculation. In many cases, we're not adding acres at all, just creating more production from the same acres."

Matt said the inconsistency in federal policy has also prevented him and his brother from expanding the capacity of their business as much as they'd once envisioned.

Brothers Luke *(left)* and Matt Jaeger *(right)* celebrate their early success at creating farm-based biodiesel back in 2007. *Photo courtesy of Emergent Green Energy*

"In any business, you need to know what the rules are and what the policy is," he said. "Markets go up and down, and we can't control that. We've got to focus on technology to improve our efficiencies and improve our competitiveness and hopefully get some form of consistent policy in place to back us up."

Energy an exciting arena

In spite of the current price disruptions in the oil market, which Matt attributes primarily to market manipulation by the Organization of the Petroleum Exporting Countries (OPEC), the Jaegers remain optimistic about the potential for American-made energy of all kinds as well as for their business. The costs to produce fuel will continue to decline in the U.S., while they rise in the Middle East and around the world, Matt said.

This past summer, the Jaegers erected a 111-kilowatt solar array, half the size of a football field, which once operational is expected to provide for 90 percent of their total electrical use and cut their utility costs.

They've also found creative ways to add value to some of the co-products from their biofuel refining, specifically herbicide adjuvants and soy-based polymer drift control solutions, which they distribute to ag chemical dealers in multiple states.

"They really help your herbicides perform well," Matt said. "We're always trying to help farmers by thinking about what their toughest issues are. So we thought about weed resistance and how we could help them in that fight. It would be hard to find more cost competitive crop adjuvants than what we offer."

When it comes to biodiesel specifically, he believes that in the long term, "if we continue to improve and have breakthroughs on the technology side, we will continue to be a good, solid industry that benefits producers, fuel consumers and the country as a whole."

"It's a real benefit to diversify our fuel supply and let farmers get in on fuel production," he added. "Back when I was in high school in the mid-1990s I would never have guessed I would be able to be in agriculture and be involved on the energy side of things. It's been great for us and for our small town." ◘

Soy Town Hall

We asked farmers: "How has use of biodiesel on your farm changed over the last five years and why?" Here's what they said:

Kelly Forck, Missouri

"We started using B5 to B20 in the early 2000s when it first came available in our area. Today, we're running B20 to B99 in all of our farm equipment. We believe in the clean, renewable energy source – the biodiesel we help produce."

Jeff Lynn, Illinois

"I have switched from using B11 to B20 over the last couple years. We started using B11 biodiesel on our farm around 1999. I want to be able to use what I grow and to be able to honestly tell people that I use B20 and do not have any troubles with any fuel injection components or filters on any of our farm equipment or autos, in any season including the winter months."

Ed Ulch, Iowa

"We have used biodiesel for 14 years, buying it in two-and-a-half gallon jugs out of Kansas to start. The last several years we have been using a B35 in the summer, phasing back to a B5 for winter. The thing that has changed in the last five years is we no longer question it or even think about it. It works well for us so we use it because it is the right thing to do."

Bob Worth, Minnesota

"Biodiesel has changed the ways we look at fuel a lot. When the sulfur was removed from our diesel fuel, we lost our lubricity for our diesel engines so we needed to find one and biodiesel was the perfect answer. Biodiesel is grown by every soybean farmer, every year. Fossil fuel takes millions of years to produce so I am proud to grow the beans that make the fuel that I can use. We use up to 20 percent of Bio, when we can get that high of blend, with no problems, but a farmer has to be a good fuel manager to put the proper fuel additives to keep the water and algae from the fuel as sulfur did that before it was removed."

Andrew Moore, Georgia

"In the southeast, we have a very limited biodiesel supply. Eight to 10 years ago, we used a small amount and had good success using it in our equipment. We have a local biodiesel producer that does not sell locally. Actually, last time I checked, they did not use any veg oil in their production. When I pass or use a mass transit vehicle that displays and uses biodiesel, I smile and say, 'We grow the feed stock that powers this vehicle.' It's a great conversation starter! We would be interested in using it again in our equipment if it were available."

Dennis Bogaards, Iowa

"Five years ago we were using a 20 percent blend of biodiesel. It was working great for me! Some people had issues with a couple of tanker loads because the bio plants changed over to bio made from animal fat in December. Animal fat has a higher cloud point. The processor never let the fuel suppliers know and there were issues. We had buses in our community that would not run on a very cold morning. Our supplier never took the time to figure out what happened and just dropped all bio and ran it down a lot. I found out later, because of some conversations I had with some industry people, what actually happened. Most farmers in the area remember the incident and won't use it any more so it is very hard to get. I had to change suppliers and am now running a 5 percent blend and have no problems as it is all soy biodiesel to my knowledge. I would increase it if my supplier would be willing to handle it."

ASA in Action

Trade, Biotechnology on the Table at Annual Legislative Forum

The American Soybean Association (ASA) held its annual Legislative Forum in Washington, D.C. in July, exploring several issues important to soybean producers, including international agricultural development, trade issues, tax reform and policy, biotechnology and the potential impact of unmanned aerial systems and precision agriculture on soybean farms.

The forum kicked off with an update on tax and agricultural policy issues from Senate Judiciary Committee Chairman and Agriculture Committee member Chuck Grassley, who also updated attendees on the ongoing Washington fight over the Renewable Fuel Standard. Following Sen. Grassley, attendees to the opening lunch were treated to World Food Prize Laureate Dr. Robb Fraley, who provided a look at the challenge facing farmers, who will need to feed nine billion people by 2050. Other features of the forum included a discussion of consumer and industry messaging on biotechnology, the growing agricultural market for unmanned aerial systems, the status of the Trans-Pacific Partnership (TPP) and Transatlantic Trade and Investment Partnership (TTIP) and a panel on expanding U.S. agriculture's role in foreign aid and agricultural development.

Following the forum, ASA members and forum attendees split into state and regional hill-visit teams and held meetings with more than 125 lawmakers in the House and Senate to advance soybean farmer priorities.

(From left to right) American Soybean Association (ASA) CEO Steve Censky, ASA First Vice President Richard Wilkins, House Agriculture Committee Ranking Member from Minnesota Collin Peterson, ASA President Wade Cowan and ASA Chairman Ray Gaesser visit during the annual July board meeting in Washington, D.C.

(From left to right) ASA CEO Steve Censky, Yedent Agro Company CEO Samuel Kwame Ntim-Adu, ASA/WISHH Regional Director Josh Neiderman, Food Research Institute Division Head Mary Glover and ASA Vice President Joe Steinkamp discuss opportunities for U.S. soy in Ghana during a conference in September that provided opportunities for open dialogue between African business owners and U.S. public and private sector representatives. *Photo courtesy of WISHH*

ASA Vice President Bret Davis discusses the quality grading of U.S soy in Indore, India this summer, during the U.S. Soybean Export Council's (USSEC) national Soy Partnership Summit (SPS) 2015. *Photo Courtesy of USSEC*

ASA President Wade Cowan, Brownfield, Texas, *(left)* met with U.S. Sen. John Cornyn (R-TX) (*right*) in July to discuss agriculture policy, tax policy and legislation to control regulatory overreach that is hurting Texas farmers and ranchers. *Photo courtesy of U.S. Sen. John Cornyn's office.*

Indiana farmer-leader Elaine Gillis *(right)* participates in a mock interview with media trainer Skip Ragland (*left*) during Part I of the 2015-2016 ASA Leadership At Its Best program, sponsored by Syngenta. Soybean farmer-leaders from 15 states met in Minneapolis, Minn. in August for a week of training. *Photo credit: Michelle Hummel*

ASA President Wade Cowan, Brownfield, Texas *(right)* chats with Cindy Zimmerman (*left*) for *Agri-Pulse* during the 17th annual 2015 Ag Media Summit in Scottsdale, Ariz. *Photo credit: Jordan Bright*

The Advanced Leadership At Its Best Class, sponsored by Syngenta, allows farmers who already hold a leadership position on the national level to enhance their skills even further through training on select topics. The 2015 class met in August and included *(left to right)* ASA Vice President Bret Davis (OH), ASA Treasurer Davie Stephens (KY), ASA Board Member Ed Erickson (ND), Syngenta North America Industry Relations Lead Ryan Findlay, ASA President Wade Cowan (TX), Trainer and President of Solum Consulting Steve Powell, ASA Board Member Gerry Hayden (KY) and ASA Board Member and Commodity Classic Committee Co-Chair Sam Butler (AL). *Photo credit: Patrick Delaney*

Soy SHOTS

Submit Your Soy Shots at:

membership@soy.org

Berkeley Fox helps sweep soybeans for stink bugs in Gillett, Ark. *Courtesy of Curtis Fox*

Three generations work together during harvest on their farm at Dunnell, Minn. Ryan Ask *(center)* is the fifth generation to work on the family farm that includes his father, Rod Ask *(left)* and grandfather, Alan Ask *(right)*. *Courtesy of Katie Ask*

Pioneer seed dealer Don Brummel brings over the weigh wagon to get the most accurate measurement of Bill Wykes' yield in Yorkville, Ill. (2013 harvest). "We went the full length of the field, measured the acreage (each test was .66 of an acre), weighed the sample, tested the moisture and then plug it all into the formula to find the final result," Wykes said. *Courtesy of Illinois Soybean Association/Bill Wykes*

Sara Magnussen holds onto little Emma as the whole family heads out together to check on soybeans and corn on their farm south of Paullina, Iowa. *Courtesy of Jay Magnussen*

Father and son team Nick and Kurt Larson finish harvest at dusk in Earlville, Ill. *Courtesy of Kurt Larson*

Connor Essick helps his agronomist dad, Matt Essick, check soybeans to see if they're ready to harvest in northwest Iowa. *Courtesy of Matt Essick*

Industry Perspective

RFS Uncertainty Affects Industry Planning, Halts Expansion

| By **Brian Wallheimer**

For the first time in several years, biodiesel makers may have some actual numbers attached to the Renewable Fuel Standard (RFS), though some uncertainty still looms.

The federal Environmental Protection Agency (EPA) did not set targets for the amount of biofuels that were required to be blended into transportation fuels for 2014 and 2015. Its current plan, which is slated to be approved before the end of the year, sets requirements for those past years, as well as projections for all types of fuels in 2016 and for some fuels in 2017. All the numbers are lower than mandated by the Clean Air Act.

The time it's taken to get those numbers has caused problems for biodiesel producers.

"The lack of certainty doesn't allow any planning. You never get to be proactive. You're always reactive," said Ron Marr, who heads government relations for biodiesel at Minnesota Soybean Processors in Brewster, which has a capacity of 30 million gallons per year. "We've been sitting on the fence for two years."

Like Marr, Nicholas Pavelka, lab manager at the 5 million-gallon-per-year Global Fuels LLC in Dexter, Mo., said it's been difficult to plan ahead, especially on increasing capacity. His plant recently upgraded from producing 3 million gallons, but further expansion just can't be considered right now.

"To go out and get financed – to get approval from the board – it's difficult," Pavelka said. "The board looks at the uncertainty, and they don't want to take that chance right now."

Marr also said that a 100-million-gallon increase each year isn't much. He added that larger producers might easily boost capacity and keep smaller players out of the mix.

"If they realized what the industry could do, if you went out a few years and did 200 million to 300 million gallons each year, that would do it," Marr said.

Community Fuels, a biodiesel producer in Stockton, Calif., would like to meet its 25-million-gallons-per-year capacity. Lisa Mortenson, co-founder and CEO of the company, said EPA's shuffling has "done irreparable damage to the biofuel industry."

"We have not been operating anywhere close to capacity. The economics don't support the production and blending activity," Mortenson said. "EPA is turning a blind eye to the capacity that already exists."

John Wright, executive vice president at Owensboro Grain in Kentucky, would like government tax credits to do more for producers when new rules are approved.

"I would like to see the biodiesel tax credit be changed instead of a blender's credit," said Wright, whose operation can produce 50 million gallons per year. "That should be the focus of the industry right now."

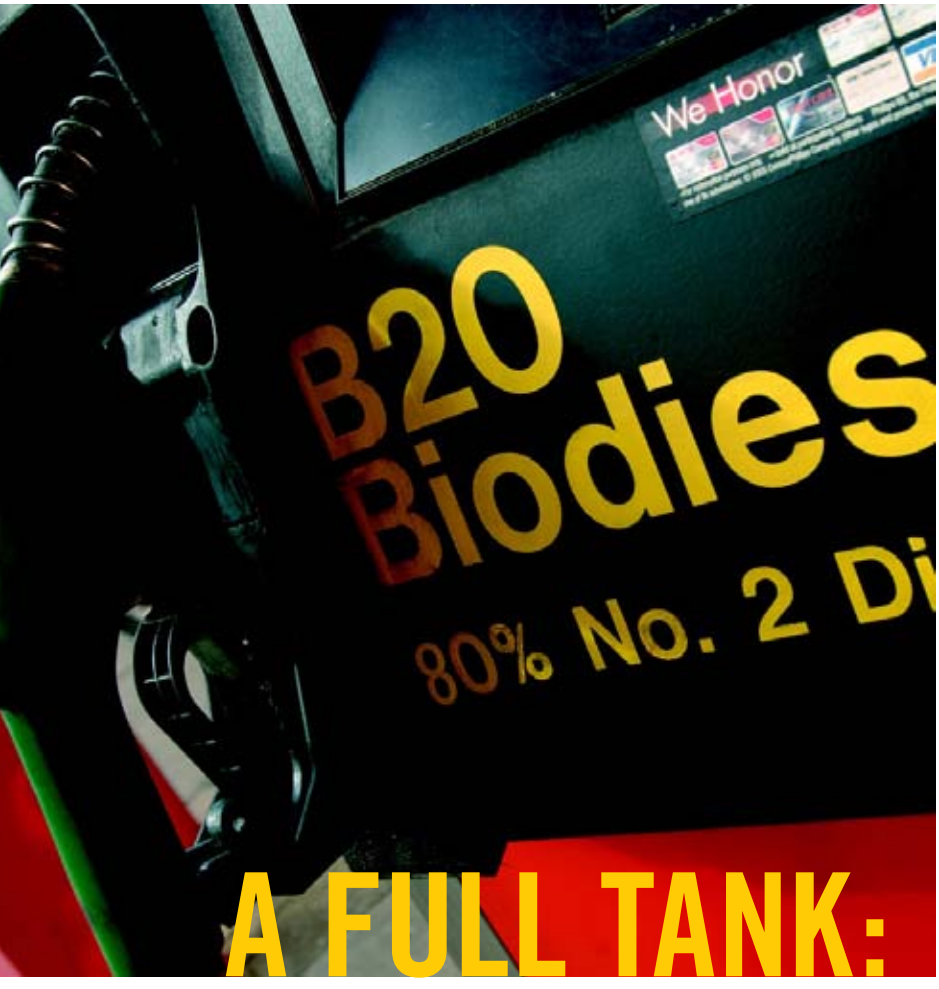
In the meantime, producers are looking forward to having projections, even if the numbers aren't as high as they'd like.

"At least we'll have numbers we can work off for a few years," Wright said. ◘

Ron Marr, head of government relations for biodiesel at Minnesota Soybean Processors

Lisa Mortenson, co-founder/CEO of Community Fuels

John Wright, executive vice president at Owensboro Grain



A FULL TANK:

Biodiesel has Energy to Maneuver Expansion Roadblocks

With help from the U.S. soybean industry, biodiesel has blazed a successful path during the last 20 years. And while the future is bright for continued expansion of biodiesel production and use, an ever-evolving regulatory landscape, greater international biofuels competition, trade barriers and the economics of the current marketplace present challenges for industry growth.

By **Barb Baylor Anderson**

"The U.S. biodiesel industry is well positioned for long-term growth," said National Biodiesel Board (NBB) CEO Joe Jobe. "In 2013, we set a goal as an industry of 10x22; a vision of producing biodiesel volumes equal to 10 percent of the on-road diesel market, or four billion gallons. We already are nearly halfway, with the U.S. biodiesel market being 1.8 billion and 1.75 billion gallons in 2013 and 2014 respectively. This feat is pretty amazing when you consider just 10 years ago the industry was barely more than 100 million gallons."

The biodiesel industry has grown dramatically during the past decade. The 1.7 billion gallons of biodiesel produced in 2013 used approximately 5.5 billion pounds of soybean oil. An economic study conducted for NBB estimated that at 1.7 billion gallons of production, the industry supported more than 62,000 jobs, $2.6 billion in wages and $16.8 billion in overall economic impact.

National Biodiesel Board CEO Joe Jobe addresses the industry during the annual National Biodiesel Conference & Expo.

Biodiesel is also recognized for its environmental benefits. The Environmental Protection Agency (EPA) reports biodiesel reduces greenhouse gas emissions by 57-86

percent. Since 2004, NBB estimates 8.2 billion gallons of biodiesel have replaced petroleum to cut 75.5 million metric tons of carbon pollution; equal to removing 15.9 million cars from U.S. roadways, planting 1.9 billion carbon-absorbing trees or preserving 61.9 million acres of mature forests.

Navigating the regulatory landscape

With such a solid profile, biodiesel fits well within U.S. fuel regulations. The Renewable Fuel Standard (RFS) was set in 2005 under the Energy Policy Act, and expanded in 2007 under the Energy Independence and Security Act to add renewable fuels that diversify the diesel pool.

Biodiesel is the first and remains the only U.S. commercial-scale fuel available nationwide to meet EPA's definition as an Advanced Biofuel —meaning EPA has determined biodiesel reduces greenhouse gas emissions by more than 50 percent when compared with petroleum diesel. Biodiesel falls under the Biomass-Based Diesel category of the RFS—a subset of the Advanced Biofuels category.

Now one of the roadblocks to future biodiesel growth is EPA's Proposed Rule regarding that RFS Renewable Volume Obligation (RVO) for Biomass-Based Diesel, which is primarily filled by biodiesel. Each of the last three years, biodiesel has exceeded minimum RFS requirements. The EPA's RVO proposal would gradually raise volumes by only about 100 million gallons per year to 1.9 billion gallons in 2017.

"We believe we are making progress, and hopefully will have a multi-year RFS in November that paves the way for more growth," said Anne Steckel, NBB vice president of federal affairs. "The biggest challenge for biodiesel producers is unstable markets due to current federal policy uncertainty. The dysfunction in Washington has created a difficult business environment."

The American Soybean Association (ASA) submitted comments this summer, seeking greater growth. "There are still opportunities and room to further increase RVOs for 2016 and 2017," said Tom Hance, ASA Washington representative. "The biodiesel industry has previously requested volumes of 2.4 billion gallons in 2016 and 2.7 billion gallons in 2017. While those volumes are readily achievable and sustainable, at a minimum EPA should set the standards at not less than two billion gallons for 2016 and 2.3 billion gallons for 2017."

Steckel stressed that as a relatively young industry, the RFS is critically important to biodiesel. "The fact is that you simply can't create a new American energy industry without policy support. That's been true for every energy industry in the history of our country," she said. "We need to see aggressive growth in the RFS if we're going to meaningfully reduce our dependence on oil."

She noted RFS opponents point to sharply lower crude oil prices as a reason why the RFS is no longer needed. "The reality is we need it more now than ever, due in part to OPEC's (Organization of the Petroleum Exporting Countries) manipulation

(continued on page 22)

ASA to EPA on RFS: Volumes are an Improvement, But We Can Do Better!

The American Soybean Association (ASA) testified in June at a hearing before the Environmental Protection Agency (EPA) on the Renewable Fuels Standard (RFS) noting that the association was pleased to see the RFS volume requirements raised for biodiesel through 2017 from the agency's original proposal late in 2014. In its testimony, ASA also called on EPA to support more aggressive biodiesel levels in the future, pointing to the many benefits of renewable biodiesel produced from soybean oil.

During the hearing, conducted by the EPA's Region 7 office in Kansas City, ASA's witness, Director Bob Henry from Robinson, Kan., expanded on the benefits of biodiesel, including a more diversified energy market, increased domestic energy production, significant reductions in greenhouse gas emissions resulting in improved air quality, new jobs and economic development, particularly in rural America.

Henry pushed EPA to support a minimum biomass-based diesel volume of at least 2 billion gallons for 2016 and 2.3 billion gallons for 2017, highlighting that additional soybean oil will be displaced from domestic food markets as a result of the recent FDA determination requiring the elimination of all partially hydrogenated oil. Henry also illustrated that increasing the biomass-based diesel volumes relative to the total Advanced Biofuels volumes will promote the use of biodiesel over imported Brazilian sugar-cane ethanol.

(continued from page 21)

The biodiesel industry has grown dramatically during the past decade. The 1.7 billion gallons of biodiesel produced in 2013 used approximately 5.5 billion pounds of soybean oil. An economic study conducted for NBB estimated at 1.7 billion gallons of production, the industry supported more than 62,000 jobs, $2.6 billion in wages and $16.8 billion in overall economic impact.

of the global markets," she said. "It is necessary to diversify and stabilize our fuel supplies and break loose from the improper influences of an international cartel and hostilities in the Middle East."

Tackling trade competition

As they pursue a favorable RFS resolution, ASA and NBB are monitoring activity with the federal $1 per gallon biodiesel blender's tax credit that expired December 2014. When in place, biodiesel blenders can claim the $1 per gallon credit against their U.S. federal tax liability. The credit has expired before and always been reinstated retroactively in broader tax extender's packages.

"It's very difficult for businesses to plan for growth when Congress continues to pass piecemeal tax policy. We have seen the biodiesel tax incentive expire four times in six years," Steckel said. "We're concerned about the tax credit and want to see more consistent, forward-looking policy."

Hance said ASA strongly supports the credit, adding that restructuring it from a blender's to a producer's credit would provide additional benefits for the domestic biodiesel industry.

"Argentina is exporting biodiesel to the U.S., and is eligible for the tax credit. Thanks to their market-distorting differential export tax (DET), Argentine biodiesel can gain an advantage over U.S. biodiesel in our country," Hance said. "Beginning with 2016, ASA supports shifting to a production tax credit, instead of for blenders, to address that problem. And EPA needs to account for the increase in biodiesel imports when establishing the RVO for 2015 and beyond."

Argentina was previously shipping biodiesel into the European Union (EU). However, the EU placed anti-dumping tariffs on Argentina, which Alan Weber, MARC-IV and NBB consultant, said leaves Argentina looking for new markets. "EPA's decision to streamline access for imports of Argentine biodiesel under the RFS makes it difficult for domestic biodiesel producers to fairly compete," he said.

Providing the tax credit to producers would come at a good time, added Weber. Biodiesel production margins are tight, and the credit would provide some breathing room.

"It helps that the ASTM (American Society for Testing and Materials) allows up to 5 percent biodiesel blends in diesel," he said. "At some locations, you may see labels on pumps that B6 to B20 blends may be included, and that gives retailers more flexibility on the blend they use based on the economics."

Looking at uses down the road

State legislation also has an effect on biodiesel use. Mike Youngerberg, senior director of field services, Minnesota Soybean Growers Association, said that has aided growth in his state.

"We had B2 legislation that took effect in 2005, and then a B5

> It is necessary to diversify and stabilize our fuel supplies and break loose from the improper influences of an international cartel and hostilities in the Middle East.
>
> **– Anne Steckel, NBB Vice President of Federal Affairs**

mandate came out in 2009 for year-round use," he said. "In 2014, we increased to B10 in the summer. We are scheduled to move that to B20 in 2018 for April through September."

Youngerberg says city fleets in Minneapolis use B10 all year, while transit uses B20 in the summer and B5 during the winter. Minnesota soybean farmers work to educate fuel blenders, schools, mechanics and fleet managers about the benefits of biodiesel.

"We are looking at another potential biodiesel application in Minnesota that would be a good fit," he said. "We are exploring Bioheat use, which is the trademarked name for biodiesel blended into home heating oil. We have the production capacity here in Minnesota to produce biodiesel for the Bioheat market since the state drops to B5 blends in the winter when Bioheat is needed most."

Bioheat has already found success in the northeastern part of the country. Rocco Lacertosa, New York Oil Heating Association CEO, says there is wide acceptance of Bioheat in New York.

Biodiesel use in home heating oil is one of the fastest growing markets. It has been tested, confirmed and reaffirmed with standards for blends of B6-B20 in heating oil systems.

"The city council has a bill before them to go to a B5 blend. The city wanted to go higher to B20, but they must first address manufacturers' warranties, even though no problems have been reported," he said. "We started using Bioheat in 2012, and saw no performance problems in two of the coldest winters we have seen. We expect its use and the market to grow. New York City has plans to get to B20 by 2020. We also have a pilot program for using biofuels in ferries."

NBB's Jobe said biodiesel use in home heating oil is one of the fastest growing markets. It has been tested, confirmed and reaffirmed now that ASTM voted to approve standards for blends of B6–B20 in heating oil systems. "Leadership within the home heating oil industry has made it a priority to pursue the use of even higher blends with the eventual goal of transitioning the entire seven billion gallon market to biodiesel by 2050," he said.

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Biodiesel's Multi-Commodity Benefits

Several feedstocks can be used in biodiesel production, although roughly half generally comes from soybean oil. About 25-30 percent comes from animal fats and used cooking oils, and about 10 percent comes from distillers' corn oil, benefitting both crop and livestock producers.

"Biodiesel is a major outlet for animal fats. It has increased the value by about $16 per head for cattle and $1.25 per head per hog," Alan Weber said. "This is real money back to producers. Use of soybean oil keeps meal prices down, too, so livestock benefit from cheaper feed."

In the long-run, NBB's Jobe anticipates both corn and soybean farmers will continue to benefit from biodiesel market growth and a host of other renewable fuels and energies being well positioned to make a positive impact on the fuels marketplace.

"They all bring different benefits to different applications," he said. "In the case of diesel engines, they are ideally suited to power large equipment like semi-trucks, farm and construction equipment, medium duty delivery trucks, locomotives and other applications. Biodiesel offers a cleaner-burning, renewable option for liquid fuel in this space. Since gasoline and diesel fuel don't compete in the same market, neither do ethanol and biodiesel."

(continued from page 23)

Jobe noted other market segments have seen relatively low biodiesel penetration to this point, including marine and locomotive applications. But as more biodiesel enters the marketplace, low level blends are expected to appear across the diesel pool on a wider scale.

"We know biodiesel can work in a marine environment. Several small-scale tests also have been done in the locomotive industry. NBB continues to develop relationships with equipment manufacturers, much like we have done with on- and off-road engine manufacturers," Jobe said.

Biofuels are used in federal fleet vehicles and other non-tactical military-owned vehicles, as available and required, said Irene Smith, public affairs officer, DLA Energy, Fort Belvoir, Va. Biofuels are not currently used in Department of Defense aircraft, ships, tactical vehicles or other combat equipment other than for certification, qualification and demonstration purposes.

"These activities are necessary to ensure new types of fuels meet strict technical and performance characteristics necessary for proper systems operation. The efforts to evaluate use of biofuels in combat platforms are focused on 'drop-in' renewable fuels; synthetic hydrocarbon fuels or fuel blends that can meet military jet and diesel specifications," she said.

DLA Energy purchases B20 used in federal fleets and non-tactical vehicles. She said the Defense Department plans to use biofuels in military systems to the greatest extent practical, while still abiding by department policy and all federal and defense acquisition regulations. ◘

EPA RFS Ruling Coming in November

The Environmental Protection Agency (EPA) this summer collected comments about its proposed rule to increase the volumes for Biomass-Based Diesel, starting with 1.63 billion gallons in 2014, 1.7 billion for 2015, 1.8 billion for 2016 and 1.9 billion in 2017.

Biodiesel stakeholders were pleased the proposal was an improvement over the 1.28 billion gallons previously suggested for 2014 and 2015. But many urge EPA to support Biomass-Based Diesel volumes of at least two billion gallons for 2016 and 2.3 billion gallons for 2017.

"We proposed renewable fuel volume standards that will establish a path for ambitious yet responsible growth in biofuels. These standards would provide the certainty the marketplace needs to further develop low-carbon fuels over the coming years," said Janet McCabe, assistant administrator, EPA Office of Air and Radiation.

McCabe explained that the proposed volumes reflect Congressional intent that renewable fuel production and use should grow over time. "We have already seen success – renewable fuels are being produced and used in increasing volumes. This is true for both ethanol and biodiesel, and recently we have seen important developments in cellulosic biofuels, which result in the lowest greenhouse gas emissions," she said. "There are real limits to the actual amounts of biofuels that can be supplied to consumers at this time. These limits include lower-than-expected demand for gasoline and constraints in supplying ethanol at greater than 10 percent of gasoline."

NBB had requested more aggressive growth to a biodiesel standard of 2.7 billion gallons by 2017, along with additional growth in the overall Advanced Biofuel category.

"The industry has production plants in nearly every state, making fuel from an increasingly diverse mix of feedstocks, including recycled cooking oil, plant oils and animal fats," said Anne Steckel, NBB vice president of federal affairs. "In short, the Biomass Based Diesel program has exceeded expectations and is achieving the goals Congress outlined in creating the RFS. As a result, it warrants additional volume growth to meet the objectives of Congress in expanding renewable fuel use in the diesel market and in promoting Advanced Biofuels under the program."

EPA intends to take final action on the proposal by Nov. 30, 2015.

America's largest farmer-led, farmer-focused convention and trade show promises to be bigger and better than ever when Commodity Classic heads to New Orleans, La., March 3-5, 2016. Commodity Classic is open to all friends of soybeans, corn, wheat and sorghum – and anyone who wants to become an even better farmer.

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Saturday's Evening of Entertainment

features award-winning country music act Sawyer Brown.

More Data Means More Demand

Checkoff-funded research and outreach help gain acceptance for biodiesel

Key players in the automotive industry – from engine manufacturers to petroleum producers – are paying attention to biodiesel, and that means a stronger market for U.S. soybean farmers.

For more than 20 years, U.S. soybean farmers – through their soy checkoff – have funded research to demonstrate the quality, functionality and sustainability of biodiesel. Checkoff funds have allowed researchers to gather data to show engine manufacturers and fuel companies that biodiesel works.

"We documented real-world experience for using biodiesel and provided that to those companies to give them more information on how the fuel performs," said Tom Verry, director of outreach and development for the National Biodiesel Board (NBB).

Among the partnerships between the checkoff and NBB, the two groups work to show engine manufacturers how biodiesel could fit into their fuel portfolios. They also work together to share checkoff-funded engine-testing results with engine manufacturers, helping them determine that biodiesel's performance meets their warranty standards. The checkoff also supports NBB's BQ-9000 program, a voluntary quality-assurance program that has been instrumental in showing off biodiesel's attributes to the industry.

Buy-in from engine manufacturers helped spur other parts of the industry to support biodiesel. For example, Marathon Petroleum Company (MPC), a leading petroleum company based in Ohio, is confident in biodiesel that it owns a biodiesel plant, a 60-million-gallon-per-year facility near Cincinnati. The biodiesel products from the newly acquired facility broaden MPC's renewable portfolio and support American soybean farmers in its choice of feedstock.

"We're using 100 percent soybean oil," said MPC Senior Business Development Advisor David Blatnik, who works with MPC's opportunities in renewable fuels. "We think it produces some of the best quality biodiesel out there."

Blatnik says demonstrating biodiesel quality has always been critical to gaining industry acceptance. "From the early days," he said, "The biodiesel industry has understood that quality does matter." MPC blends soy biodiesel with petroleum-based diesel fuel to sell at retail locations.

Recent changes by the Environmental Protection Agency (EPA) to the Renewable Fuels Standard (RFS2) require 36 billion gallons of renewable fuel to be blended into petroleum diesel by 2036. When that goal was first set, it did not include soy-based biodiesel among acceptable renewable fuels. To be included, a fuel must reduce carbon emissions by at least 50 percent compared with petroleum. At the time of the rule, the EPA rated biodiesel as only 22 percent better.

According to a checkoff-funded life-cycle analysis, U.S. soybean production deserves a better score.

"We presented over 400 pages of data to the EPA to defend the sustainability of the American soybean farmer," Verry said. "And we were successful."

Soy biodiesel is now considered an advanced biofuel by the EPA, which qualifies it as eligible to help satisfy the 36-million-gallon mandate.

Because of both its quality and sustainability attributes, biodiesel continues to gain new fans.

"The change in quality from day one to now has added to MPC's comfort level," Blatnik said.

There's confidence in biodiesel at more than just MPC. Many retailers across the nation trust the product to perform without adding a warning label at the pump – a confidence level that the checkoff helped achieve. ◘

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Three Ways the Checkoff Supported Biodiesel's Road to Success

The soy checkoff has supported the biodiesel industry throughout its journey to acceptance. Three examples of checkoff collaboration with the National Biodiesel Board (NBB) include helping to establish an industry specification, develop standards for fuel quality and test biodiesel's performance.

1. **Industry Specifications** – In working to establish a specification for biodiesel with the American Society for Testing and Materials (ASTM), advocates from the soy checkoff and NBB worked with engine manufacturers, fuel providers and users to build an internationally recognized specification – ASTM D6751.
2. **Fuel Quality Standard** – Vehicle manufacturers needed assurance that biodiesel would consistently meet the ASTM specification, so the checkoff worked with biodiesel industry stakeholders to implement a fuel quality standard. Today, producers and marketers participate in BQ-9000, a program that tests biodiesel and production systems for quality.
3. **Performance Testing** – Checkoff-funded testing showed over and over that biodiesel performs in existing diesel engines without modification. The tests concluded that biodiesel performs well when blended with petroleum diesel up to and beyond 20 percent. Most diesel engine warranties include use of at least 5 percent biodiesel blends, and some include blends of more than 20 percent. ◘

The Soy Checkoff has collaborated with the National Biodiesel Board (NBB) to develop standards for fuel quality.

USDA Selects ASA's WISHH to Develop West African Poultry, Feed Market

ASA Vice President Joe Steinkamp *(left)* and CEO Steve Censky *(center)* join Darko Poultry Farms CEO Samuel Darko to examine a sample of local maize stored at the company's feed mill in Ghana. ASA WISHH's new U.S. Department of Agriculture-funded project will use U.S. soybean meal to help revitalize the Ghanaian poultry industry and work with companies like Darko Poultry.
Photo credit: Jim Hershey

The U.S. Department of Agriculture (USDA) chose the American Soybean Association's World Initiative for Soy in Human Health (ASA/WISHH) Program and key partners to implement a major poultry development project in the West African country of Ghana.

This USDA Foreign Agricultural Service's (FAS) Food for Progress Program helps developing countries and emerging democracies modernize and strengthen their agricultural sectors. As a result, it improves agricultural productivity and expands trade of agricultural products.

"ASA is pleased to partner with USDA in agricultural development that supports expanded and mutually beneficial trading relationships," said ASA President Wade Cowan, Brownfield, Texas. "Nowhere is there greater need or bigger potential return on investment in agricultural development than in Sub-Saharan Africa. WISHH is a trailblazer for trade."

The United States is among Ghana's principal trading partners, with two-way trade between the two countries reaching $1.45 billion in 2014, according to the U.S. State Department. Ghana is home to 26.4 million people, and a West African hub for business growth.

The Ghanaian government seeks to revamp the poultry industry, which has slumped in the last 30 years. "The project will contribute to increasing the supply of both meat and eggs to address ever-growing demand in Ghana," said William Brown, Ph.D., country director of Adventist Development and Relief Agency (ADRA-Ghana), which is a partner on the initiative. "The project could trigger the growth of poultry, maize and soy industries, which will provide employment and increased income. This will culminate in poverty reduction."

Kansas State University is also subcontractor in WISHH's Assisting Management in the Poultry and Layer Industries by Feed Improvement and Efficiency Strategies in Ghana (AMPLIFIES Ghana).

Ghana imported over 50,000 tons of U.S. frozen poultry in 2014. The multi-faceted project will promote the use of improved poultry feeds, and procure feed ingredients, including approximately 10,000 metric tons of U.S. soybean meal. It will train Ghanaian poultry producers, improve feed milling practices and products, enhance storage and handling of feedstuffs, and much more.

In the early 2000s, forward-thinking U.S. soybean leaders in multiple states recognized that the growing protein demand in developing countries was a driver for their soybean sales. Well-researched studies showed that most future growth in food demand would be in developing and middle-income countries where populations and incomes were both on the rise.

Today, the trends are even clearer, proving that WISHH-founding farmers planned well. According to USDA and other economic analysis, developing countries dominate world demand growth for agricultural products. USDA projects developing countries' demand for agricultural products will increase faster than their production. As a result, these countries will account for 92 percent of the total increase in world oilseed and meat imports in 2013-2022. ◘

Sustainability

Common Sense Conservation

By **Barb Baylor Anderson**

The Gordon family has practiced common sense conservation on their farm near Worthington, Minn., for four generations. But with proposed new regulations, Bill Gordon said it's becoming increasingly important for them to share that information with other farmers and the public so everyone has a clear understanding of the environmental stewardship farmers employ.

The Gordons raise soybeans and corn in a 50–50 rotation across 2,000 acres. Another 250 acres they manage is in the Conservation Reserve Program (CRP), wildlife habitat and buffer strips. The farm is in the Okabena–Ocheda watershed that supplies water for Worthington.

"Farmers are the first line of defense in conserving natural resources," Gordon said. "We annually evaluate and make adjustments in our conservation plans and our use of nutrients."

For example, the Gordons have had buffer strips in place for about 20 years. They donated 35 acres above a golf course to the state so nutrients from both the field and course could flow into a silting basin for filtering before reaching a lake. Another 35 acres is in a permanent easement to enhance wildlife and wetland management. Tiled fields filter through wetlands as well.

"We pay $200–250 in cash rent. On the acres we have out of production, we get a $130 CRP payment and a $100 fee from the watershed board, so it is similar," he said. "We aren't necessarily losing money on these acres, but we had to take some prime acres out of production. It is worth it to us, but the proposed Buffer Initiative could affect what we do for conservation."

Minnesota farmer Bill Gordon said farmers are the first line of defense in conserving natural resources and must annually evaluate and make adjustments to conservation plans and use of nutrients. *Photo courtesy of Minnesota Soybean Growers Association*

Gordon refers to Governor Mark Dayton's proposal to require buffer strips be placed around all Minnesota lakes, rivers and streams to enhance water quality and create additional habitat for pheasants and other wildlife. Under the plan, 50-foot vegetated buffers covering nearly 125,000 acres of new land would be required, although landowners could seek approval for alternate practices or buffer widths with proof they are protecting or improving water quality.

But, Gordon notes regulations surrounding buffer strips are already in place in Minnesota. Soil and Water Conservation Districts have always determined what waterways are critical habitats.

"We are not pleased with the proposed rule," Gordon said. "The Governor interprets the law as all waterways need buffer strips, but you can't rubber stamp that. There is lack of understanding on what water bodies need buffers. Nutrient management plans are a better approach in some areas."

Gordon encourages all farmers to share their conservation practices and show what goes into their protection of the environment to prevent similar controversy. "When the public understands what we do, we may not change their minds, but they will have new perspective on the priority farmers place on stewardship and think twice about the regulations," he said. ◘

SoyForward

Iowa is the Blueprint for Path to Energy Independence

By **Iowa Gov. Terry E. Branstad**

We're five months away from the first in the nation Iowa Caucuses. As the Caucus approaches, candidates and pundits will undoubtedly discuss America's need to become energy independent. The good news is that America has a blueprint for becoming energy independent through renewable energy sources, and that blueprint is right here in Iowa.

I support an all-of-the-above energy approach, including traditional resources, but most traditional energy booms eventually wane. In contrast, renewable energy production promotes continual wealth generation throughout rural America.

Embracing renewable energy and harnessing Iowa's renewable-rich resources has been a passion of mine since I began my career in public service. I've been a relentless supporter of biofuels dating back to the 1970s, when we called it "gas-a-hol." It's truly incredible to see how the industry has grown and continues to provide diverse benefits to farmers, rural communities and workers.

With a state that has over 92,000 farmers, dozens of thriving international agri-business companies, and numerous bio-science leaders, it's easy to see that the growth is a result of the hard work and innovation of our farmers, technological advancement in the use of corn, soybeans and other biomass products, and a steady bipartisan commitment from elected officials to embrace renewables.

Biofuels have enabled value-added opportunities for a variety of biostocks including corn, corn stalks, soybeans and woody biomass. And, renewable fuels have created high-paying jobs and rewarding careers in rural America. The use of co-products, such as Dried Distillers Grain (DDGs), is also important to growth in agriculture. As a by-product of ethanol production, DDGs have provided producers with a safe, reliable and inexpensive feed especially for cattle, as well as for pigs and poultry.

Today in Iowa, we produce significantly more ethanol than we consume in gasoline. We're investing in renewable fuel infrastructure to give consumers more choices at the fuel pump.

The Iowa Department of Revenue tracks biofuels sales and the data is clear: when given the choice, Iowans choose biofuels. Consumer purchases of E85 in Iowa continue to increase – growing from 9.12 million gallons in 2012 to 11.15 million gallons in 2013, to 12.08 million gallons in 2014 – a growth of nearly 33 percent. Total B100 (100% biodiesel) sales in Iowa have expanded from 7.4 million gallons in 2010 to 33.3 million gallons in 2014. In 2010, the average blend level of biodiesel-blended gallons sold in Iowa was 3.1 percent and by 2014, the average blend level had more than tripled to 9.4 percent.

Because of our vision, dedication and steady resolve for clean, renewable energy, Iowa has moved from complete dependence on fossil fuels, much of which was imported, to a leader in renewables. This commitment has created jobs, increased family incomes, provided more consumer choice and established Iowa as a model for how our nation can become energy independent.

As presidential candidates come to your community, encourage them to look at the well-established Iowa blueprint for energy independence and support a robust Renewable Fuel Standard (RFS) which has helped Iowa and the nation. ◘

Iowa Gov. Terry E. Branstad

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