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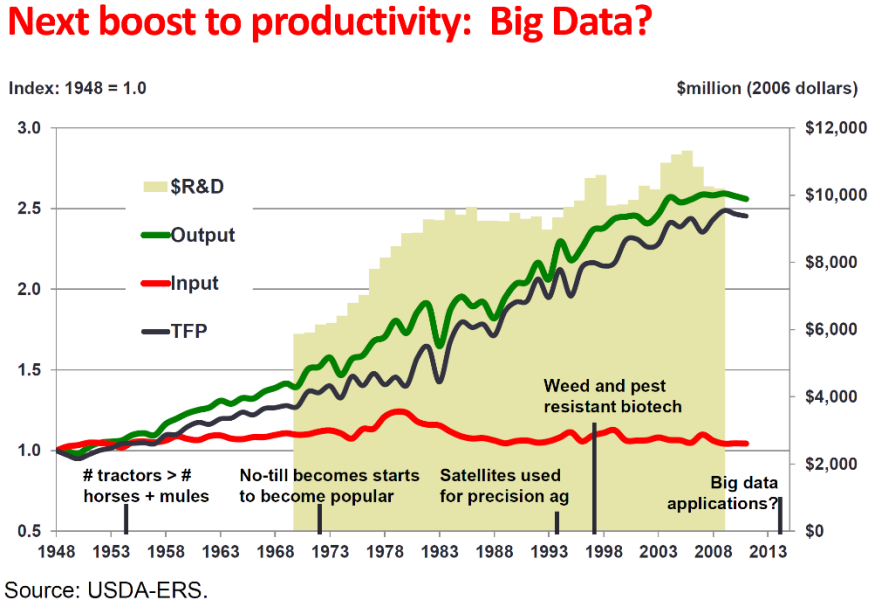
# Can technology drive new spurt in agricultural productivity?

Rapid increases in productivity have more than doubled U.S. agricultural output since the end of World War II, allowing food production to keep pace with or exceed population growth. But several voices have begun to question whether productivity gains can be sustained – and some to speculate that they can be enhanced with application of new technologies in the short term.

Agriculture Secretary Tom Vilsack, who was born in 1950, mentions often that agricultural production has increased 180 percent during his lifetime. USDA Chief Economist Robert Johansson has been explaining to several audiences how production is nearly 2.5 times greater even as the amount of inputs has held relatively steady over the past six decades.

Mechanization became widespread beginning in the late 1940s, Johansson notes, with no-till cropping gaining popularity in the 1960s. The first use of satellite-enabled precision farming began in the early '90s, followed by the adoption of herbicide-resistant and pest-averse biotech crops. He asks whether the application of "big data" could drive a new gain in productivity.



Source: USDA-ERS.

For example, the recently-formed AgGateway consortium says that electronic exchange and use of data "will be one of the strongest drivers of productivity impacting agriculture in our lifetimes." Its website sees productivity gains, greater efficiency, and cost reductions **"from a manufacturer's back office and the ag retailer's warehouse to the farmer's smart phone."**

USDA data shows dramatic gains in productivity to date. Between 1948 and 2011, soybean yields per acre doubled and corn yields grew more than fourfold. All this occurred on about 25 percent less farmland and with 78 percent less labor than in 1948. USDA's Economic Research Service believes, based on modeling estimates of different levels of investment in research and

development, that productivity should continue to increase over the next decade. But in the longer term, its analysts expect the annual rate of growth to fall from the historical average of 1.42 percent to 0.86 percent by 2050, if research investment holds at current levels.

**"Growth in crop yields slowed in the 1990s and, along with slowing growth in U.S. public agricultural research funding, raised concerns about the growth potential of U.S. agricultural productivity,"** the ERS economists point out.

If there is to be long-term growth in productivity, it will require innovation from research funded by both public and private sectors, ERS analysts believe, along with extension activities and some public infrastructure spending. But public investment in agricultural research and development began to erode in 2009 and was nearly 6 percent lower in 2012 than in 1982. On the other hand, private research and development spending has grown by over a third.

The Organization for Economic Cooperation and Development and UN Food and Agriculture Organization, in their recently released Agricultural Outlook 2016-2025, said that increased demand for food is projected to be satisfied through productivity gains. Yield improvements are projected to account for 80 percent of the increase in crop output over the next decade. However, they add, "Yield growth is expected to be slower in the main producing countries, as it becomes progressively more difficult to shift the technological frontier forward."

The Global Harvest Initiative – a confederation of DuPont, Elanco, John Deere, Monsanto, The Mosaic Company, Farmland Partners Inc. and Novozymes created in 2009 to encourage renewed research investment – noted in a 2015 report that U.S. agricultural productivity growth has slipped from its historical average of 1.5-2.0 percent in 1960-2000 to less than 1 percent in 2001-2010. To GHI, that generates **"concerns about the long-term potential for sustainable agricultural and economic growth."**

Yet GHI Executive Director Margaret Zeigler sees in the short term "some very exciting products and technology that are the result of a lot of those investments made over a decade ago in research and development." She told *Agri-Pulse*, **"Technologies available now and coming on line can help productivity primarily by managing nutrient input as well as being able to tackle some of the mitigation that is going to be required in greenhouse gas emission."**


Margaret Zeigler, GHI

As an example, she cites promising research by Raj Khosla, a professor of precision agriculture at Colorado State, showing that precision application of nitrogen in corn holds potential for minimizing losses, thus improving water quality and reducing emissions of nitrous oxide, a significant greenhouse gas. "It's not going to be that difficult once these techniques are verified," she says. **"Farmers all over the world – large, medium and small size – can do it. It's not just limited to large U.S. farms. It's valid for the small farmer in China too."**

In a recent essay advocating increased appropriations for USDA agricultural research, Zeigler argues that "agricultural productivity – producing more food, feed, fiber and biofuel using less land, water, livestock and other inputs – is a critical strategy to help feed the world, and to minimize agriculture's environmental impact." She adds that R&D investments, and the capacity

to extend new innovations to farmers, are some of the "most important predictors of a country's ability to increase the productivity and sustainability of its agriculture system."

Congress is also aware of the need for additional agricultural research. In the 2014 farm bill lawmakers authorized the creation of the Foundation for Food and Agriculture Research, putting up $200 million to be matched by the same amount in private donations.

## Questions about ARC likely to extend into farm bill debate

Complaints about disparities in Agriculture Risk Coverage payments continue to dog USDA's management of the program. But those concerns may pale in comparison to the cost of addressing broader issues with ARC when lawmakers get down to writing the next farm bill. Some ARC supporters fear there may even be attempts to kill the program so the money can be used to address other demands for farm program spending.

**The immediate concerns about the program stem from how USDA decided to determine the county yields that are used to calculate revenue guarantees for each crop.** USDA's Farm Service Agency, which administers the program, primarily uses average yields developed by the National Agricultural Statistics Service (NASS) based on annual survey data. In counties where NASS has insufficient data, USDA has been using yields compiled by its Risk Management Agency, using data reported by farmers under their crop insurance policies.


Sen. John Hoeven, R-N.D.

Because the yields reported to RMA are often higher than the NASS yields, farmers in counties where USDA relies on RMA data complain that they're getting smaller ARC payments than producers in counties with NASS data, or no payments at all.

Commodity groups argue that there is no legal requirement for FSA to use the RMA yields when NASS data are unavailable. The groups have variously pushed the FSA to consider using NASS data from neighboring counties instead of RMA yields, or to use RMA data exclusively, but FSA has so far refused.

According to the American Soybean Association, FSA officials told farm groups that changing its policy could create "winners and losers" or increase the cost of the program. FSA officials "**also expressed concern that making a change in the middle of the current farm bill could bring unwanted attention to differences in yields that producers report to both NASS and RMA," ASA said.**

In a response to a query from *Agri-Pulse*, **FSA said it was using the "best statistically valid, producer-provided, county-level data available" to ensure the integrity of the program.** FSA also said that it has received requests to double-check a number of county yields for specific crops. "We continue to investigate these as they come to us, but generally have not found errors," the agency said.

With FSA refusing to change its policy, farm groups are **calling on producers to make sure they participate in the NASS yield surveys this fall.** They are also supporting a provision Sen.

John Hoeven, R-N.D., placed in the Senate agriculture appropriations bill that would require FSA to test using neighboring-county NASS yields in counties that don't have their own data.

In North Dakota, where the problem may be most acute, **ARC payments on the 2014 corn crop would have been $15 million higher than they were had FSA followed the procedure Hoeven proposed**, said Dale Ihry, executive director of the North Dakota Corn Utilization Council and North Dakota Corn Growers Association. Hoeven's proposed pilot program would be capped at $5 million nationally for fiscal 2017.

Twenty-one of North Dakota's 53 counties don't have NASS soybean yields and 17 lack NASS corn data, Ihry says. Twenty lack wheat yields.

The average RMA yield for corn in North Dakota is typically eight to 15 bushels higher than the NASS yield in years when there have been minimal crop losses reported to RMA, Ihry says. In years where there are losses, the RMA yields are closer to the NASS yields.

There's speculation that farmers provide rosier yields to RMA in order to strengthen their yield history, but Ihry believes the discrepancy between NASS and RMA yields has to do with the timing of when the yields are reported. **NASS surveys are done starting in October, while insurance companies have until the following April to provide RMA with yield data**, matching sales receipts and production to acres.

"To say the NASS yield is more accurate than the RMA yield might be a stretch in some folks' minds, as RMA yields are yields calculated using all insured production and acreage in the county," Ihry said.

The bigger challenge for lawmakers when they start writing the next farm bill is whether and how to address county-to-county payment disparities that are inherent in the way ARC was designed – and what, if anything, to do about the fact that ARC payments nationwide will likely decline sharply in future years.

Congress could begin writing a new farm bill next year, and John Gordley, director of ASA's Washington office, **is concerned that there will even be attempts to eliminate ARC to free up funding for other concerns.** Noting that 96 percent of soybean base acres were enrolled in ARC, Gordley said his group would likely want to keep the program as an option.

But cotton producers are seeking to get cottonseed added in the Price Loss Coverage program. USDA has estimated that would cost $1 billion a year. And the ranking Democrat on the House Agriculture Committee, Collin Peterson, is looking to overhaul the Margin Protection Program for dairy.

Economists say disparities in ARC payments often result from natural differences in yields from one county to the next. Payments for the 2015 corn crop of $40 to $80 an acre will be common across the Midwest, but there are a number of counties in Iowa, Illinois, Kansas, Missouri and other states where farmers in some counties will receive nothing, according to an analysis by University of Illinois economists. The 2015 payments are scheduled to go out to producers in October.

In some cases, county payment rates are low because of several recent years of low yields. If two or more yields are below the long-run average yield in a county, then one of the three yields

used in calculating the county ARC revenue guarantee will be low. That was why many southern Iowa counties didn't collect ARC payments for 2014, said Art Barnaby, an economist at Kansas State University.

**Setting aside the county disparity issue, the total ARC payments are expected to start declining nationwide after 2017.** The revenue guarantees for individual crops are based on a five-year moving average of annual market prices, which have fallen dramatically since 2012 and 2013. The average price of corn has plunged from a peak of $6.89 a bushel for 2012 to an estimated $3.15 for this year's crop.

**For the 2018 crop, no county that has a corn yield that is equal to its five-year Olympic average (throwing out the high and low figure) is likely get an ARC payment unless the average price for the year falls below $3.18 a bushel**, said Barnaby.

That prospect is reflected in the Congressional Budget Office's future cost estimates for ARC: **Total ARC payments are expected to hit $6.1 billion in fiscal 2017 but drop to $2.8 billion in 2019, $1.7 billion in 2020 and $782 million in 2022, if there are no changes in the program.**


Jonathan Coppess, Univ. of Illinois

The Price Loss Coverage program, which like ARC was created by the 2014 farm bill, triggers payments when market prices fall below the fixed, reference price for a crop. PLC coverage may begin to look more attractive to farmers, but it wouldn't offer much help for yield losses.

Jonathan Coppess, a former FSA administrator now at the University of Illinois, and John Newton, an economist at the American Farm Bureau Federation, recently analyzed four new approaches to ARC aimed at addressing various concerns with the program.

**One alternative would make a relatively simple change to the benchmark revenue calculation by allowing the higher of either a county's 10-year average crop yield or the five-year Olympic average yield. That change would have increased the 2014 ARC payments for corn, soybeans and wheat by 13 percent, or $448 million, to $4.76 billion,** Coppess and Newton found.

Another option would leave the yield calculations unchanged but use state-level commodity prices instead of the national average prices in setting revenue guarantees. That option would have reduced payments by 1 percent for 2014.

A third option Coppess and Newton tested would use state-level commodity prices and state-level yield averages. The fourth alternative used national-level prices and yields. Both those options would have reduced payments. The findings were presented at the Agricultural and Applied Economics Association's annual meeting in Boston.

"We didn't arrive at any conclusions at this point" as to which option was best, Coppess said. **"We were taking a first crack at how you would look at different program designs at different yields and prices, and what that might do,"** Coppess said.

## S.D. couple seeks Supreme Court review of USDA wetlands ruling

The Agriculture Department used a stacked deck when it said a small patch of land on a South Dakota farm contained wetlands, the Pacific Legal Foundation (PLF) contends in a petition filed with the U.S. Supreme Court.

Arlen and Cindy Foster, who grow corn, soybeans and wheat and raise cattle, were denied constitutional due process when USDA found that wetland plants on 0.8 acres of their Miner County property signaled the presence of a prairie pothole, PLF argues. In addition, PLF says that the 8th Circuit Court of Appeals, which sided with USDA in an April decision, should not have deferred to the department's expertise. The petition asks the Supreme Court to review the circuit court's decision.

At the heart of the dispute is USDA's use of a "comparison site" 33 miles away. USDA said the site complied with regulations because it supported similar vegetation and was "in the local area." In its petition to the high court, however, PLF calls the site "remote" and says the "local area" in this case encompasses 10,835 square miles. In addition, PLF said the Fosters had not been able to question the use of the comparison site, which USDA chose as a point of reference back in 2000.

**"This process violates their due process rights because they never really get, in the proper sense, a hearing about whether their property has wetland plants on it,"** PLF attorney Tony Francois said in a podcast on the case. "The government substitutes the fact that another place has wetland plants for whether or not the Fosters' property has wetland plants."


Tony Francois, PLF

The 8th Circuit, however, said the Fosters had not been able to show that sites located closer to their farm contained similar soils or were undisturbed, both requirements of USDA's so-called Swampbuster regulations.

"When a disputed site is not in its natural vegetative state, the NRCS must use a comparison site in the local area which contains the same soil type as the disputed site to determine what vegetation would typically be found if the disputed site had not been altered," the appeals court said, affirming an earlier district court decision.

Before reaching that stage of the legal process, the Fosters had unsuccessfully appealed the Natural Resources Conservation Service's initial determination to USDA's National Appeals Division.

Farming on land determined by NRCS to be a wetland could make the Fosters ineligible for USDA programs such as crop insurance, PLF noted in the petition.

PLF, a donor supported foundation that litigates for a smaller government and property rights, says the 8th Circuit gave too much deference to USDA's interpretation of its own regulations – specifically, NRCS's interpretation of the term "local area' to mean "major land resource area."

**"The federal court of appeals improperly accepted at face value the government's argument" about what constituted the "local area,"** Francois said, noting that the Fosters' area, categorized as Southern Black Glaciated Plains, covers nearly 11,000 square miles.

NRCS has delineated 225 "local areas" of varying sizes in the continental U.S. "Some of them cover several states," Francois said, calling that "an absurd reading of (NRCS') own regulation."

PLF has already had success representing landowners in wetlands disputes that have reached the high court. In May, a unanimous Supreme Court ruled that peat mining companies could sue the Army Corps of Engineers over a wetlands determination, instead of either applying for a permit – which they were almost certain not to get – or going ahead and extracting the peat, which would put them in danger of enforcement action.

NRCS would not comment on the Foster case. According to NRCS officials, less than 5 percent of wetland determinations are appealed annually. Over the past three years, NRCS has completed an average of 7,000 determinations per year in the Prairie Pothole region, an area of the northern Great Plains that contains thousands of shallow wetlands known as potholes.

The government's response to the petition is due Sept. 12.

## Farm operators facing new regs for pesticide handlers

Come the new year, U.S. farmers will have to begin complying with a host of new EPA regulations **designed to protect farm workers from any ill effects associated with handling or working near pesticides**.

And Kim Pope, pesticide safety education coordinator with the Louisiana State AgCenter, wants to make sure farm operators are prepared. The new rules, revisions to the 1992 Agricultural Worker Protection Standard, will afford farmworkers similar health protections that are already afforded to workers in other industries. Full compliance is not required until 2018.

Pope says EPA has indicated it will work with farmers initially to help them comply with the new Worker Protection Standards (WPS), which will be enforced primarily by state agriculture departments.

"It is a high priority," Pope said in an interview, adding that those departments, plus Extension Services, "will be working to help farmers understand the rules as completely as possible."

There is a clear need for better protection for farmworkers, EPA says. Each year, between 1,800 and 3,000 occupational incidents involving pesticide exposure are reported from the farms, forests, nurseries and greenhouses covered by the WPS. Those figures may not reflect the magnitude of the problem as the agency believes there is widespread underreporting.

Pope outlined the new regulations during a session on environmental and labor issues at the Louisiana Farm Bureau Federation's annual convention earlier this summer in New Orleans. The new rules apply to ag workers who perform hand-labor tasks in pesticide-treated crops, such as harvesting, thinning and pruning, and pesticide handlers – those who mix, load and apply pesticides.

The new rules:

- Require farm operators to train workers annually. Federal regulations had required training every five years while some states had more stringent commitments. In addition, Pope said, there will no longer be a grace period for new workers. Previously, someone could be put to work and then trained within five days. **"Now they will have to receive training before they perform worker or handler tasks."**

- Preclude the hiring of pesticide-handling workers under the age of 18 unless they are "immediate-family" members. Pope noted that the immediate-family exemption has been expanded to include aunts, uncles, nieces, nephews and first cousins.

- Require growers to take a "Train the Trainer" course to make sure they're covering all of the information needed to adequately prepare employees for handling, applying or being exposed to pesticide residues.

- Mandate that growers keep copies of the label from the pesticide container on hand to make sure medical personnel know what they are dealing with, in the case of an exposure incident.

Farm operators will also be required to document compliance with the new regulations, which Pope said has resulted in "some grumbling."

"Farmers are already required to handle a mountain of paperwork and this is something more that they have to worry about," Pope said.

Click here to see a list of the major revisions to the Worker Protection Standards.

## Some Viptera negligence claims against Syngenta thrown out

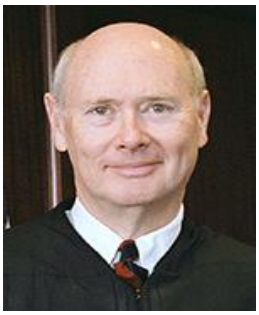
A federal judge has limited the scope of litigation seeking to hold Syngenta responsible for damages caused by China's rejection of genetically engineered corn in 2013.

U.S. District Judge John Lungstrum last week ruled that the federal Grain Standards Act (GSA) pre-empts state-law claims of negligence brought by eight farms in an already crowded class-action being overseen by the judge in Kansas City, Kansas.

But he also left the door open for those plaintiffs, and thousands more whose lawsuits await adjudication by Lungstrum, to argue other theories of negligence. In general, the growers, who did not use the GE corn at issue – Agrisure Viptera and Agrisure Duracade – contend that Syngenta pushed ahead with commercialization of the traits before China approved them for import.

China halted U.S. corn shipments in late 2013 after detecting MIR 162, the genetically engineered trait in Viptera seed, in U.S. corn shipments. Although it approved imports of MIR 162 corn a year later, the National Grain and Feed Association estimated that the trade disruption cost U.S. growers as much as $2.9 billion.

In addition to targeting Syngenta, the eight lawsuits brought by Phipps Anderson Deacon in San Antonio also alleged that Archer Daniels Midland, Bunge North America, Cargill, Louis Dreyfus Co., and Gavilon Grain were negligent in their handling of the GE corn. The judge dismissed the claims against those companies, as well, but gave the plaintiffs a chance to amend their complaint against Gavilon Grain.


Judge John Lungstrum

**Lungstrum said that given his ruling in April, when he dismissed similar state-law negligence claims brought by Syngenta against grain handlers Archer Daniels Midland and Cargill, he had no choice but to rule for the seed company**. He said the GSA's goal of promoting foreign commerce and setting standards for ensuring the quality of the grain preempted any state claims.

The latest ruling does not affect the progress of 2,700 other consolidated cases being overseen by Lungstrum, who is scheduled to hear arguments next month on whether to certify as a class all corn growers who did not use Viptera but who suffered economic losses because of its use.

**Syngenta said Lungstrum's Aug. 17 ruling "significantly narrows the case" against it.** For instance, the judge said the GSA bars "any claim against Syngenta based on a duty to make sure that Viptera corn is segregated from other corn" and he agreed with Syngenta that "there is no basis for Syngenta's liability based on false representations or omissions of fact in communications with plaintiffs." Syngenta noted, however, that "the litigation will continue to proceed."

Martin Phipps, representing the growers whose cases were largely dismissed, said in a statement, **"While we respect Judge Lungstrum's opinion, we disagree and intend to appeal the court's decision at the appropriate time."** Since the GSA went into effect in 1916, "no court has ever found that (it) preempts farmers' rights to sue for violations of their state laws in this type of case. If this opinion is allowed to stand, it could eliminate the ability of farmers to recover damages for misconduct of biotechnology, seed and grain trade companies."

The approximately 2,700 individual growers in the case now before Lungstrum still have plenty of legal ammunition as the litigation proceeds. For example, Lungstrum said they "might argue that, even if contamination was not practically inevitable as alleged, Syngenta was nonetheless negligent in failing to take certain actions (for instance, with respect to avoiding cross-pollination) that would have prevented plaintiffs' injuries."

Syngenta also could have limited its sales geographically or sold Viptera seed to farmers who agreed not to sell their crop outside of the state where it is grown.

In ruling last September against Syngenta's motion to dismiss the claims against it, Lungstrum found that the "the law reasonably imposes a duty on a manufacturer to exercise reasonable care not to commercialize and sell its product in a way that creates a risk of widespread harm resulting from the intended use of the product by all of its customers."

## USDA working against the clock on GMO disclosure rule

USDA doesn't have the manpower or funds yet to complete the federal rule for the GMO disclosure law, but the department is doing what it can as quickly as it can, according to government officials.

The Agriculture Marketing Service is the agency in charge of writing the rule to implement the law and it already has a dedicated staff for the task – economists, lawyers, policy experts – but it's also pulling in resources from other agencies to help as part of a department-wide working group that meets once a week.

"You'll start to see here pretty quickly some ticking off the boxes of the to-do list," said one government source. **"We'll have actions that come out from (the Food Safety Inspection Service) and we've got a policy memo we're working on with the National Organic Program right now, so there's a whole host of work that's getting done already."**

By statute, USDA has two years to complete a final rule to fully implement the National Bioengineered Food Disclosure Standard, but there is only a little more than five months left for the Obama administration. Officials say that Agriculture Secretary Tom Vilsack wants to get as much done as possible by Dec. 31.

"We're looking at the budget and staffing implications," Vilsack said Tuesday, but also stressed that he is pushing to get a lot done. "**It's a little early to say how much we'll get done, but my hope is we establish a very strong foundation and framework so that (we will make) many of the more intricate and difficult decisions … so that the next administration won't have to be faced with making those decisions."**

Vilsack knows the GMO disclosure law intimately because he helped write it, often brokering negotiations between Senate Agriculture Committee Chairman Pat Roberts and the panel's top Democrat, Debbie Stabenow. But the changeover to a new administration and new leadership at USDA could put a major drag on the process.

Chuck Conner, National Council of Farmer Cooperatives CEO who also co-chairs the Coalition for Safe Affordable Food, says the quicker the USDA can work, the better the rule will be.

**"I would love to see Secretary Vilsack finish this off because he's well-versed in all of the tricky details that made this legislation a two-and-a-half-year process," Conner said. "So if there is a new team that comes in and has work to do, certainly there will be some getting up to speed associated with that."**

USDA's biggest task in writing the rule may be deciding whether highly refined products like beet sugar, soybean oil and high fructose corn syrup would need to be labeled because they are derived from genetically modified plants.

USDA officials have already gotten an earful on the issue from the makers of those products. Department sources say it's also an issue they are hoping to tie up before January.

**Industry officials say it would be unscientific to require disclosure on highly refined products because virtually all of the added genetic material from the original corn, soybean or sugar beet seeds has been stripped away during processing.**

"At this time the department is not on a path to propose a regulation that would require (highly refined commodities) … to require disclosure," one government source said. "**That is not what we're on a path to do. We're looking for input on whether or not that should be in the proposed rule."**


Chuck Conner, NCFC

USDA plans to give the public plenty of opportunities to weigh in. Several public listening sessions are being planned, with dates and locations yet to be decided, sources said. The department also is planning to set up an 800 number for comments and a public reading room to make available documents used in the rule-making.

The opportunity for public comment and USDA's ability to address concerns will be very important, Conner said.

**"This will generate tens of thousands of comments and USDA has to be very methodical and respond to each one of those comments or else they're opening themselves to potential litigation," he said. "It's a heavy task ahead of them."**

Another challenge for USDA will be to make sure that the quick reader (QR) technology proposed by Congress will be feasible when it comes to allowing shoppers to scan food labels to find out if products contain genetically modified ingredients.

USDA has a year to do this and the department has already begun the process of choosing a company to conduct a feasibility study.

Under the law, makers of food products that need some sort of GMO disclosure will have the choice among a QR code, a symbol or just plain text. USDA already has a graphics team developing proposals for a symbol, sources said.

## Cover crop acreage, popularity on the rise

A new survey shows cover crops get rave reviews from producers that plant them, but those that don't still appear skeptical of their benefits.

The annual survey, conducted by the Conservation Technology Information Center, USDA's Sustainable Agriculture Research and Education Agency (SARE), and the American Seed Trade Association, shows cover crop acreage has been on the rise since 2010.

Survey respondents said they expected to plant an average of 339 acres of cover crops in 2016, up 14 percent from last year. That shows a continuation of increases in acreage – 2015's projections were 25 percent higher than 2014's – and the survey says if not for smaller outliers, the averages could be even higher.

**"It is worth noting that the figure for the average acres of cover crops per farm represents both grain farmers and smaller horticulture producers," the report on the survey said. "If grain farms alone were considered, the average acreage of cover crops per farm would likely be significantly higher."**

With crop prices on a steady decline, the concept of buying an additional input and taking another trip across the field to plant it might not pencil out for penny-pinching producers. **But the survey also reported slight yield bumps (1.9 percent in corn and 2.8 percent in soybeans) after cover crop use, and about one-third of survey respondents that used cover crops said they experienced a profit increase.** Since only 5.7 percent of respondents experienced a profit reduction, the purported conservation and soil health benefits of cover crops appear to be showing dividends.

Seemingly everyone from USDA employees to the Natural Resources Defense Council (NRDC) trumpets the benefits of cover crops. In April 2015, NRDC published a report on the climate change mitigation of cover crops. It concluded that if cover crops were planted on half of the corn and soybean acres in the nation's top 10 agricultural states, it would amount to sequestering more than 19 million metric tons of carbon annually. NRDC says that would be the equivalent of taking more than 4 million cars off the road.

If cover crops are so good for business and the environment, why aren't they taking off like a strong showing of cereal rye?

**Cover crops are experiencing an undeniable increase in acreage, but there's still quite a way to go before their use can be considered widespread.** In the 2012 Census of Agriculture, 10.3 million acres of cover crop use was reported. A firm number on more recent cover crop acres will be hard to come by until the census is updated in 2017, but some estimates put in in the ballpark of 15 million to 17 million acres. That's a far cry from total row crop acreage of about 250 million acres.

So what needs to be done to get more producers growing cover crops? Rob Myers, an agronomist with the University of Missouri and the director of extension programs for SARE's North Central office, told *Agri-Pulse* there's room for some policy changes that might be beneficial – property tax credits and crop insurance premium discounts, to name a few – but education remains the biggest challenge.

"The people not yet using (cover crops) have questions, so they want to know more about which species of cover crops they should be using, the best time to plant them, how to terminate them, so there is still educational needs out there," Myers said.


Rob Myers

**"I think that's a big need going forward," he added. "And not just for farmers, but also for the people that are advising farmers. The knowledge is building, but not everybody is equally informed."**

Meyers said the growth in cover crop use is strongest in the Midwest, but some Southeastern states are also experiencing rising acres.

**An increase in research would also help in increasing cover crops,** Myers said. Breeding cover crop varieties specific to certain areas or production systems could prove beneficial, as could research into issues with nutrient management altered by cover crops. Some producers are even experimenting with "planting green," he said, and holding off on terminating their cover crops until after the spring crop is planted.

For the time being, cover crops are still viewed as a long-term play on soil health rather than a quick injection into the producer's bank account. While the delayed gratification might make cover crops a tougher sell, Meyers hopes that producers that give them a try will get hooked.

**"Once (farmers) get two or three years of experience, they get really committed to using the cover crops," he said. "The big question is, what about the 90 percent of the farmers not yet using them?"**

## News Briefs…

**Grassley to hold Judiciary Committee hearing on Ag mergers.** Senate Judiciary Chair Chuck Grassley told reporters on Tuesday that his committee will hold a hearing next month focusing on "the transactions currently being reviewed by antitrust regulators and the current trend in consolidation of the seed and chemical industries." The announcement comes a day after Syngenta and China National Chemical Corporation (ChemChina) said the Committee on Foreign Investment in the U.S. (CFIUS) had approved their proposed merger, removing a major obstacle to the union. Grassley said the date of the hearing and witnesses will be announced later. The Iowa Republican has spoken often about the sensitive nature of mergers in the ag sector due to food security concerns. He has gone so far as to introduce legislation that would permanently add USDA to the CFIUS review process to consider agricultural assets part of the national security infrastructure. In addition to the ChemChina-Syngenta merger, a proposed union of Dow Chemical Co. and DuPont also is under antitrust review.

**AFBF touts poll showing support for TPP.** The American Farm Bureau Federation is touting a new poll that shows most Americans favor fair trade as something lawmakers should keep in mind in any forthcoming vote on the Trans-Pacific Partnership. The poll, by Morning Consult and sponsored by AFBF, found that 57 percent of registered voters have a favorable view of "fair trade," and that 50 percent said they would be more likely to support TPP if they knew it would provide new markets overseas for U.S. farm products. After being told the trade pact with 11 other Pacific Rim nations could increase net farm income by $4.4 billion and agricultural exports by $5.3 billion, 52 percent said they would be more likely to support TPP. "Most Americans support free trade," AFBF President Zippy Duvall said, "and most farmers do, too. Exports account for almost a quarter of American farm receipts, so opposing fair trade agreements like TPP doesn't make a lot of sense to rural America." The survey also found that 69 percent of voters support trade policies that will open new markets for U.S. products and U.S. farmers while less than one in 10 oppose. "Most trade deals start out with loud opposition, only to fade away once the details become known," Duvall said. "We are convinced TPP is no different: The more people know, the more they will support this vitally important agreement."

**USDA opens FAS office in Rangoon embassy.** USDA is expanding activities and services in Burma, opening a new Office of Agricultural Affairs at the U.S. Embassy in Rangoon. Foreign Agricultural Service Administrator Phil Karsting said that Burma, also known as Myanmar, is opening to the rest of the world and offers significant market potential for U.S. agricultural exports. "Changes in Burma's government and economy present exciting opportunities – not only for bulk commodities, but for high-value food products to serve Burma's rapidly growing hotel, restaurant and tourism industries," said Karsting, who traveled to Rangoon for the opening of the FAS office. The agency now has 94 offices at U.S. embassies and diplomatic missions around the world, covering 171 countries.

**Comments sought on beef standards**. USDA's Agricultural Marketing Service (AMS) is seeking comments on whether or not to amend the U.S. Standards for Grades of Carcass Beef to include dentition and documentation of actual age as an additional determination of maturity grouping for official quality grading. The beef standards currently only include skeletal and muscular evidence as a determination of maturity grouping. The proposed changes would allow carcasses of grain-fed steers and heifers determined to be less than 30 months old either by dentition or by documentation of actual age to be included in the youngest maturity group for carcasses recognized as "beef" regardless of skeletal evidences of maturity. The notice will be published today in the Federal Register. Comments may be posted online at www.regulations.gov, submitted by email to beefcarcassrevisions@ams.usda.gov, or sent to: Beef Carcass Revisions, Standardization Branch, Quality Assessment Division; Livestock, Poultry, and Seed Program; Agricultural Marketing Service, U.S. Department of Agriculture; 1400 Independence Ave., SW; Room 3932-S, STOP 0258; Washington, D.C. 20250-0258.

**Who's the Farmer of the Year?** The American Farm Bureau Federation and the Farmers' Almanac are looking for three farmers who will be recognized as a "Farmers' Almanac Farmer of the Year." The contest was announced in the 200th Edition of the almanac – a "Special Collector's Edition" – which is famous for its long-term weather forecasting. The contest will be judged on career longevity, use of technology or other innovations, community involvement, and why the nominees are leaders in agriculture. Winners will receive a one-year membership to their county Farm Bureau, a lifetime subscription to the Farmers' Almanac, and have their story featured in next year's edition. Nominations are being accepted online until the end of January.

## Farm Hands on the Potomac…

Land O' Lakes has hired **Tina May** as its senior director of sustainability based in Minneapolis. May is a former vice president of policy with Hampton Creek (the maker of Just Mayo, a vegan mayonnaise) and a chief of staff in USDA's office of the deputy secretary. She also served as policy director on the Senate Agriculture Committee from 2011 to 2014. May says her move to Minnesota is a good fit. She points out that her father was hired by Land O' Lakes there as a feed truck driver in 1972 and he is still working there today, 44 years later.

Washington Gov. **Jay Inslee** has appointed former **Brett Blankenship** to the Washington State University Board of Regents. Blankenship, a former president of the National Association of Wheat Growers, is an owner and partner in Blankenship Brothers, a family farm wheat producer. He has also served as president of Washington Agriculture and Forestry Leadership Foundation and is a local emergency medical service volunteer.

The American Frozen Food Institute has named **Daniel Rhea** its new communications director. Rhea has been serving as communications director for Rep. Joe Barton, R-Texas.

**Edward H. Chu** is the new deputy regional administrator for EPA Region 7 based in Lenexa, Kansas. The region encompasses Iowa, Kansas, Missouri, Nebraska and nine tribal nations. Chu has held key leadership positions since arriving at EPA in 1995. Most recently, he was the assistant regional administrator for the Pacific Northwest and Alaska Region (Region 10).

The Foundation for Food and Agriculture Research has taken another big step toward its goal of supporting innovative science addressing today's food and agricultural challenges by naming experts to six advisory councils. Each Advisory Council is led by a chairperson, appointed to

facilitate discussion and build consensus. **Doug Karlen**, with USDA's Agricultural Research Service, will lead the council on Soil Health. The other council subjects and their chairs are: Food System Innovation – **Josette Lewis**, University of California, Davis; Nutrition and Healthy Food Choices – **Laurian Unnevehr**, University of Illinois; Plant Efficiency –**Jonathan Lynch**, Pennsylvania State University; Sustainable Farm Animal Productivity, Resilience, and Health – **Harvey Morgan Scott**, Texas A&M University; and Water Use – **Daniel Sonke**, Campbell Soup Company. Click here for a full list of Advisory Council members.

The National Grain and Feed Association hired **Jim Seibert** to fill the newly created executive position of manager of regulatory affairs, education and training. The Oklahoma State University grad previously served as a grain and crop inputs production supervisor for Cargill in Ravenna, Nebraska. Seibert is also company commander in the Nebraska Army National Guard.

The Center for Food Integrity, an industry-backed group that works to gauge and build consumer trust, has named 10 new board members. They are: **Susan Borra** from the Food Marketing Institute; **Leanne Cooley** from L.H. Gray & Son Ltd.; **Stewart Leeth** from Smithfield Foods; **Leigh Horner** from The Hershey Company; **Monica Massey** from Dairy Farmers of America; **Kirk Merritt** from Ohio Soybean Council; **Ernst van Orsouw** from Genus/PIC; **Cicely Simpson** from National Restaurant Association; Mindy Whittle from Monsanto; and **Craig Wilson** from Costco. The board also elected **Len Heflich** as the Center's new president. Heflich is vice-president of global food safety, quality and crisis management for Grupo Bimbo, in Mexico City. **Doyle Karr**, director of biotechnology public policy for DuPont, was elected vice president; and **Amy Roady**, communications director for the Illinois Soybean Association, was named secretary and treasurer.

**Steve Hensley** is moving on from USA Rice after 13 years with the group as senior director of regulatory affairs. The James Madison University alum is now with the National Cotton Council where he's managing their science and environmental issues.

CHS Inc. appointed **Manny San Miguel** to the newly created position of vice president of risk management services where he'll oversee CHS hedging, the company's commodity brokerage subsidiary, as well as CHS Insurance. San Miguel has been with CHS since 2011 as vice president of enterprise strategy and planning.

The American Coalition for Ethanol elected three new representatives to the group's board of directors during its recent annual meeting in Sioux Falls, South Dakota. They are: **Scott McPhetters**, representing KAAPA Ethanol; **Rick Schwarck**, with Absolute Energy; and **Chris Studer**, representing East River Electric Cooperative. Studer replaced **Scott Parsley** who retired from the co-op last year. Re-elected to the board were: **Owen Jones**, with Full Circle Ag Cooperative; **Duane Kristensen**, with Chief Ethanol Fuels; **Dave Sovereign**, Golden Grain Energy; and **Dale Tolifson**, representing Minnesota Corn Growers Association.

**Dennis Inman** has taken a new position with Land O'Lakes, where he will serve as the grain director for the Strategic Asset Management Group. Previously, Inman was a regional general manager for Cargill Ag Horizons.

**Larry Reynolds**, an animal science professor at North Dakota State University, has received the American Society of Animal Science's Fellow Award in the research category. NDSU says this is the highest honor the society can bestow on its members. Reynolds has spent almost 40 years on research focused on improving the ability of livestock to conceive and establish the pregnancy

and health of the offspring……**Travis Prochaska** is the new area crop protection specialist for North Dakota State University's North Central Research Extension Center. Prochaska has completed graduate degrees from the University of Nebraska-Lincoln focused on soybean host plant resistance to the soybean aphid and switchgrass biotechnology.

The Samuel Roberts Noble Foundation hired **Myriah Johnson** as a new agricultural economics consultant in its Agricultural Division. She joins the Foundation after five years as a research associate at Texas A&M University where she earned a doctoral degree in animal science.

The Scoular Co. board has appointed **Paul Maass** as chief executive officer, responsible for the grain merchant's worldwide strategy. Maass most recently served as president of ConAgra Foods' Commercial Foods and Private Brands segments as well as chairman of its Ardent Mills joint venture.

The board of directors at Foster Farms has appointed **Laura Flanagan** as the poultry producer's president and CEO. She succeeds Ron Foster, grandson of company founders **Max and Verda Foster** effective Aug. 29. Flanagan most recently served as president ConAgra Foods Snack Division.

The Ohio AgriBusiness Association hired **Nicole Wallace** as its communication and administrative coordinator. Wallace is completing a bachelor's degree in agricultural communications and public affairs at Ohio State University.

**Ralph W. F. Hardy**, cofounder and president of the North American Agricultural Biotechnology Council, died earlier this month at the age of 82. Hardy was a former president and CEO of the Boyce Thompson Institute for Plant Research. In his own research, he pioneered discoveries on biological nitrogen fixation, with the goal of increasing yields from crop plants without the addition of nitrogen fertilizers. Born in Lindsay, Ontario, Hardy maintained a century-old farm outside of Toronto until his death.

**Best Regards,**

**Sara Wyant**

**Editor**

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