TEXAS FFA ASSOCIATION
LEADERSHIP DEVELOPMENT EVENTS



AG ISSUES AND CURRENT EVENT

BRIEFS

2015 Senior FFA Quiz Leadership Development Event
2015-16 Texas FFA Officer Candidate Testing Program

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UNIT 1

Texas Commissioner of Agriculture Sid Miller Discusses Texas Agricultural Issues

Sid Miller is the state's 12th Agriculture Commissioner, since the Texas Legislature created the statewide elected office in 1907, and the first former high school agriculture instructor to hold the office. He was sworn into office on January 7 of this year, receiving the oath of office in the Texas Capitol House Chamber from Governor Rick Perry, who was ninth Texas Commissioner of Agriculture in 1991-98.

Miller focused attention on his agricultural education roots by having the 20014-15 state FFA officers perform the FFA opening ceremony for his swearing in. Miller, a former local FFA advisor delivered the advisors part.

Miller, a native of Stephenville, was a six-term member of the Texas House of Representatives, (2001-12) where he served as chairman of the House Agriculture and Livestock Committee and a member of the Texas Agriculture Policy Board, prior to winning the 2014 Republican primary and run-off over five other candidates and the November general election.

Miller earned a baccalaureate degree in agriculture education from Tarleton State University and had an eight-year teaching career before venturing into the agricultural business as a farmer, rancher and nursery operator. He also is a professional rodeo cowboy and holds nine American Quarter Horse Association world championship titles.

Texas Agriculture Commissioners

1907-08: Robert Teague Milner
1908-14: Edward Reeves Kone
1915-20: Fred Davis
1921-30: George B. Terrell
1931-50: James E. McDonald
1951-77: John C. White
1977-82: Reagan V. Brown
1983-90: Jim Hightower
1991-98: Rick Perry
1999-06: Susan Combs
2007-14: Todd Staples
2015-present: Sid Miller

The first commissioner, Robert Teague Milner resigned from office to become president of Texas A&M University. The longest serving commissioner, John C. White was also the youngest to be elected to this office. He was 25 years old when he defeated James McDonald and served 26½ years until he was appointed Deputy Secretary of Agriculture by President Jimmy Carter in 1977. Susan Combs was the first and to date, the only female to serve as Texas Agriculture Commissioner and later served as state comptroller in 2007-2014.

Texas Commissioner of Agriculture is one of nine non-judicial statewide elected offices on the election ballot. The Texas Agriculture Commissioner serves a four-year term in office and is elected on non-presidential election years, along with the governor, lieutenant governor, attorney general, comptroller and land commissioner. The other statewide non-judicial offices are the three members of the Texas Railroad Commissioner that regulates the oil and gas industry.

The commissioner serves as the chief executive of the Austin-based Texas Department of Agriculture which, in addition to its headquarters in the Stephen F. Austin State Office Building, has 13 different regional offices*, laboratories and other facilities. The department has more than 600 employees, a budget of more than $500 million and handles agricultural crop protection, consumer protection regulations, nutrition assistance, pesticide regulation, seed certification and more. One of the roles familiar to students is the administration of the state's school lunch program.

*Regions and regional offices are: Gulf Coast Region, Houston; North Texas Region, Dallas; South Central Region, San Antonio; West Texas Region, Lubbock and Valley Region, San Juan.

Agriculture matters: Commissioner talks about floods, fryers and rustlers

Miller delivers state of agriculture address

Posted: Wednesday, July 8, 2015 12:56 pm
By LISA SEISER, Editor

AUSTIN – Texas Agriculture Commissioner Sid Miller believes his department is headed in the right direction – making changes, helping people and improving efficiency.

He spent about 15 minutes yesterday morning discussing his first six months in office during a live stream press conference.

Miller, who stood at a podium with the seal of the Texas Department of Agriculture behind him, spoke briefly about a variety of topics, including trade missions around the world, improving certification processes, prosecuting those who cheat Texas consumers, giving more local control to schools when it comes to feeding students, the storms and water that has affected the state and social media outreach to communicate with the citizenry.



Rodolfo Gonzalez
In this aerial photo a barn with a Texas flag painted on its roof is surrounded by water near Martindale, southwest of Austin in Hays County, after the San Marcos River flooded, Sunday, May 24, 2015. Record rainfall was wreaking havoc across a swath of the U.S. Midwest on Sunday, causing flash floods in normally dry riverbeds, spawning tornadoes and forcing at least 2,000 people to flee.

His main point appeared to be that no industry is more important than agriculture. He called it the "glue that holds the state together."

The department's new motto, **"Texas Agriculture Matters,"** will continue to be used across the state and beyond.

One way they are doing that is by traveling the globe and inviting other countries to the area to promote Texas grown products.

"This is all a part of the plan to expand products around the world," he said, which is one of his department's top priorities.

He also talked about speeding up the movement of government and holding businesses that violate consumer's rights accountable for those actions.

Miller said the department was more than two years behind in its organic certification process. He also said hundreds of cases against violators were dismissed.

The TDA Organic Certification Program ensures the integrity of organic agriculture products produced and manufactured in Texas by providing certification to Texas producers and businesses.

"The train is running on time," he said of the certification.

That's not all.

"We were not holding people accountable for cheating Texas consumers," he added. "If you rip off a Texas consumer, we will come get you."

This comment is a reference to the agency's weights and measures program which was enacted to protect consumers and businesses by ensuring that equity prevails in all commercial transactions involving determinations of quantity.

TDA inspects weighing and measuring devices to ensure performance within acceptable tolerances and TDA inspects packaging to enforce net content and labeling regulations. The agency's Weights and Measures program provides standards for private industry which discourage unfair and dishonest commerce. TDA also adopts rules and regulations to help eliminate fraud and misrepresentation in commercial transactions.

TDA's field staff inspect a wide variety of measuring devices to protect consumers from overcharges and poor quality fuel.

One of the lesser known but quite public functions of the department's weights and measures program is the calibration and certification of balls used in the Texas Lottery.

The department also has abolished what Miller called "outdated state mandates" regarding healthy lunch programs and given "local control back to the school districts, teachers and parents."

Districts will be able to have fryers and offer other food and drink options to ensure children eat.

"The problems we're having is not about serving healthy foods, it's we have healthy trash cans," he said about the amount of food being thrown away. "We are about changing that here."

TDA is the state agency responsible for administering the National School Lunch Program (NSLP) is a federally assisted meal program that provides lunches to more than 3 million Texas children in school and residential child care institutions.

The NSLP serves nutritious, low-cost or free lunches to students in public and non-profit private schools in Texas. Lunches must meet federal nutrition guidelines, and are reimbursable to schools based on number of meals served.

Miller also talked about the challenges faced by residents of the state during the past few months – mainly the storms that have cost lives and destroyed property in many areas of Texas.

But, the rains also provided much of Texas needed relief from a multi-year drought.

"Water is the lifeblood of Texas agriculture," he said.

His department will be working with the state on its long-term water plan.

"Agriculture is the number one user of water in the state," he said. "It is important we can conserve and plan for water use."

Ensuring the word is out about the work of the department and agriculture across the state, Miller said his team has focused on growth and outreach through social media and other communications. The department's posts have reached three million people.

"We are getting the message out that Texas agriculture matters," he said.

Miller was quick to give credit several times to his staff for the work they've done since January.

"We still have a lot of work to do. I know you are up to the task," he told his staff.

Sid Miller says Texas farmers 'just about maxed out' in water conservation

By W. Gardner Selby on Monday, May 4th, 2015 at 6:00 a.m.

The following article, submitted by TDA staff, is a fact-check analysis, produced by Politifact-Texas, a fact-checking enterprise operated by the Austin-American Statesman newspaper. Politifact-Texas is not a subsidiary of the National Politifact organization, but pays licensing fees for the right to apply the trademarked Politifact brand. The article's "we" and "us" are referencing the Politifact staff. The article provides some insight concerning Texas agricultural water usage and conservation.



Sid Miller, the Texas Agriculture Commissioner, said at a March 2015 symposium that farmers in the state have little room to save more water.

Miller, responding to Evan Smith of the Texas Tribune, prefaced his claim by saying Texas is out of "surplus water." He went on to say that as much as the state has urbanized, agricultural production has surged — and all that with farmers needing less water.

"So agriculture is at 98, according to the water development board, we're at 98 percent efficiency," meaning two percent of water used to raise crops isn't going to its intended purpose.

"So we're just about maxed out as to what we can do on the conservation end of it," Miller said.

Luke Metzger of Environment Texas, an Austin-based environmental activist organization, heard Miller's statement and asked us to check it out. He noted too that a skeptical crowd member at the event asked Miller to explain. In reply, Miller said a lot of irrigation occurs underground, most runoff water is recaptured and most traditional irrigation methods have ebbed. "It's pretty highly sophisticated," Miller said.

Miller's basis: To get our grip on his "maxed out" claim, we asked the Texas Department of Agriculture to elaborate. By email, agency spokesman Bryan Black provided a March 11, 2015, presentation by the Texas Water Development Board, whose mission centers on supporting the conservation and responsible development of water for Texas, stating Texas agricultural "producers now achieve up to 98 percent irrigation efficiency."

Black later quoted a 2012 report from the Texas Water Resources Institute, based at Texas A&M University, stating: "Irrigation efficiency has gone from 60 percent to 88–95 percent in much of the state today, allowing Texas to get much more value and agricultural output from its water." Black said that according to the report's lead author, the institute's associate director, Kevin Wagner, "the most up-to-date number on irrigation efficiency is now around 98 percent."

'Significant advances:' An institute press release on the report quoted Dana Porter, an AgriLife Extension agricultural engineering expert, saying that in Texas over the past few decades, "significant advances have been made in irrigation efficiency, as many irrigators now use high-efficiency advanced irrigation technologies, such as low-pressure center pivot sprinkler systems or subsurface drip irrigation.

"However," Porter said, "challenges remain and there are opportunities for continued improvements in water use efficiency through application of situation-appropriate efficient irrigation technologies and best management practices, including irrigation scheduling, and

through use of drought-tolerant crop varieties and integrated crop and pest management practices."

According to the report, as of 2008, more than six million acres were irrigated in Texas--mostly in West and South Texas--accounting for more than 10 percent of the nation's irrigated land. Total annual irrigation water use has remained steady, the report said, averaging approximately 9.5 million acre-feet, (an acre-foot is 326,000 gallons which would cover one acre, 43,560 square feet, to a depth of one foot) since the late 1970s.

The report presented one path to a "98 percent" statement, saying:

> *"Historically, most agricultural irrigation was applied using flood and furrow irrigation; however, most of the state has undergone a mass conversion from these systems to more efficient irrigation systems" topped by low-pressure sprinkler systems that apply water at or below a crop's canopy."*
>
> *"As of 2008, center pivot sprinklers are used on nearly 80% of Texas' irrigated acres, and 87% of those acres are using low-pressure center pivot sprinklers. Furrow and flood irrigation account for less than 20% of irrigated acres today. Further, the highly efficient subsurface drip irrigation, in which there is minimal evaporative loss, is increasingly being adopted and now comprises almost 3% of irrigated acres."*
>
> *"Because of this adoption, irrigation efficiency has gone from 60% to 88–95% in much of the state today, allowing Texas to get much more value and agricultural output from its water." An accompanying chart (not included in this article) indicates sprinkler and drip irrigation was in place for more than 80 percent of the state's farmland in 2008 with less conservative furrow and flood irrigation used in 19 percent.*

Best efficiency, subsurface drip irrigation: Next, we reached out to the institute's Wagner, who said by phone he would have added a phrase to what Miller said by specifying that farmers can achieve up to 98 percent efficiency "if they use subsurface drip irrigation" instead of less conservative methods--and drip irrigation was being used by only 3 percent of Texas farmers as of 2008, he added by email.

Significantly, Wagner said, it's harder to adapt subsurface irrigation in parts of the state where water isn't always immediately available. That's because drip systems count on a steady supply of water, he said. "We can never get 100 percent of our acres to subsurface drip without significantly changing our water delivery system," Wagner said.

Wagner told us 95 percent efficiency can be achieved by using the most efficient center pivot sprinklers "but again, not all farms have implemented the most efficient systems on the market."

"Because center pivots have been adopted in much of the state," Wagner wrote, "most irrigation is in the range of 88-95% efficiency. However, we continue to work with producers to improve irrigation efficiency and timing."

"Going forward, he said, "improvements on the vast majority of irrigated acres are going to be much smaller as we now tweak technology and management. So in a sense, 'the low hanging fruit' has been picked."

Earlier, we connected with the water development board's Robert Mace, who also stressed drip irrigation as key to achieving 98 percent efficiency. "We don't think farmers are maxed out," Mace said. "Everybody can do a little better with some advice."

"Individual ag producers are achieving upwards of 98 percent irrigation efficiency," Mace said. "But there is still work to be done."

Our ruling: Miller said Texas agriculture is "at 98 percent efficiency" in water use and "just about maxed out as to what we can do on the conservation end of it." Farmers are not just about maxed out, experts told us, though those who use drip irrigation may be close. Growers using sprinkler methods may get 88 percent to 95 percent efficiency

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UNIT 2

Federal Clean Water Act: EPA Waters of the United States (WOTUS) Rule

Groups file lawsuit to vacate 'WOTUS' rule

Posted: Monday, July 6, 2015 3:56 pm

On the 239th anniversary of the Second Continental Congress declaring the fledgling United States should be free from an oppressive, oversized government, the National Pork Producers Council and 13 other organizations filed a lawsuit asking a federal court to vacate a new Clean Water Act regulation that will bring under federal jurisdiction “a staggering range” of land and water and adversely affect numerous agricultural and business activities.

The final “Waters of the United States” rule was issued May 27, 2015, by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers ostensibly to clarify the agencies’ authority under the CWA over various waters. Currently, that jurisdiction — based on several U.S. Supreme Court decisions — includes “navigable” waters and waters with a significant hydrologic connection to navigable waters.

The WOTUS rule would broaden that to include, among other water bodies, upstream waters and intermittent and ephemeral streams such as the kind farmers use for drainage and irrigation. It also would encompass lands adjacent to such waters. In their suit filed in the U.S. District Court for the Southern District of Texas against EPA and the Corps of Engineers, the agricultural and business groups said the final rule “bears no connection” to the CWA and violates provisions of the U.S. Constitution.

They also allege that in writing the rule the agencies misinterpreted the Supreme Court’s decisions on CWA jurisdiction and subverted the notice-and-comment process by failing to seek public comments on scientific reports used to write the regulation and on major revisions of the proposed rule, conducting an inadequate economic analysis and engaging in an advocacy campaign during the comment period.

Similar lawsuits have been filed by the attorneys general of 27 states.

“The final rule is vague and fails to let regulated parties know when their conduct violates the law,” said NPPC President Dr. Ron Prestage, a veterinarian and pork producer from Camden, South Carolina. “We’re asking the court to find the rule arbitrary, capricious, an abuse of discretion and not in accordance with law; and to find that it’s unlawful because it’s contrary to constitutional rights and powers, inconsistent with the agencies’ statutory authority under the CWA and was promulgated without following procedures required by law. The bottom line is we want the court to set aside the rule.

“We all want clean water,” Prestage said, “but this rule isn’t about clean water, it’s about EPA and the Corps taking over private property, growing the size of government and micromanaging hundreds of farming and business activities.”

NPPC is backing bills now making their way through Congress that would require EPA and the Corps of Engineers to withdraw the WOTUS rule and to work with affected parties, including farmers, on a new regulation.

U.S. Rep. Gosar Blocks Amendment that Would Have Allowed EPA Water Grab to Move Forward

July 8, 2015 by RealEstateRama

WASHINGTON, D.C. – July 8, 2015 – (RealEstateRama) — U.S. Congressman Paul A. Gosar, D.D.S. (AZ-04) released the following statement after blocking an amendment introduced by Brenda Lawrence (D-MI) to the **House Interior, Environment, and Related Agencies Appropriations Act for Fiscal Year 2016**, that sought to strip the Gosar requested **rider** included in the base bill which prohibits the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (USACE) from using any appropriated funds to carry out the new "Waters of the United States (WOTUS)" regulation:

"WOTUS is a terrible Washington mandate put forth by the EPA and this administration that will have disastrous effects and economic consequences for agriculture, small businesses, property owners, municipalities and water users throughout the country.

Federal agencies, such as the EPA, get their authority to issue regulations or rules from laws (statutes) enacted by Congress. In some cases, the President may delegate existing Presidential authority to an agency. Typically, when Congress passes a law to create an agency, it grants that agency general authority to regulate certain activities within our society. Congress may also pass a law that more specifically directs an agency to solve a particular problem or accomplish a certain goal. An agency is not to take action that goes beyond statutory authority or violates the Constitution. Agencies are required to follow an open public process when they issue regulations, according to the Administrative Procedure Act. This includes publishing a statement of rulemaking authority in the **Federal Register** for all proposed and final rules.

Gosar's statement continued, "The EPA claims this new regulation was 'shaped by public input.' Yet, we recently learned that the EPA used taxpayer dollars to unleash a propaganda campaign in an attempt to rally comments and support for its WOTUS regulation, despite the **Anti-Lobbying Act** which bans such actions. I am proud the House stood firm again today and blocked a misguided amendment that would have allowed EPA's water grab to move forward."

Congressman Gosar spoke against the amendment offered by Rep. Brenda Lawrence (D-MI) that would have struck Sec. 422 from the final version of the bill and removed the Gosar funding rider request. The Lawrence amendment was defeated by a voice vote.

The funding rider request was made by Congressman Gosar and 103 other members of Congress to Chairmen Calvert and Simpson and Ranking Members McCollum and Kaptur of the House Appropriations Committee.

A **rider** is an amendment, usually not germane, that its sponsor hopes to get through more easily by including it in other legislation. Riders become law if the bills embodying them are enacted. Amendments providing legislative directives in appropriations bills are outstanding examples of riders.

Frequently, Congress uses its "power of the purse," to stop unwanted agency action by defunding it through the appropriations process.

On January 28, 2015, Congressman Gosar introduced H.R. 594, the Waters of the United States Regulatory Overreach Protection Act. This bill prohibits the EPA and U.S. Corps of Engineering from "developing, finalizing, adopting, implementing, applying, administering, or enforcing" the proposed rule and any successor document, or any substantially similar proposed rule or guidance.

On March 25, 2014, the EPA and the Corps of Engineers released a proposed rule that would assert Clean Water Act jurisdiction over nearly all areas with even the slightest of connections to water resources, including man-made conveyances.

On May 12, 2015, the House passed H.R. 1732, the Regulatory Integrity Protection Act, by a vote of 261-155. This critical legislation requires the EPA and Corps of Engineers to formally withdraw the agencies' proposed rule that would redefine WOTUS and any subsequent final rule. Congressman Gosar joined the Chairman of the House Transportation and Infrastructure Committee Bill Shuster in introducing this bill.

More than 200 organizations and local municipalities have publicly declared their opposition to the proposed WOTUS rule.

States Sue Over WOTUS

By Bonner R. Cohen

July 29, 2015



The Obama administration's plan to expand the definition of wetlands in order to increase the number of waterways protected by Environmental Protection Agency (EPA) edicts is running into multiple roadblocks.

Twenty-nine states are suing EPA and the U.S. Army Corps of Engineers, in two separate lawsuits, over the White House's "Waters of the United States" (WOTUS) rule, which was implemented on June 29.

Attorneys General from 28 states have requested EPA and the **Army Corps of Engineers** delay implementation of a controversial rule they say unlawfully expands the agencies' jurisdiction under the Clean Water Act.

The lawsuits argues EPA has unlawfully expanded federal jurisdiction over state lands and water resources beyond the limits set by Congress under the Clean Water Act (CWA), and it asks the court to grant a permanent **injunction** to prevent WOTUS from taking effect as scheduled on August 28.

Rejecting EPA's claim of prior existing authority over non-navigable waters, a bipartisan coalition of lawmakers in the U.S. House of Representatives passed the Regulatory Integrity Protection Act (RIPA). RIPA would order EPA to withdraw the rule. In addition, House and the Senate appropriators have enacted provisions in budget bills to prevent EPA from spending funds to enforce the rule.

North Dakota Attorney General Wayne Stenehjem says waterways from tributaries to major rivers, "no matter how remote the connection," will be regulated under the rule, "as will all wetlands, ponds, lakes, and major waters next to those tributaries," according to a report in the *Jamestown Sun*.

"This federal power grab is unnecessary and unlawful and will do nothing to increase water quality in our state," Stenehjem said.

WOTUS History: The new rule contradicts the wording and intent of the enabling legislation on which it is ostensibly based, says Jay Lehr, who science director for The Heartland Institute, which publishes *Environment & Climate News*.

"When Congress wrote the Clean Water Act, Congress limited its application to 'navigable waters' for good reasons," Lehr said. "Among those reasons, Congress did not want EPA bullying farmers over small depressions in their land that occasionally hold rainwater, bullying people who dig a ditch to help drain their land, and using the smallest of streams and micro-bodies of water to restrict property use. EPA is attempting to stand the Clean Water Act on its head as it continues to seek more money and power."

The WOTUS rule stems from Supreme Court decisions in 2001 and 2006 that blocked EPA's efforts to expand its jurisdiction over "waters of the United States" under CWA. Although SCOTUS' rulings went against EPA, the language of the decisions was vague, leaving questions open. In the 2006 decision, the court found the CWA applied to streams and wetlands with a "significant **nexus**" to "navigable waters," leaving undefined what constitutes such a nexus.

Failing to get legislation through Congress to expand EPA's power over waters and wetlands, the Obama administration revised the CWA regulations, insisting the WOTUS rule represents only a clarification of the jurisdiction it already has over bodies of water rather than an expansion of its authority.

Rep. Mark Meadows (R-NC) says WOTUS is an "absurd" and illegal expansion of EPA's power.

"Under the EPA's absurd new WOTUS rule, the agency would have the ability to regulate waters on private lands down to ditches, potholes, and puddles," he wrote in a June 2 op-ed in *The Hill*. "EPA Administrator Gina McCarthy told reporters the rule 'will make it easier to identify protected waters.' Of course, it would make it easier—it would make nearly all waters in the U.S. EPA-governed waters.

"Under the guise of protecting bodies of water, EPA is engaging in a giant land grab," said Craig Rucker, executive director of the Committee for a Constructive Tomorrow.

"Landowners (residential and commercial) will have to go to EPA to obtain permits to make even the slightest changes to their property, including lengthening or widening a driveway or making an addition to a garage or any other structure on one's property," Rucker said. "EPA is determined to introduce federal zoning, and the agency will use WOTUS as the most powerful land-use weapon in its regulatory arsenal."

KEY IDEAS AND TERMS

Clean Water Act of 1972 (CWA) (P.L. 92-500) (33 U.S.C. §§ 1251 to 1387): First signed into law October 18, 1972 by President Richard Nixon, the Clean Water Act is the common name that refers to the main federal law for protecting water quality. Also known as the *Federal Water Pollution Control Act (FWPCA) and Federal Water Pollution Control Act Amendments of 1972*. It extensively amended the Water Pollution Control Act of 1948 (P.L. 80-845), as previously amended in 1956, 1961, 1965, 1966, and 1970. The Act significantly expanded provisions relating to pollutant discharges. Provisions included determining limitations for *point sources* which were consistent with state water quality standards, procedures for state issuance of water quality standards, development of guidelines to identify and evaluate the extent of *nonpoint source pollution*, water quality inventory requirements, and the development of toxic and pretreatment effluent standards. Section 402 of the Act established the *National Pollutant Discharge Elimination System to authorize EPA* issuance of *discharge* permits. *Section 404* of the Act *authorized* the Corps of Engineers to issue permits for the *discharge* of dredged or fill material into navigable waters.

Ephemeral (adjective): Lasting a very short time; short-lived; transitory.

Environmental Protection Agency (EPA): The federal agency created in 1970 that is responsible for working with state and local governments to control and prevent water, air, and drinking water pollution, including regulation of solid and hazardous waste, pesticides, and toxic and radioactive substances. The EPA regulates pesticides and establishes pesticide-tolerance levels.

The **Federal Register** is the official journal of the federal government of the United States that contains government agency rules, proposed rules, and public notices. It is published daily, except on federal holidays. The final rules promulgated by a federal agency and published in the Federal Register are ultimately reorganized by topic or subject matter and codified in the Code of Federal Regulations (CFR), which is updated annually. The Federal Register is compiled by the Office of the Federal Register (within the National Archives and Records Administration) and is printed by the Government Printing Office. There are no copyright restrictions on the Federal Register; as a work of the U.S. government, it is in the public domain

Injunction: A court order preventing one or more named parties from taking some action. A preliminary injunction often is issued to allow fact-finding, so a judge can determine whether a permanent injunction is justified.

Nexus (noun): 1. A means of connection; tie; link. 2.a connected series or group.

The **United States Army Corps of Engineers** (**USACE**) is a U.S. federal agency under the Defense and a major Army command made up of some 37,000 civilian and military personnel,[1] making it one of the world's largest public engineering, design, and construction management agencies. Although generally associated with dams, canals and flood protection in the United States, USACE is involved in a wide range of public works throughout the world. The Corps of Engineers provides outdoor recreation opportunities to the public, and provides 24% of U.S. hydropower capacity.

The **United States House of Representatives** (or simply the **House**) is one of the two chambers of the United States Congress; the other is the Senate. Each state is represented in the House proportionally by its population, and is entitled to at least one representative; the most populous state, California, has 53 representatives. The total number of representatives is currently fixed at 435 by Public Law 62-5 of 1911, though Congress has the authority to change that number. Each representative serves for a two-year term. The presiding officer of the House is known as the Speaker, and is elected by the members. John Boehner of Ohio is the current Speaker of the House.

United States Senate is one of the two chambers of the bicameral United States Congress, the other being the House of Representatives. It is known informally as the "upper house." In the Senate, each state is represented by two members. The Senate's membership is therefore based on the equal representation of each state, regardless of population. Since there are now fifty states, with two senators per state, the total membership of the body is now one hundred. Senators serve for six-year terms that are staggered so elections are held for approximately one-third of the seats (a "class") every second year. The Vice President of the United States, Joe Biden of Delaware, is the President of the Senate and serves as its presiding officer, but is not a Senator and does not vote except to break ties. The Vice President rarely acts as President of the Senate unless casting a tie-breaking vote or during ceremonial occasions. As such, the duty of presiding usually falls to the President *pro tempore*, by tradition the most senior senator of the majority party.

UNIT 3

The Trans-Pacific Partnership Trade Deal Explained

By KEVIN GRANVILLE
MAY 11, 2015
Updated: Aug. 1



Like a huge container ship pushing its way into port, the trade pact known as the Trans-Pacific Partnership has dropped anchor in Washington. The document is weighty and secret, stretching to perhaps 30 chapters.

It took 10 years of talks to take shape, and it would set new terms for trade and business investment among the United States and 11 other **Pacific Rim** nations —a far-flung group with an annual **gross domestic product** of nearly $28 trillion that represents roughly 40 percent of global G.D.P. and one-third of world trade.

Trade officials met in Hawaii in late July with hopes of reaching a final agreement, but the talks broke down over issues that have bedeviled a potential pact from the beginning, including the removal of **protectionist** agricultural policies.

Talks will resume in the future, but the failure to reach a settlement is a setback for President Obama. In June, he successfully overcame opposition from Democrats to win trade promotion authority: the power to negotiate trade deals that cannot be amended or **filibustered** by Congress. Once negotiators complete the trade pact, he would need to convince Congress — his fellow Democrats, in particular — to approve the trade deal. The latest setback means the ratification fight will likely be in 2016, a presidential election year, raising the degree of difficulty.

The debate in Congress, whenever it takes place, would put all the elements of the trade pact under scrutiny. It would be the final step for United States adoption of the Trans-Pacific Partnership, the most ambitious trade deal since the North American Free Trade Agreement in the 1990s.

Why the Pact Is So Divisive?

Supporters say it would be a boon for all the nations involved, that it would “unlock opportunities” and “address vital 21st-century issues within the global economy,” and that it is written in a way to encourage more countries, possibly even China, to sign on. Passage in Congress is one of President Obama’s final goals in office, but he faces stiff opposition from nearly all of his fellow Democrats.

Opponents in the United States see the pact as mostly a giveaway to business, encouraging further export of manufacturing jobs to low-wage nations while limiting competition and encouraging higher prices for pharmaceuticals and other high-value products by spreading American standards for patent protections to other countries. A provision allowing multinational corporations to challenge regulations and court rulings before special tribunals is drawing intense opposition.

Why This, Why Now?

The pact is a major component of President Obama's "pivot" to Asia. It is seen as a way to bind Pacific trading partners closer to the United States while raising a challenge to Asia's rising power, China, which has pointedly been excluded from the deal, at least for now.

There are also traditional trade issues involved. The United States is eager to establish formal trade agreements with five of the nations involved — Japan, Malaysia, Brunei, New Zealand and Vietnam — and strengthen **Nafta**, its current agreement with Canada and Mexico.

Moreover, as attempts at global trade deals have faltered (such as the World Trade Organization's Doha round), the Trans-Pacific Partnership is billed as an "open architecture" document written to ease adoption by additional Asian nations, and to provide a potential template to other initiatives underway, like the Transatlantic Trade and Investment Partnership.

What Are Some of the Issues on the Table?

Tariffs and quotas: Long used to protect domestic industries from cheaper goods from overseas, tariffs on imports were once a standard, robust feature of trade policy, and generated much of the revenue for the United States Treasury in the 19th century. After the Depression and World War II, the United States led a movement toward freer trade.



A shoe factory in Vietnam: The United States imposes tariffs on imported shoes. Credit Aaron Joel Santos for The New York Times. Today, the United States and most developed countries have few tariffs, but some remain. The United States, for example, protects the domestic sugar market from lower-priced global suppliers and imposes tariffs on imported shoes, while Japan has steep surcharges on agricultural products including rice, beef and dairy. The pact is an attempt to create a Pacific Rim free-trade zone.

Environmental, Labor and Intellectual Property Standards: United States negotiators stress that the Pacific agreement would seek to level the playing field by imposing rigorous labor and environmental standards on trading partners, and supervision of intellectual property rights.

Data Flows: The United States wants the Pacific trade pact to address a number of issues that have arisen since previous agreements were negotiated. One is that countries agree not to block cross-border transfers of data over the Internet, and not require that servers be located in the country in order to conduct business in that country. This proposal has drawn concerns from some countries, Australia among them, that it could conflict with privacy laws and regulations against personal data stored offshore.

Services: A big aim of the Pacific pact is enhancing opportunities for service industries, which account for most of the private jobs in the American economy. The United States has a competitive advantage in a range of services, including finance, engineering, software, education, legal and information technology. Although services are not subject to tariffs, nationality requirements and restrictions on investing are used by many developing countries to protect local businesses.

State-Owned Businesses: United States negotiators have discussed the need to address favoritism often granted to state-owned business — those directly or indirectly owned by the government. Although Vietnam and Malaysia have many such corporations, the United States has some too (the Postal Service and Fannie Mae, for example). The final agreement may include terms that seek to insure some competitive neutrality while keeping the door open to China's future acceptance of the pact.

Why All the Secrecy?

The **office of the United States Trade Representative** has said that “negotiators need to communicate with each other with a high degree of candor, creativity and mutual trust. To create the conditions necessary to successfully reach agreements in complex trade and investment negotiations, governments routinely keep their proposals and communications with each other confidential.”

But previous trade agreements were shared more openly and, despite the secrecy efforts, portions of the document have been leaking out, through WikiLeaks and other organizations.

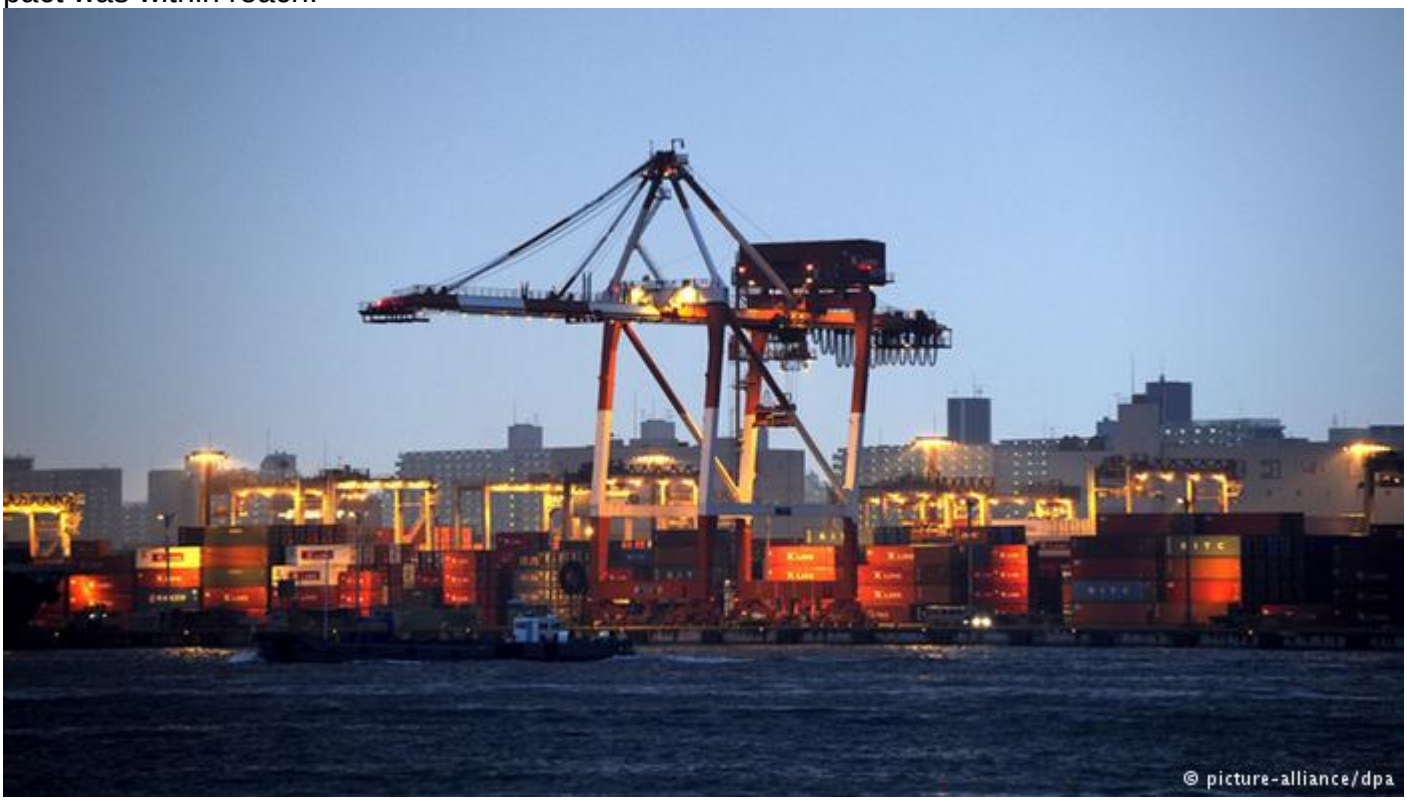
Why Isn’t China In on the Talks?

China has never expressed interest in joining the negotiations, but in the past has viewed the pact with concern, seeing a potential threat as the United States tries to tighten its relationship with Asian trading partners. But lately, as the talks have accelerated, senior Chinese officials have sounded more accepting of the potential deal, and have even hinted that they might want to participate at some point. At the same time, the deal provides China some cover as it pursues its own trade agreements in the region, such as the Silk Road initiative in Central Asia.

United States officials, while making clear that they see the pact as part of an effort to counter China’s influence in the region, say they are hopeful that the pact’s “open architecture” eventually prompts China to join, along with other important economic powers like South Korea.

Pacific Rim trade ministers fail to clinch TTP deal

Delegates from a dozen Pacific Rim nations have failed to reach a deal on a new trade agreement. But negotiators said "significant progress" had been made, and that a final pact was within reach.



Negotiators on the so-called "Trans-Pacific Partnership" (TPP) fell short of concluding a final deal after several days of talks in Hawaii ended on Friday.

The failure to reach agreement is being seen as a blow to US President Barack Obama, as the deal has been vaunted as an important part of the US administration's "pivot to Asia" in a bid to counterbalance China's influence in the region.

The Hawaii talks had been billed as the last chance to reach a deal before 2016 elections that could see the pact become campaign fodder.

But in a statement on behalf of the 12 countries involved in the talks, US Trade Representative Michael Froman voiced optimism that an agreement was near.

"After more than a week of productive meetings we've made significant progress and will continue on resolving a limited number of remaining issues, paving the way for the conclusion of the Trans-Pacific Partnership negotiations," he told a press conference.

Drugs, milk, cars

Sticking points were said to have included differences over protecting regional food specialties, the auto trade, and protection for drug makers.

Among other things, New Zealand, the world's largest dairy exporter, has said it will not back a deal that does not significantly open dairy markets.

The question of data protection for drug manufacturers was also a bone of contention, with the US wanting data on biological drug development to remain monopolized for 12 years, as compared with Australia's five years.

The deputy trade minister from Chile, which has no protection at all for drug makers, said any deal must reconcile public needs with commercial interest. "For us it's vital to have an agreement that balances public policy goals for intellectual property in medicines," Minister Andres Rebolledo said.

Threat to consumers?

Talks on the TTP have been running for eight years. The trade deal envisages a free-trade bloc covering 40 percent of the global economy.

The proposed deal has come under considerable criticism in many quarters, and controversy has been fueled by the high degree of secrecy in which negotiations have been carried out.

TTP opponents say it would give too much power to multinational corporations to influence policies introduced by democratically elected governments and that the one-fits-all standards it envisages might pose a threat to consumers.

Its supporters say TTP will boost economies across the region by removing trade barriers, and provide new rules to protect intellectual property that have not existed in previous free trade pacts.

The countries involved in the deal are the United States, Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.

China is not included yet, but it could potentially enter the pact later.

No date has been set for ministers to meet again, but Froman's statement said they were likely to reconvene soon.

Trans-Pacific Partnership Session Ends With Heels Dug In

By JONATHAN WEISMANAUG. 3, 2015

Dairy cows at a farm in Granby, Quebec. Canada's refusal to accept more dairy imports is a sticking point in Trans-Pacific Partnership talks.

WASHINGTON — Tokyo was ready to extend major concessions on American truck tariffs but was blocked by Mexico, which wanted less competition for its own trucks in the United States market. Canada held firm on protecting its politically sensitive dairy market ahead of elections in October, but for New Zealand, a tiny country with huge dairy exports, that was unacceptable. And virtually all of the parties hated American protections of pharmaceutical firms, but a compromise on that issue could cost the support of Republicans in Congress. For President Obama, nailing down the largest regional trade accord in history would be a legacy-making achievement, proof that his foreign policy “pivot” to Asia was more than rhetorical — as well as a milestone in international economic cooperation. But Mr. Obama learned last week in his native state of Hawaii that his own administration does not always control its fate.

Final negotiations over the trade deal, the Trans-Pacific Partnership, are not like a checkers game with Congress, pitting two branches of government and two parties against each other. Rather, all 12 nations are asserting their particular economic and political interests in a multiple-dimension chess match, with one problem often setting off another.

Whether all of those can be resolved is now a matter of will. But the disagreements are pushing any resolution of the trade deal further into the politically difficult presidential election season in the United States. At least one negotiator suggested privately that it soon may become easier to say “no” than “yes.” “The process of reaching a complicated trade agreement is to start with a huge number of uncertainties and slowly resolve them piece by piece until you can see one or two of the most difficult issues remaining,” said Tim Groser, New Zealand’s trade negotiator. “Now that the undergrowth has been cleared away, we can see clearly that there are one or two really hard issues.” From dairy and sugar to autos and pharmaceuticals, the issues number more than one or two.

Vietnam is not ready to give up all the advantages that the communist country’s state-owned enterprises enjoy. Japan is still worried about Australia’s legal action against its treatment of marine mammals. And Chile, which already has free trade agreements sealed with each of the other members of the T.P.P., doesn’t see much of a loss in letting it all fall apart.

“To get one set of rules across 40 percent of world G.D.P., 33 percent of world trade, 12 disparate countries from Brunei all the way through the United States” was never going to be easy, said Andrew Robb, Australia’s minister of trade and investment. Still, Obama advisers and trade experts say, the president remains committed, and United States leadership could help bridge a lot of the divides.

“It is still central to President Obama’s policy in Asia and the Asia Pacific. It is the centerpiece of his economic legacy,” said Jeffrey J. Schott, a trade expert at the Peterson Institute for International Economics.

Mexico’s secretary of the economy, Ildefonso Guajardo, is taking a particularly hard line against Japan’s automotive industry, a position that some negotiators said helped dash any hope of completing the trade deal in Maui. At issue is the definition of a car or truck from one of the Trans-Pacific Partnership countries. Mexico wants only vehicles with around 65 percent of their components made in the T.P.P. region to qualify for lower tariff barriers under the deal. That would favor Mexican trucks made with American and Japanese parts. Japan wants that “rule of origin” threshold set closer to 50 percent, favoring its parts suppliers in China and Thailand.

“The auto industry in Mexico is the seventh-largest producer in the world and the fourth-largest exporter,” Mr. Guajardo said late on Friday. “What you can accuse me” of “is putting myself to the front to really push the interest of my country.”



New Zealand and Canada are at loggerheads over dairy. While tiny New Zealand produces just three percent of the world’s dairy products, it is the world’s largest dairy exporter. Canada’s government, embattled ahead of parliamentary elections in October, showed little inclination to let New Zealand’s cheese and eggs compete with its own.

Mr. Groser, the New Zealand

negotiator, noted that his country was the first to propose a trade accord linking both sides of the Pacific Ocean. He wrote one of the first briefs championing it.

"I don't really feel emotionally in the space of wanting to leave the party. No, we will not be pushed out of this agreement," he said.

With so many countries angered by Canada's closed-door stand on dairy, Ed Fast, Ottawa's minister of international trade, was left to defend his stance. "Canada came to Maui ready to conclude a T.P.P. We were active, constructive partners at the table," he said.

The biggest problem may be intractable differences over intellectual property protections, especially for pharmaceutical companies developing the next generation of medicines known as biologics. A copy of the still-incomplete intellectual property chapter, viewed by The New York Times, shows just how isolated the United States' position is.

In one section, the United States and Japan want language saying a lack of enforcement resources is no excuse for failure to ensure compliance. That position is opposed by New Zealand, Vietnam, Mexico, Peru, Australia, Malaysia and Brunei.

In another section, 11 negotiating nations propose language to ensure judicial authorities have the power to force a company that "abuses enforcement procedures" to compensate a party "wrongfully enjoined or restrained" if a case is lost. Only the United States opposes that.

Much of the intellectual property dispute revolves around the protection of major pharmaceutical companies, which want the United States' 12 years of data protection on new drugs expanded to the other 11 T.P.P. countries. Republicans in Congress, especially Senator Orrin G. Hatch of Utah, chairman of the Senate Finance Committee and a key ally of the president's on trade, demand that the White House hold firm.

But most of the other countries — and most international health groups — oppose that position strenuously. They say it would keep drug prices high, drain government coffers and put new biologic medicines out of reach for the developing world.

"That is the toughest nut to crack," Mr. Schott said.

KEY TERMS AND IDEAS

Filibuster: A time-delaying tactic associated with the Senate and used by a minority in an effort to delay, modify or defeat a bill or amendment that probably would pass if voted on directly. The most common method is to take advantage of the Senate's rules permitting unlimited debate, but other forms of parliamentary maneuvering may be used. The stricter rules of the House make filibusters more difficult, but delaying tactics are employed occasionally through various procedural devices allowed by House rules.

Gross domestic product (GDP): A measure of output from U.S. factories and related consumption in the U.S. It does not include products made by U.S. companies in foreign markets. It is a measure of the size of a national economy.

North American Free Trade Agreement (NAFTA): Effective January 1, 1994. A *multilateral agreement* between the U.S., Mexico, and Canada to lower or eliminate *trade barriers* between the three countries on the trade of goods and services.

Pacific Rim: Area comprising of countries on the boundary of the Pacific Ocean, specifically Canada, China, Japan, Taiwan, and the US. In general, this term may also include Australia, Brunei, Cambodia, Hong Kong, Indonesia, Laos, North Korea, South Korea, Malaysia, Mexico, New Zealand, Philippines, Singapore, Thailand, and Vietnam.

Parliamentary elections A parliamentary democracy is a democratic form of government in which the party (or a coalition of parties) with the greatest representation in the parliament (legislature) forms the government, its leader becoming prime minister or chancellor. Executive functions are exercised by members of the parliament appointed by the prime minister to the cabinet. The parties in the minority serve in opposition to the majority and have the duty to

challenge it regularly. The prime minister may be removed from power whenever he loses the confidence of a majority of the ruling party or of the parliament. This differs from the United States, in which there is separation of powers and the President is elected separately from the legislative body. Parliamentary democracy originated in Britain and was adopted in several of its former colonies, many of which became part of the British Commonweath of Nations.

Protectionism; protectionist: Usually a reaction by an industry, company, or national government to foreign competition. The most common type of protectionism is expressed in food and agricultural policy as an *import tariff* or *import quota* imposed to reduce *imports* and shield domestic *producers*.

UNIT 4

Report: U.S. cowherd to grow by more than three million head

By Whitney Forman-Cook

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WASHINGTON, Aug. 3, 2015 - The U.S. cow-calf industry will grow by more than three million head in the next four to six years, according to a report released Monday by Rabobank, an agribusiness research firm that monitors and evaluates global agricultural markets.

The report, titled Beef Cow Repopulation: The Case for Diversification, suggests the future geographic distribution of the U.S. cow-calf herd will be concentrated in areas traditionally focused on row crops.

According to Rabobank, this shift in production geographically will "create opportunity for new winners to emerge" and "challenge historical models of calf production, feeder acquisition and crop-producing businesses."

Don Close, the paper's co-author and senior analyst from Rabobank Food and Agribusiness Research and Advisory (FAR) group, said in a press release that "the initial growth phase will be relatively quick, and will flatten out."

This repopulation process will be different from what ranchers experienced in years past, Close continued, with excess capacity filling out in the Southwest and the High Plains first, followed by rebuilding in the Dakotas and the Corn Belt.

"The combination of the repopulation in areas of the Southwest and High Plains to conventional levels, plus the addition of confined and semi-confined cow-calf units in the row crop producing regions of the central U.S. will lead to unified, central states cowherd," Close said.

Sterling Liddell, also a co-author and FAR group senior analyst, said once the repopulation is complete in four to six years, the beef cow herd will have returned to a pre-drought level, that is, near 2011 numbers.

"Although it will depend on factors such as exports and weather, I expect a total of 3.5 to 4 million head more than the 2014 low of 29 million beef cows," Liddell said. "Of that total, 1.7 million head will come from newly developed capacity in the central U.S. - areas typically focused on row crop production."

UNIT 5

Agricultural Act of 2014: What It Spends, Implications for Beginning Farmers

The Agricultural Act of 2014 was signed into law on February 7. On the following web pages ERS presents highlights and some economic implications of the new programs and provisions.

The United States addresses agricultural and food policy through a variety of programs, including commodity support, nutrition assistance, and conservation. The primary legal framework for agricultural policy is set through a legislative process that occurs approximately every four to seven years and produces what is frequently referred to as the "Farm Bill," popular, generic term given to the federal omnibus agricultural legislation.

A new farm law, the Agricultural Act of 2014 (2014 Farm Act), was signed on February 7, 2014, and will remain in force through 2018—and in the case of some provisions, beyond 2018. The 2014 Farm Act makes major changes in commodity programs, adds new crop insurance options, streamlines conservation programs, modifies some provisions of the Supplemental Nutrition Assistance Program (SNAP), and expands programs for specialty crops, organic farmers, bioenergy, rural development, and beginning farmers and ranchers.

The **Congressional Budget Office (CBO)** projects that 80 percent of outlays under the 2014 Farm Act will fund nutrition programs, eight percent will fund crop insurance programs, six percent will fund conservation programs, five percent will fund commodity programs, and the remaining one percent will fund all other programs, including trade, credit, rural development, research and extension, forestry, energy, horticulture, and miscellaneous programs. Topic Area Highlights and Economic Implications

The core research and data program of the Economic Research Service covers the breadth of USDA programs touched by farm legislation: farming, nutrition, conservation, rural development, research, and energy. These webpages provide highlights and summaries of important new programs and provisions, as well as some economic implications of the new farm legislation based on ERS expertise, in the following policy areas:

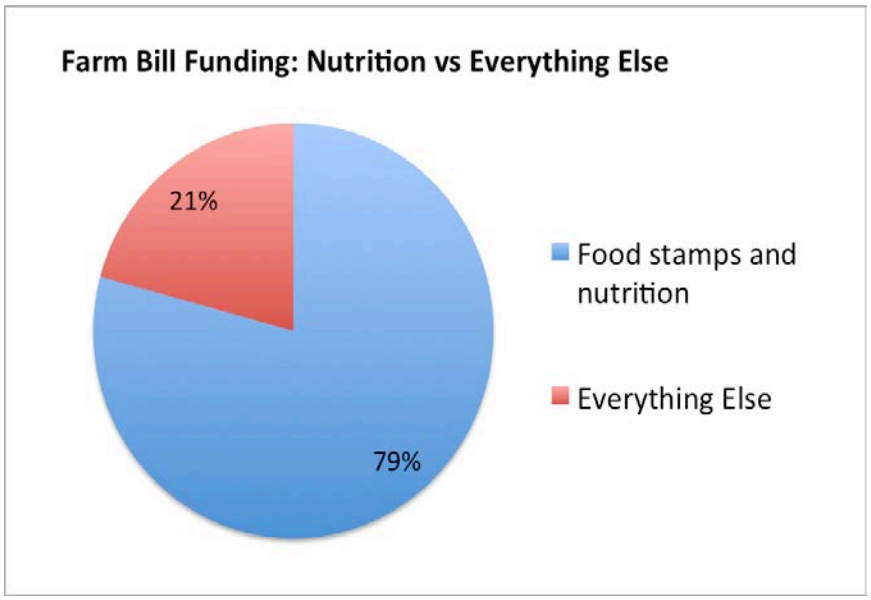
2014 FARM BILL DRILL DOWN: THE BILL BY THE NUMBERS

February 4, 2014

One of the overriding themes of the three-years-in-the-making farm bill has been reducing overall funding by a modest amount. In 2011, the **House** and **Senate** Agriculture Committee

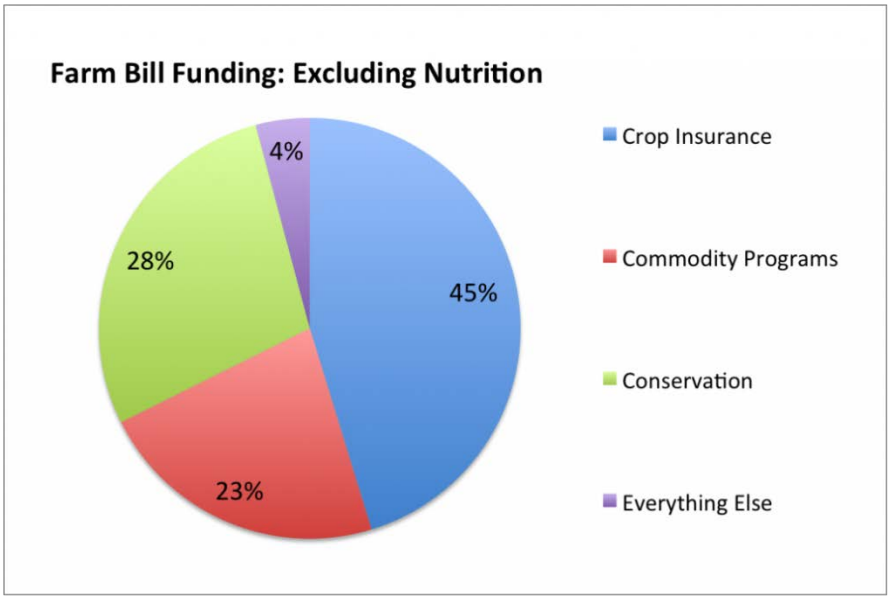
leadership attempted to put together a bill quickly to pass onto the special Super Committee that would be dealing with a deficit reduction package. That 2011 farm bill proposal proposed to save $23 billion over 10 years, the same exact sum that the new 2014 farm bill proposes to save, if one includes direct farm bill savings as well as automatic budget cuts that affect farm bill spending but are outside of the bill's purview. Those automatic meat ax-type cuts, referred to as **sequestration**, took effect as a result of the failure of the **Super Committee** to pass a government-wide deficit reduction package.

A Deficit Reduction Focused Farm Bill



Cutting $23 billion — slightly more than 2 percent – from total farm bill spending has been among this bill's leading mantras from beginning to end, though that that otherwise fairly straight path took multiple detours in the House of Representatives along the way. This consistency is quite remarkable given that Congress never provided any budgetary directives to the Agriculture Committees for this farm bill, and hence there was no magic number the bill's authors needed to meet other than the ones they set themselves.

That 2011 draft bill produced just as the **Super Committee** process was falling apart would have cut spending on commodities (traditional and insurance subsidies combined) over the next 10 years by $15 billion, on conservation programs by $6 billion, and on SNAP (food stamps) and nutrition programs by $4 billion, while spending an additional $2 billion on a variety of other smaller farm bill programs.



Provided one adds the automatic sequester cuts to the actual 2014 Farm Bill cuts, the final 2014 Farm Bill tracks those amounts fairly closely. The major difference between the 2011 draft bill and the final 2014 bill is that commodities get cut less and SNAP more. A few other overarching observations:

The final cuts (including the sequester) for the new bill are $12.7 billion for commodities,

$6.1 billion for conservation, and $8 billion for SNAP and nutrition, with an increase to $3.7 billion in new spending for everything else. The final bill's commodity cuts are smaller than either the Senate-passed bill or House-passed bill, while the conservation cuts split the difference between the two bills.

On a percentage basis, accounting for direct farm bill cuts as well as for sequestration, commodity subsidies were trimmed by 8.6 percent, conservation programs by 9.5 percent, and SNAP and nutrition by a small fraction of 1 percent.

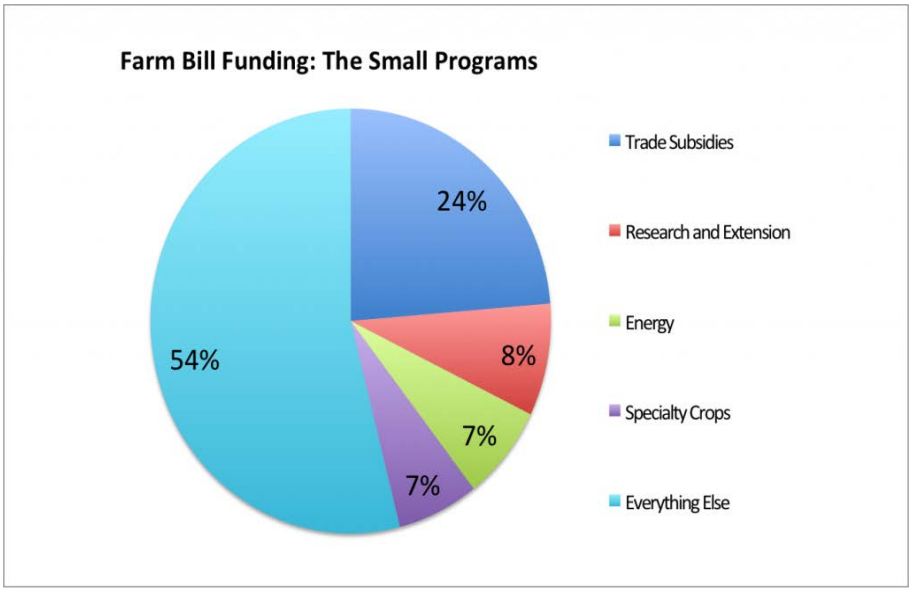
The conservation cuts represent the first time Congress has voted to slash conservation spending since conservation spending first became part of the farm bill in 1985. In every farm bill since then – 1990, 1996, 2002, and 2008 – the investment in conservation has increased. The size of the cut in the new 2014 bill exceeds the gains from the 2008 bill. When sequestration and backdoor farm bill conservation cuts in annual appropriations bills are added to the equation, a significant share of the gains from the 2002 bill have also cancelled out.

What Does It Spend?

While the focus has been on how and where to cut, it is perhaps more relevant to talk about what the new bill proposes to spend. It has always been clear since the get go that the new farm bill would spend close to a trillion dollars over the coming decade, with the bulk of that on SNAP and nutrition programs. That would be true whether the bill included no net savings or $20 or 40 billion in savings, due in large part to the outsize role that the food stamp program plays in the farm bill spending regime and the run-up in food stamp costs due to the economic recession and slow recovery. Here is the way the final bill is estimated to break down between SNAP and nutrition programs and the rest of the bill, including commodities and conservation.

Let's look more closely at the non-nutrition titles part of the bill. The big story here for quite a few years now has been the growing role of crop insurance subsidies in the overall farm safety net regime, a trend further accelerated by the new farm bill. The other significant change is the re-positioning of conservation spending as larger than the commodity programs in terms of total projected spending.

Another trend is the continuing investment of smaller slices of total farm bill resources into areas **outside of the big three (commodities, nutrition, and conservation).** Funding these other areas – renewable energy, specialty crops, research, rural development, organics, beginning farmers, local food, etc. – is still a fairly new phenomenon, starting up in a small way in the 1996 Farm Bill and only hitting its current stride in the 2008 Farm Bill. The renewal of the 2008 funding is significant, as is the advent of permanent spending for the major specialty crop programs and for the Rural Energy for America Program.



A Warning on the Numbers

With regard to funding, Congress analyzes its work on a

bill relative to a budget baseline established by the Congressional Budget Office (CBO). CBO assesses the impact of each new policy or program based on whether it will increase or decrease spending relative to the baseline.

It is important to remember that the baseline is always changing, even though Congress locks in a baseline at the start of its work on a bill. Just today, for instance, CBO is releasing a new baseline that will show an increase in costs for the old 2008 Farm Bill's commodity and nutrition programs. In March they will produce a baseline that will re-estimate the costs of the new 2014 Farm Bill that may well show it costs a bit more (saves a bit less) relative to the numbers being used in this post and widely used by members of Congress and the media.

There are some aspects of estimating costs that are fairly straightforward. For instance, while estimates for conservation programs may shift slightly from year to year, the CBO estimates for several years down the road are generally very close to the mark. The CBO estimates for most of the smaller farm bill programs are also fairly exacting.

The same cannot be said for commodity program and crop insurance costs. Those costs are more volatile because they can change dramatically with the commodity markets. By ending the direct payment feature of commodity programs and increasing farm support based on fluctuations in commodity prices and revenue, the new farm bill in fact increases the difficulty in predicting what programs will cost three or five or ten years from now.

A Closer Look at Conservation

Following the pattern established by the draft bill in 2011, the new farm bill combines existing easement programs into a single overarching umbrella program. Importantly, the new bill provides the easement programs with permanent funding, rather than only 5-year funding. In the past, the Wetlands Reserve Program and Grassland Reserve Program — two of the three constituent parts of the new single overarching program — had to obtain new funding each farm bill cycle. This "consolidate plus add permanent funding" formula results in a net increase in cost over the next 10 years of $1.2 billion.

Another consolidation in the new bill ends the small stand alone Wildlife Habitat Incentives Program and combines some of its functions into the much larger **Environmental Quality Incentives Program** (EQIP). Combined, the budgetary impact is to hold spending constant.

The big cuts in the conservation title were to the Conservation Reserve Program (CRP) – the largest conservation program and the major land retirement program – and the **Conservation Stewardship Program** (CSP) – the largest working lands program and only advanced conservation management program.

The CRP will be cut over the coming years to 24 million acres total, down over 2 million from current levels. That change is estimated to save $3.3 billion over the coming decade. The CSP will be cut immediately to 10 million new acres per year, reducing the program by 28 million acres and an estimated $2.3 billion over the next decade.

The biggest change made to farm bill conservation program budget decisions over the course of the process from 2011 to the conclusion in 2014, was the movement from originally including a fair share of EQIP in the mix of spending reductions to in the final analysis holding EQIP harmless.

The funding cuts and funding increases made in the farm bill are not the end of the story, however. Unless and until Congress revokes the meat ax automatic cuts known as sequestration, additional cuts will be made each year to all the farm bill conservation programs with the sole exception of the CRP. The CRP will be held harmless. For instance, in the current year, each of the programs other than CRP will be reduced over seven percent below the funding level stipulated by the farm bill. The exact percentage reduction fluctuates from year to year.

Even that is not the end of the story for farm bill conservation spending. The annual agricultural appropriations bill has also for over a decade now reduced spending for EQIP, and

sometimes for other programs as well, below the level provided by the farm bill through an arcane, backdoor process known as “changes in mandatory program spending.”

So, for instance, the annual appropriations bill has never allowed EQIP spending to exceed $1.4 billion a year, yet the new farm bill mandates EQIP spending that is $3.25 billion greater than the heretofore annual appropriations reduction over the next 10 years. It remains to be seen whether or not any of the additional $3.25 billion will remain as EQIP funding. If history is any guide, it is more likely to be shifted to other annual spending priorities, a result likely to only change when and if the Agriculture Committees organize to defend their spending mandatory decisions for conservation.

Beginning Farmers and Ranchers and the Agricultural Act of 2014

by James Williamson



New rules affecting **Farm Service Agency** farm ownership loans significantly expand the current farm ownership limitation and may increase eligibility for loans by beginning farmers and ranchers.

The Agricultural Act of 2014 continues the trend of assisting beginning farmers with land access by reauthorizing and increasing funding for the Conservation Reserve Program Transition Incentives Program.

Beginning farmers’ participation in crop insurance may increase due to new provisions that reduce their policy premiums and administrative fees.

Support for beginning farmers and ranchers can be found throughout the Agricultural Act of 2014. The Act provides increased funding for beginning farmer development, facilitates the transfer of farmland to the next generation of farmers, and improves outreach and communication to military veterans about farming and ranching opportunities. Among the provisions, the Act reauthorizes and increases funding for the Conservation Reserve Program Transition Incentives Program to $33 million (available until expended) during 2014-18 to assist retired or retiring farmers transfer their land to beginning farmers or ranchers and other targeted groups of farmers. The Act reauthorizes and increases funding to a total of $100 million over 2014-18 for the Beginning Farmer and Rancher Development Program, establishes a Military Veterans Agricultural Liaison to provide information to returning veterans about beginning farmer training programs, and provides ways for these veterans to connect with the program. The Act also makes a technical change that alters the acreage limit in the definition of a “qualified beginning farmer or rancher”; under the new definition, more producers may qualify for

the USDA Farm Service Agency's Direct Farm Ownership loan program as beginning farmers and ranchers. In sum, the Agricultural Act of 2014 contains beginning farmer and rancher provisions in nearly every title. This article discusses major provisions affecting beginning farmer and ranchers, but is not an exhaustive list. Readers are encouraged to consult ***Beginning Farmers and Ranchers,*** in ***Agricultural Act of 2014: Highlights and Implications*** for a complete list of provisions.

Addressing Demographic Trends and a Need for Beginning Farmer Development

In 1982, based on Census of Agriculture data, 38 percent of principal operators had less than 10 years of experience farming; by 2007, only 26 percent had such experience. Today, beginning farms—farms headed and completely operated by farmers with 10 or fewer years of experience—make up just 17.2 percent of family farms (362,470 farms). Further, not all beginning farmers are young people. On average, the principal operator of a beginning farm is 49 years old. However, with the aging of the overall farm operator population, the average beginning farmer is still 11 years younger than the average principal operator of an established farm (60 years old). Beginning farmers are also more likely to be female than established farmers; nearly one in five principal operators of a beginning farm is female (69,957 beginning farms are headed by a female operator).

In the face of declining farming entrance, encouraging and supporting new farmers is a priority of the Agricultural Act of 2014. The Beginning Farmer and Rancher Development Program received a cumulative $100 million for 2014-2018 to provide funds, training, education, outreach, and technical assistance to beginning farmers and ranchers. This represents a continuation of the program established by the Food, Conservation, and Energy Act of 2008 and a 33-percent increase in its funding.

The Agricultural Act of 2014 also includes other provisions that could build and support new and growing markets. Beginning and socially disadvantaged farmers and ranchers who wish to enter value-added activities may find assistance from the Value-Added Agricultural Market Development Grants program. The program assists producers with creating new products and market opportunities, as well as expanding their market reach. In addition, proposed projects by beginning and socially disadvantaged farmers and ranchers, among certain other operators, are given priority. Funding for this program has been increased by $48 million and is now $63 million in total.

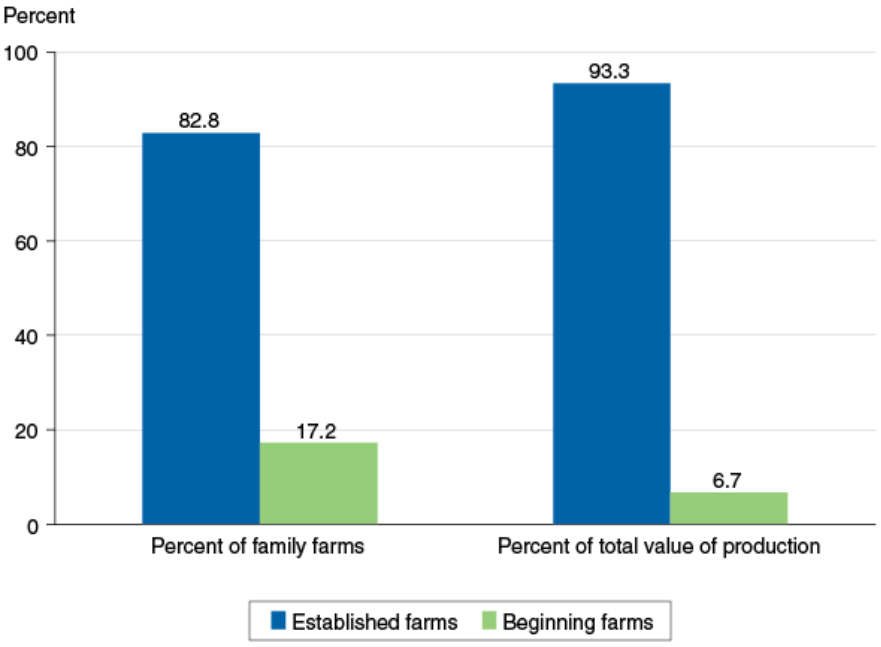
The Specialty Crop Block Grants program is available to help farmers become competitive producers of fruits, vegetables, tree nuts, dried fruits, horticulture, and nursery crops (including floriculture). Under the Farm Act, the program's funding was increased to $72.5 million for each of fiscal years 2014-17 and $85 million per year thereafter. As a way of assisting engagement in local food markets, the Act expanded and renamed the Farmers' Market Promotion Program. The program, now known as the Farmers' Market and Local Food Promotion Program, assists farmers, including growers of specialty crops, with access to local food markets. The program's scope has been expanded to include assistance to intermediaries—local and regional food enterprises that process, distribute, aggregate, store, and/or market locally or regionally produced food products.

Beginning farmers and ranchers may wish to operate organic farms or handle organic produce, and the 2014 Farm Act included increased support for organic agriculture. The National Organic Certification Cost-Share Program is available to assist with certification costs, and funding has more than doubled from the 2008 Farm Act's mandate, to $57.5 million over the lifespan of the Act. Funding for organic research has also increased, and conservation practices related to organic production and transition continue to be eligible for payments under an Environmental Quality Incentives Program (EQIP) provision added in the 2008 Farm Act.

Together, these programs, in many cases expanded in terms of scope and available funding, may address obstacles that beginning farmers and ranchers face when establishing an operation, growing their farm businesses, and participating in local and regional food markets.

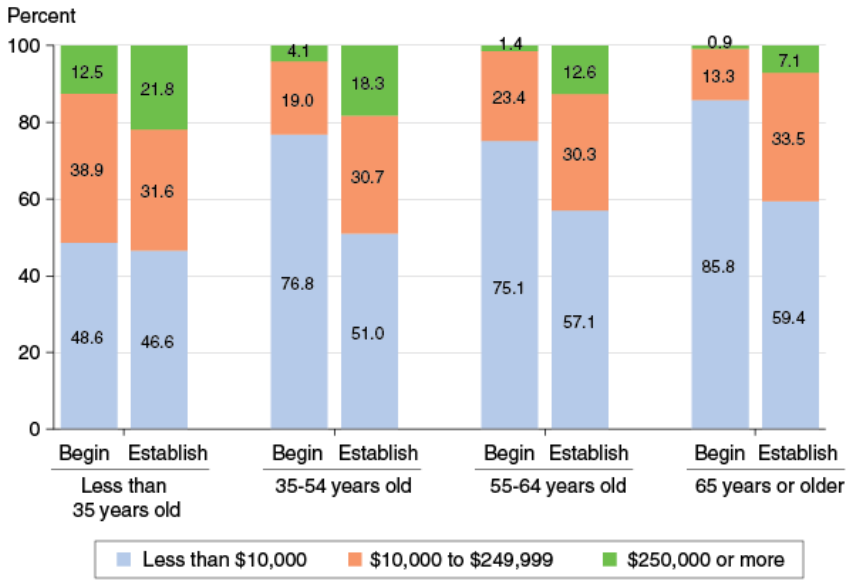
Access to land and capital is critical to a farm's productive ability. Despite representing over 17 percent of family farms, beginning farms account for only about six percent of the land in farms, and produce far less in proportional terms than established farms—beginning farmers contribute 6.7 percent to the total value of production. Part of the reason for this is beginning farm operators hold fewer farm assets and have a median farm net worth that is little more than half the median farm net worth of established farmers. Taken together, the demographic and production profile of beginning farmers suggests the strategies for reaching and supporting beginning farmers may need to be different than those for reaching established farms.

Agricultural production is concentrated on established farms



Source: USDA, Economic Research Service using 2012 ARMS data.

Younger beginning farmers have higher production than their older counterparts



Note: "Begin" = beginning farms; "Establish" = established farms.
Source: USDA, Economic Research Service using 2012 ARMS data.

The 2014 Farm Act Could Help Beginning Farmers With Access to Farmland

The size of the average beginning farm is 135 acres, while the average established farm is 436 acres. Though established farm operators and beginning farm operators are nearly equally likely to purchase land on the open market, established farmers report purchasing land from a relative or being gifted land in an inheritance more often than beginning farmers. Contributing to the land access hurdle is the dramatic growth in the per-acre value of farm real estate. In 2013 on a national basis, farm real estate prices increased 9 percent over 2012, to an average of $2,900 (USDA/NASS 2013), making acquisition of new land a financial challenge for many beginning farmers.

The U.S. Department of Agriculture's Farm Service Agency (FSA) makes loans and loan guarantees to beginning farmers who are unable to obtain financing from commercial lenders. Each fiscal year, the Agency targets a portion of its direct and guaranteed farm ownership and operating loan funds to beginning farmers. In fiscal year (FY) 2012, FSA made 13,384 direct loans to beginning farmers for a total of $1.1 billion in obligations. Under previous FSA rules, a beginning farmer was an individual or entity who (1) has not operated a farm for more than 10 years (this applied to all entity members); (2) meets the loan eligibility requirements of the program to which he/she is applying; (3) substantially participates in the operation; and, (4) for farm ownership purposes, does not own a farm greater than 30 percent of the median-sized farm in the county. The 2014 Farm Act changes the ownership limitation in farm ownership loans by replacing the median acreage limit with a mean acreage limit. Although the mean acreage by county varies across the country, nationally in 2012 a farm was on average 384 acres, while the median size of a farm was 81 acres. Therefore, assuming the county's distribution of farmland is similar to the national distribution, under the new definition, a beginning farmer could own a farm of up to 115 acres (30 percent of 384 acres) compared with the previous limit of 24 acres (30 percent of 81 acres). Researchers estimate that over 75 percent of beginning farms will meet the new ownership limitation criteria, whereas under the old definition, only about 38 percent met the criteria. As a result of substantially expanding the limit, more beginning farmers could qualify for FSA loan programs to finance farmland purchases.

Transitioning Farmland From Retiring Farmers to the Next Generation

The 2008 Farm Act established USDA's Transition Incentive Program (TIP) to encourage enrolled Conservation Reserve Program (CRP) participants to transfer land coming back into production to beginning (or socially disadvantaged) farmers and ranchers engaged in sustainable practices. The 2014 Farm Act authorizes $33 million for TIP, up from $25 million authorized under the 2008 Farm Act. Enrolled CRP participants must be retired (or farmers or ranchers retiring within 1 year of their CRP contract's expiration). Under TIP, these retiring farmers are eligible to receive an additional 2 years of CRP rental payments if they transfer their CRP acreage to a beginning farmer; $22.7 million was allocated under the 2008 Farm Act's provisions, and CRP-TIP has 1,719 contracts enrolled or pending enrollment, covering 275,608 acres of land in 26 States. The increased authorization under the 2014 Farm Act could facilitate the transfer of land coming out of the CRP to beginning farmers as CRP acreage declines to satisfy the Act's new lower CRP acreage cap.

Improving Access to Crop Insurance Could Improve the Viability of Beginning Farms

Currently, beginning farms are less likely to participate in the Federal Crop Insurance Program. In 2011, beginning farms accounted for a significantly higher proportion of the total land in farms than their share of land enrolled in crop insurance. The 2014 Farm Act encourages beginning farmers and ranchers to purchase crop insurance by providing a 10-percentage-point reduction in their insurance premiums and exempting beginning farmers and ranchers from paying the $300 administrative fee for catastrophic-level policies. It also authorizes an increase from 60 to 80 percent of transitional yield (a yield established similar to the county yield used in the absence of verifiable, historical yield records) as a substitute for low actual yields (a yield below the guaranteed yield specified by the insurance contract) resulting from naturally occurring causes of loss such as drought or flooding. In contrast to much of the rest of the Farm Act, where beginning farmers are defined as those with less than 10 years of experience, for Federal Crop Insurance, a "beginning farmer or rancher" is defined as one having no more than 5 years of experience. Using Agricultural Resource Management Survey data from 2012, the Economic Research Service estimates that there are nearly 163,000 such farms that will qualify under the

new definition, accounting for about 44 percent of beginning family farms. These new provisions should increase participation in Federal crop insurance and could offer beginning farms more income security to establish a foothold in the sector.

Conclusion

The Agricultural Act of 2014 continues and expands support for beginning farmers and ranchers. The Act addresses land access issues by reauthorizing and increasing funding for the Conservation Reserve Program Transition Incentives Program to assist retired or retiring farmers when they transfer land to certain farmers, including beginning farmers or ranchers. The new legislation builds on previous efforts to help beginning farmers get a foot-hold in the industry by increasing funding for the Beginning Farmer and Rancher Development Program, and importantly, helps them manage risk through new provisions that make Federal crop insurance more affordable. Finally, outreach to military veterans is improved by creating a special liaison in USDA to provide information to returning veterans about, and to connect returning veterans with, beginning farmer training programs.

KEY TERMS AND IDEAS

Census of Agriculture: A count taken by the National Agricultural Statistics Service, every five years, of the number of farms, land in farms, crop acreage and production, livestock numbers and production, farm spending, farm facilities and equipment, farm tenure, value of farm products sold, farm size, and type of farm. Data are obtained for states and counties.

Congressional Budget Office (CBO): The Congressional Budget Office (CBO) and Government Accountability Office (GAO) principally serve congressional committees with a variety of reports. The Congressional Budget Office assists Congress in understanding the economic and fiscal environment in which it makes laws and in understanding the economic and fiscal consequences of its legislative actions. The 1974 Congressional Budget and Impoundment Control Act (P.L. 93-344; 88 Stat. 297–339) created the Congressional Budget Office to serve as an independent, nonpartisan agency to provide budgetary information and analysis for Congress and requires CBO to prepare cost estimates on all public bills.

Conservation Reserve Program (CRP): First authorized by the Food Security Act of 1985, a program designed to reduce erosion on 40 to 45 million acres of cropland. Under this Farm Service Agency program, producers who sign contracts agree to convert highly erodible cropland to approved conserving uses for no less than 10 nor more than 15 years. In exchange, participating producers receive annual rental payments (up to $50,000), and cash or payments-in-kind to share up to 50 percent of the cost of establishing permanent vegetative cover. To be eligible, land must have been planted or considered planted for four of the last six crop years prior to 2002 or be eligible marginal pastureland. In addition, this land must (a) have an Erodibility Index of eight or higher, or (b) be considered a farmed wetland, or (c) be devoted to highly beneficial environmental practices, or (d) be subject to scour erosion, or (e) be located in a national or state CRP conservation priority area, or (f) be cropland associated with or surrounding non-farmed wetlands. Offers for CRP contracts are ranked according to the Environmental Benefits Index. Under the Food, Agriculture, Conservation, and Trade Act of 1990, the program was placed under the broader Environmental Conservation Acreage Reserve Program, now the Comprehensive Conservation Enhancement Program. The Federal Agriculture Improvement and Reform Act of 1996 (Sec. 332) capped the eligible acreage at 36.4 million acres and eased contract termination requirements. Funding for the CRP was changed from direct appropriations to funding from the Commodity Credit Corporation. The Farm Security and Rural Investment Act of 2002 (Sec. 2101) authorizes enrollments through December 31, 2007, and caps the maximum acreage at 39.2 million acres. It also requires that there be an equitable balance among the conservation purposes of soil erosion control, water quality

protection, and wildlife habitat; that existing covers be retained, if feasible, when expiring contracts are re-enrolled; and that a study on the economic effects of CRP enrollment be conducted.

Environmental Quality Incentives Program (EQIP): *Authorized* by the *Federal Agriculture Improvement and Reform Act of 1996* (Sec. 334), EQIP combined the functions of the *Agricultural Conservation Program*, the *Water Quality Incentives Program*, the *Great Plains Conservation Program*, and the *Colorado River Basin Salinity Control program* into a single *program* designed to provide financial, educational, and *technical assistance* to farmers and ranchers faced with significant natural resource concerns. Under EQIP, the USDA can provide *cost-share* assistance to family-sized *farms* and ranches for the cost of implementing certain environmental *conservation practices*, such as establishing *filter strips, grassed waterways*, and manure-management facilities; capping abandoned wells; and enhancing wildlife *habitat*. The USDA can also provide *incentive payments* to encourage certain *land management practices*. Assistance will be targeted to priority areas such as *watersheds* or other environmentally sensitive regions in each state. The *Farm Security and Rural Investment Act of 2002* (Sec. 2301) *authorizes* funding through *FY*2007, continues 75 percent *cost sharing*, allows a 90 percent *cost-share* rate if a *producer* is a *limited-resource farmer* or *beginning farmer or rancher*, increases the targeted funding for *livestock producers* to 60 percent of annual *program* funding, amends the *contract* length to one to ten years, and removes the annual *payment limitation* and replaces it with an aggregate limitation of $450,000 for the sum of the years *FY*2002 through *FY*2007.

Farm Service Agency (FSA): The USDA agency responsible for administering *farm price* and *income supports, disaster* and selected crop-loss protection *programs*, as well as *conservation, forestry cost-sharing*, and *farm* credit *programs*. In particular, the FSA is responsible for *commodity loans* and *loan deficiency payments, Agricultural Market Transition Act payments*, the *Dairy Refund Payment Program*, the *Dairy Indemnity Payment Program*, the *sugar program, tobacco* and peanuts *price-support* and *production control programs, Conservation Reserve Program*, environmental incentive *programs, farm loan programs, commodity warehouse* activities, *commodity procurement* operations, the *noninsured crop disaster assistance program*, and administrative services.

Federal Crop Insurance program: A *subsidized insurance program* that provides *producers* with means of *risk management* and financial stability against *crop production* loss resulting from stated hazards such as weather. Although traditionally yield-based *insurance*, the *program* now includes *insurance* to insure against lost revenue. A participating *producer* is assigned a "normal" crop yield based on the *producer's actual production history*, and a price for his *commodity* based on estimated *market* conditions. The *producer* can then select a percentage of his *normal yield* to be insured and a percentage of the price he wishes to receive when crop losses exceed the selected loss threshold. The *producer* pays a *premium* that increases as the levels of insurable yield and price coverage rise. The *insurance* is available for over 100 different crops, varying by county. With passage of the *Federal Agriculture Improvement and Reform Act of 1996* (Sec. 193), participation in the *program* was made optional. *Producers* who chose not to obtain *crop insurance* could still enroll in a *commodity program*, obtain *Farm Service Agency farm ownership* or *operating loans*, or enter into a *Conservation Reserve Program contract*; such *producers* were required to sign a waiver of *eligibility* for crop *disaster and emergency assistance*. The *Farm Security and Rural Investment Act of 2002* (Title X, Subtitle A) did not change the basic provisions of the *program*. Federal *crop insurance* has been available exclusively through private *crop insurance* agents since 1998. *Producers* participating in the *Federal Crop Insurance program* must annually

provide records acceptable to the USDA on crop *acreage, acreage* yields, and production for each crop insured. and *Premium(s)*.

Sequestration; sequester: Under the *Gramm-Rudman-Hollings Deficit Reduction Act of 1985* and the *Budget Control Act of 2011*, the required reduction of government expenditures through automatic across-the-board spending cuts if the federal budget did not meet deficit reduction goals.

Supercommittee: The **Joint Select Committee on Deficit Reduction**, colloquially referred to as the **Supercommittee**, was a joint select committee of the United States Congress, created by the Budget Control Act of 2011 on August 2, 2011. This act was intended to prevent the sovereign default that could have resulted from the 2011 United States debt-ceiling crisis. The objective of the committee was to develop a deficit reduction plan over 10 years in addition to the $917 billion of cuts and initial debt limit increase of $900 billion in the Budget Control Act of 2011 that avoided a U.S. sovereign default. The committee recommendation was to have been subject to a simple vote by the full legislative bodies without amendment; this extraordinary provision was included to limit partisan gridlock. The goal outlined in the Budget Control Act of 2011 was to cut at least $1.5 trillion over the coming 10 years, (avoiding much larger "sequestration" across-the-board cuts which would be equal to the debt ceiling increase of $1.2 trillion incurred by Congress through a failure to produce a deficit reduction bill), therefore bypassing Congressional debate and resulting in a passed bill by December 23, 2011. On November 21, the committee concluded its work, issuing a statement that began with the following: "After months of hard work and intense deliberations, we have come to the conclusion today that it will not be possible to make any bipartisan agreement available to the public before the committee's deadline." The committee was formally terminated on January 31, 2012.

UNIT 6

U.S. Farmers and Ranchers Alliance (USFRA) Food Dialogues Question and Answer

U.S. Farmers & Ranchers Alliance (USFRA) consists of more than 80 farmer – and rancher-led organizations and agricultural partners* representing virtually all aspects of agriculture, working to engage in dialogue with consumers who have questions about how today's food is grown and raised. USFRA is committed to continuous improvement and supporting U.S. farmers and ranchers efforts to increase confidence and trust in today's agriculture.

USE OF HORMONES AND GROWTH TOOLS IN ANIMAL AGRICULTURE

How would eliminating hormones impact the meat industry?

Cattle ranchers use hormones to improve how animals' bodies turn food into lean muscle. This means meat is leaner and animals grow more quickly. This is one factor that helps meat prices for the consumers. Additionally, there's less of an environmental impact per pound of meat raised today because of tools such as growth hormones. Each pound of beef raised in 2007, compared to 1977, uses 19 percent less feed, 33 percent less land, 12 percent less water and 9 percent less fossil fuel energy.

Further, the use of growth hormones produces animals with leaner muscle, meaning the final product is less fatty – a quality many consumers demand and appreciate.

Similarly, dairy farmers may use hormones to extend milk production so fewer cows can make more milk, reducing costs and environmental impact. Modern dairy practices require considerably fewer resources than dairying in 1944 with 21 percent of animals, 23 percent of feedstuffs, 35 percent of the water and only 10 percent of the land required to produce the same one billion kilograms of milk. Hormones given to dairy cows are not the same as those given to cattle for beef. It doesn't cause the animal to grow bigger.

USFRA's View on Hormones

Hormones occur naturally in living animals and even in some produce. Many consumers have questions about supplemental hormone use in raising farm animals. Farmers and ranchers are committed to sharing information and answering questions about hormone use so consumers can make knowledgeable choices about their food.

The U.S. Farmers and Ranchers Alliance (USFRA) is comprised of people in agriculture with a variety of perspectives and views. Likewise, we have farmers and ranchers who use a number of different management practices in the process of growing and raising food. The use of supplemental hormones, based on years of scientific study and veterinarian oversight, is one tool that some of our farmers and ranchers choose. Additionally, USFRA has industry partners who develop, manufacture and market hormones for farm animal use.

Hormones are often paired with the word antibiotics. These are two separate tools with different purposes. Scientifically speaking, here's a breakdown of **hormones** and **antibiotics**.

Hormones are naturally occurring chemicals produced in an organ of the body that are carried in a bodily fluid to another organ or tissue where they have specific effects. Insulin, for example, is a hormone that lowers blood glucose. The hormone gastrin aids in digestion. There may be as many as 100 hormones in the human and animal body. Hormones are naturally occurring in any living organism. Hormones also can be man-made, replicating naturally occurring hormones. Both naturally occurring and man-made hormones can be safely used to supplement the hormones in farm animals when raising them for food or milk. The use of hormones varies greatly depending on species. Any supplemental hormones used in farming and ranching must first be approved and then are monitored to ensure no residues above and beyond what's natural and safe for consumers enters the food supply. **Antibiotics** are substances that are produced by one microorganism and have the ability to kill or inhibit the growth or multiplication (reproduction) of other microorganisms.

Consumers should have the choice to purchase food products from animals raised with or without the use of supplemental hormones. And the agriculture industry must continually strive to make information available to consumers.

Hormones occur naturally in farm animals like dairy cows and even some produce. Hormones are present in our food even with animals that haven't been given supplemental hormones – it's a natural part of life. Residues in meat and dairy products from animals given supplemental hormones are extremely minimal – and have been studied extensively and proven to have no harmful effects on people. In beef cattle, for example, the naturally circulating levels of hormones in cattle may not be that different than those in supplemented cattle, depending on life stage. Additionally, any milk or meat tested, whether given supplemental hormones or not, will test positive because these hormones occur naturally in cows.

Supplemental hormones may be safely used for both the raising of beef cattle, and in cows for milk production. In beef cattle, supplemental hormones can help synchronize the cycles of cows so ranchers can plan for calves to be born together and at a certain time of year. They also can help control temperament and stimulate growth by improving how feed is converted into lean muscle. In dairy cows, supplemental hormones are given to dairy cows to maintain production.

Farmers and ranchers strive to create foods that are in the best interest of long-term human health, while protecting the environment and making sure animals are raised humanely. The

use of supplemental growth hormones in beef cattle and dairy cows can be an important part of this equation.

USFRA's View on Beta-Agonists

USFRA believes that farmers and ranchers and our partners utilize tools that help make the most of natural resources while keeping animals healthy and safe to produce a quality, nutritious and wholesome product for consumers. One example of this is the use of an animal feed ingredient called **beta-agonists**. Beta-agonists help animals make the most of the feed they consume by building lean muscle instead of fat. That's why beta-agonists, with guidance from veterinarians and animal nutritionists, are used in a targeted way during a specific time in an animal's life.

To date, there are hundreds of studies that reflect the safety of beta-agonists as a feed ingredient for use in animals raised for food. Research shows that beta-agonists are safe for the animals and for humans who consume their meat. That is why these products have been approved by both U.S. and international food safety authorities, such as **Codex Alimentarius Commission**, which provides worldwide standards. In addition to the United States, beta-agonists are approved for use in Canada, Australia and two dozen other countries across the developed world. Additionally, these products are monitored on a continuous basis to ensure they are working safely. One animal health company recently committed to conducting additional animal welfare studies, as well as convening an animal health advisory board to answer questions and ensure safety and correct use of their product.

Beta-agonists are used in cattle and pigs, working with the animal's natural body processes. Animals, like humans, go through muscle-building changes with age. When animals are young, they use their food to build muscle, but as they age they begin to put on more fat. Beta-agonists help animals maintain their natural muscle-building ability over time, resulting in a leaner meat while maintaining its flavor and juiciness.

Beta-agonists are metabolized, or eliminated from the body quickly, so the feed ingredients are not stored in the body for any length of time. Regardless of the type of animal, farmers and ranchers who decide to use beta-agonists work with animal experts to determine how this tool best fits into their current feeding and animal care program. Similarly, they work with nutritionists and veterinarians to determine proper amounts needed that work best for the animal. Farmers and ranchers are always looking for ways to improve their management and care programs for their animals. They constantly research the best applications for existing tools, including the optimal uses for beta-agonists.

Are the antibiotics used for farm animals safe?

The **U.S. Food and Drug Administration (FDA)** has a stringent approval process for veterinary medicines and antibiotics. In fact, antibiotics for use in animals require similar testing as those used in humans, with the added requirement that they must be tested to ensure meat, poultry, eggs and milk from the animal(s) given the medicine will be safe for human consumption. (Source: U.S. Food and Drug Administration. 2011. From an Idea to the Marketplace: The Journey of an Animal Drug through the Approval Process. Washington, DC: Author. Retrieved from www.fda.gov.)

USFRA'S View on Antibiotics

The U.S. Farmers & Ranchers Alliance (USFRA) is committed to answering questions about how food is grown and raised. This includes addressing questions about antibiotic use on farms and ranches and concerns about antibiotic resistance in humans.

We, too, are concerned about if or how the use of antibiotics on farms and ranches may impact human health. Farmers and ranchers and veterinarians know it's their responsibility – along with

medical doctors in human medicine – to preserve the effectiveness of antibiotics and minimize the potential for the creation of resistant bacteria.

When animals are sick, or at risk of becoming sick, they should be treated with antibiotics responsibly, following standards based on the latest science and research of veterinary medicine, in ways that don't stress the animal or harm the environment and are in the best interest of long-term human health.

USFRA is made up of people in agriculture with a variety of perspectives and views. USFRA represents farmers and ranchers who choose to use antibiotics and do so to treat sick animals and keep animals healthy. We also represent farmers and ranchers who choose not to use antibiotics, so they can market their products as natural or antibiotic free. In addition, we have industry partners who develop, manufacture and market antibiotics.

Responsible use of antibiotics is important in all settings, including agriculture. Farmers, ranchers and veterinarians are legally and ethically obligated to follow the U.S. Food and Drug Administration's (FDA) requirements for the use of antibiotics on farms and ranches. That's why everyone in animal agriculture – animal health companies, farmers, ranchers and veterinarians – are working together to implement the FDA's policy to phase out the use of antibiotics to promote growth and phase in more veterinarian oversight. To be clear, all 26 companies that manufacture animal health products have affirmed their compliance and support of **FDA policy (Guidance 209 and 213)**. As a result of the FDA's responsible-use policy, all medically important antibiotics used in food animals will be used to fight disease and will be administered under the supervision of a veterinarian. This means antibiotics will not be used to promote livestock growth.

USFRA believes the practices that make our farming businesses stronger over time are those that focus on continuously improving the quality – and safety – of our food supply.

Are antibiotics still used for growth purposes in food animals?

Antibiotics for growth purposes are being phased out. In March 2014, the U.S. Food and Drug Administration (FDA) issued Guidances 209 and 213 regarding the responsible use of medically important antibiotics in food-producing animals. Per these Guidances, farmers, veterinarians and animal pharmaceutical companies have until December 2016 to phase out growth promotion uses for medically important antibiotics in food-producing animals.

To date, all animal pharmaceutical companies have voluntarily agreed to FDA Guidances 209 and 213. Once the labels have been changed to eliminate the use of certain antibiotics for growth purposes, it will be mandatory for farmers, ranchers and veterinarians to follow the instructions outlined on the new drug labels.

What is an FDA Guidance Document and what are the U.S. Food and Drug Administration's Guidances 209 and 213?

Guidance documents represent the Agency's current thinking on a particular subject. They do not create or confer any rights for or on any person and do not operate to bind FDA or the public in the same way as a statute passed by Congress and signed into law by the President or a regulation created under the agency's rulemaking authority. An alternative approach may be used if such approach satisfies the requirements of the applicable statute, regulations, or both.

In March 2014, the U.S. Food and Drug Administration (FDA) issued Guidances 209 and 213 regarding the responsible use of medically important antibiotics in food-producing animals. Under these Guidances, farmers, ranchers, veterinarians and animal pharmaceutical companies have until December 2016 to phase out growth promotion uses for medically important antibiotics in food-producing animals.

To date, all animal pharmaceutical companies have voluntarily agreed to FDA Guidances 209 and 213. Once the labels have been changed to eliminate the use of certain antibiotics for growth purposes, it will be mandatory for farmers, ranchers and veterinarians to follow the instructions outline on the new drug labels.

How is the industry working to ensure the U.S. Food and Drug Administration's Guidances 209 and 213 are effective?

Antibiotic resistance is a serious public health threat. Farmers, ranchers, veterinarians and medical doctors all have a role to better understand how to minimize this threat. One major step the agriculture industry is taking is eliminating the use of antibiotics for growth purposes. By December 2016, FDA Guidances 209 and 213 will make it illegal for antibiotics that are medically important to human health to be used to promote growth in food animals. Additionally, FDA Guidance 209 will require veterinarian oversight when administering medically important antibiotics to food animals.

Once these new standards go into effect, farmers, ranchers and veterinarians will be ethically and legally required to follow the new rules outlined on antibiotics drug labels.

Other countries have eliminated antibiotic use in farm animals. Why shouldn't we here in the U.S.?

A ban on antibiotic use on farms to treat sick animals or prevent illness would lead to animal suffering, possible mortality and would create food safety challenges.

Eliminating antibiotics to prevent or control disease in farm animals in other countries, such as Denmark, has not reduced the amount of antibiotic-resistant bacteria infections and strains harmful to people. And, it has even led to increased need for treatment of animals with newer, stronger antibiotics that are more closely related to those used in human medicine as well as other problems.

FOOD SAFETY

Are the numbers of foodborne illnesses really as high as it seems?

Mainstream media uses foodborne illness stories to notify the public about safety recalls. And while this route is necessary to let consumers know if a recall has occurred, the limited number of people that become fatally ill from food could be taken out of context. The industry continues to work on traceability of products to limit the time contaminated products are on the market. According to the **Center for Disease Control (CDC)**, "CDC's FoodNet surveillance system data, which tracks trends among common foodborne pathogens, has documented a decrease of 20 percent in illnesses from key pathogens during the past 10 years."

What are the most common foodborne illnesses and how can they be prevented?

The chart represents the top five foodborne pathogens. Most foodborne pathogens can be transmitted not only by food, but also environmental sources like surfaces or water, and would be less of an issue if basic sanitary measures (like hand-washing) and proper food handling, storage and preparation steps were followed. The chart below represents the top five foodborne pathogens:

Pathogen	**Est. # of illnesses**
Norovirus	**5,461,731**
Salmonella, nontyphoidal	**1,027,561**
Clostridium perfringens	**965,958**
Campylobacter spp.	**845,024**
Staphylococcus aureus	**241,148**

What types of safety measures do farmers and ranchers take to keep consumers safe? Do the packers have to follow best practices too?

Farmers and ranchers take a number of safety measures. Here are some examples of practices that keep animals free from foodborne pathogens:

- Maintaining animals on slatted or mesh floors is common in modern swine production and some poultry systems, which decreases animal contact with manure and thus with fecal borne pathogens.
- Modern production practices have virtually eliminated some former common causes of human foodborne illnesses. Pathogens, such as *Trichinella spiralis,* formally one of the most prominent pathogens, have largely disappeared with the movement of pigs to indoor production.
- Keeping water systems clean of manure reduces pathogens
- Farmers adhere to strict food safety regulations and provide their animals with safe, comfortable housing, nutritious feed and regular veterinary care.
- Dairy farms and plants must meet stringent federal and local regulations, including those developed by the U.S. Department of Agriculture (USDA), the U.S. Food and Drug Administration (FDA) and state regulatory agencies.
- USDA has conditionally approved an E. coli vaccine for use in cattle on-farm and cattle farmers and ranchers continue to invest in research and convening meetings that have resulted in a variety of safety measures in place throughout the entire food chain from farm to fork. And In 2013, a study published in the Proceedings of the **National Academy of Sciences** suggests that using E. coli vaccines on cattle could prevent up to 83 percent of human infections.

Mandatory processes, inspections and tests based on decades of experience and research are in place in packing plants across the country. Packers are heavily inspected by USDA to ensure consumer safety while also held accountable by strict regulations. The animals are evaluated before harvest and the carcass after harvest to control for any animal health concerns and foodborne pathogens. If inspectors notice any internal abnormalities (lesions in animals' lungs or abnormalities in their intestines for example), further testing and evaluation occurs. If an animal shows any signs of illness, they are condemned by inspectors and do not enter the food supply.

When it comes to milk, **pasteurization** destroys harmful bacteria that may be present, including *Salmonella*, *E. coli, M. tuberculosis, Listeria, Campylobacter (cause of most food poisonings), Yersinia and Staph. aureus*. Standard heat-based pasteurization is a process whereby milk is quickly heated to a temperature of at least 161° Fahrenheit for at least 15 seconds, and is then rapidly cooled. Strict quality control and regulatory oversight start at the farm, and continue at the manufacturing plant with thorough protocols and product safety measures.

According to the U.S. Department of Agriculture (USDA) Dietary Guidelines, people should avoid raw (unpasteurized) milk. Bacteria in raw milk can cause a number of illnesses including tuberculosis, brucellosis, salmonellosis, listeriosis (spontaneous abortions in pregnant women) and food poisoning-like symptoms, some of which have the ability to cause longer-term negative health impacts.

Today, less than one percent of foodborne illness outbreaks in the U.S. involve dairy products; in 1938, approximately 25 percent of foodborne illness outbreaks were attributed to milk and dairy products. This is contributed to pasteurization and food safety protocols set forth by farmers and milk processing facilities.

These types of improvements and best practices show the farm to fork system working, particularly when looking at the number of foodborne illnesses in decline.

USFRA'S View on Food Safety

First and foremost, farmers and ranchers are committed to providing safe food and healthy choices for everyone. During the past several decades, farmers and ranchers have continuously improved their processes so Americans can have one of the safest food supplies in the world. And farmers and ranchers continue to look for ways to make this system even better.

The safety of our food system starts with farmers and ranchers and includes U.S. Department of Agriculture (USDA) and U.S. Food and Drug Administration (FDA) inspection and regulations, and the overall care from those who work in the many food stages of the food chain from farm to fork. USFRA believes that farmers and ranchers carefully follow guidelines and regulations set forth by the government.

U.S. farmers and ranchers diligently contribute to the safety of food by following a number of guidelines and best management practices. For example, modern production practices have virtually eliminated some formerly common causes of human foodborne illness. Pathogens, such as *Trichinella spiralis,* once one of the most prominent pathogens, have largely disappeared with the movement of pigs to indoor housing. Other common foodborne pathogens, such as *Salmonella*, and *Toxoplasma* also have been greatly reduced because of indoor management, especially when raising pigs.

When raising cattle for beef, *E coli* illnesses have greatly decreased due to farmer and rancher investments in research and convening collaborate (vs. competitive) industry meetings, which have resulted in post-harvest safety and interventions and advancements in vaccines to eliminate the pathogen.

Adequate and proper animal nutrition clearly plays an important role in ensuring animal health. Livestock farmers and ranchers use a variety of husbandry practices, housing strategies and biosecurity measures to decrease disease risk and promote animal health. As an example, maintaining animals on slatted or mesh floors, as is common in modern swine production and some poultry systems, decreases animal contact with manure and thus with fecal borne pathogens.

Animal drinking water is kept clean to avoid contamination from potential disease carriers. In many situations, because of today's watering systems, pathogens can be avoided.

Housing certain farm animals indoors can also provide advantages in managing many foodborne organisms.

Other common practices used to prevent livestock disease include limiting contact between groups of animals having varying degrees of pathogen exposure.

In 2009, the U.S. Department of Agriculture (USDA) conditionally approved the first vaccine to reduce *E. coli*O157:H7 in cattle, opening up its use for larger trials. Cattle farmers and ranchers invest in research to develop and validate safety interventions like the vaccine and consider any additional tools beneficial to their overall goal of improving safety.

Cattle farmers and ranchers have been combating *E. coli*O157:H7 since the early 1990s. Mandatory processes, inspections and tests based on decades of experience and farmer-and rancher-funded research are in place in packing plants across the country. These post-harvest interventions, like lactic acid washes for cattle hides and carcasses, help ensure the safety of beef.

Dairy farms and plants must meet stringent federal and local regulations, including those developed by the USDA, the U.S. Food and Drug Administration (FDA) and state regulatory agencies. Dairy plants are inspected multiple times a year by state agencies, the FDA and USDA.

Meat and poultry are rigorously monitored by law. Meat and poultry for human consumption must pass inspection and monitoring by the USDA Food Safety and Inspection Service (FSIS). FSIS has more than 7,600 inspectors and veterinarians working in plants with meat, poultry and egg products and at ports-of-entry every day to prevent, detect and respond to food safety issues. FSIS also has more than 100 employees across the U.S. who monitors meat, poultry

and egg products at ports of entry, including docks, loading areas and refrigeration and storage areas.

According to Richard Raymond, the former undersecretary of agriculture for food safety, in an article on MeatingPlace.com, during the past 10 years, “foodborne illnesses numbers are down 20 percent even though the U.S. population increased by 10 percent. This makes the 20 percent reduction an even more significant accomplishment.” As a result U.S. consumer risk of contracting a fatal foodborne illness is .001 percent – a number that farmers and rancher, in partnership with the entire food chain from farm to work, continually work to decrease.

While some bacteria may be present on food at the time of purchasing, the most common vehicle of foodborne illness is raw food. Contamination can occur during growing, harvesting, processing, storing, shipping or final preparation. Sources of produce contamination are varied as these foods are grown in soil and can become contaminated during growth or through processing and distribution.

Contamination may also occur during food preparation in a restaurant or a home kitchen. The most common form of contamination from handled foods is the calcivirus, also called the Norwalk-like virus. Some keys to reducing contamination at home:

- Wash your hands with warm, soapy water before and after preparing food and after using the bathroom or changing diapers.
- Keep raw meat, poultry, seafood and their juices away from ready-to-eat foods.
- Cook foods properly and at a high enough temperature to kill harmful bacteria.
- Refrigerate foods within two hours or less after cooking because cold temperatures will help keep harmful bacteria from growing and multiplying.
- Clean surfaces well before and after using them to prepare food.

Why are some farm animals raised in barns, instead of being allowed to roam freely?

There are many reasons animals are housed indoors, including protection from inclement weather. Animals become well acclimated to indoor conditions. For instance, pigs and poultry, at various stages of growth, have different thermal neutral zones – temperatures and conditions where they are most comfortable and can thrive. Because of indoor facilities, farmers can provide this comfort to them during key stages of growth.

Most farm animals, like pigs, do not spend their entire lives in confined space. While they may not graze throughout pastures, they have opportunities to walk and are moved during different stages of life. Many pigs (sows) are confined before giving birth and through the first couple weeks of piglets’ lives until weaning because farmers have determined this is the best way to give them individual care.

Dairy cows, even though they are indoors, are not held to a small space where they cannot move, turn around or lay down. They are able to feed at bunkers and walk to the milking parlor.

Broilers, chickens used for meat, spend their time in large, open housing. Hens used for eggs may spend their time in conventional cage laying systems.

One management practice that continually makes headlines is the use of individual stalls for pigs or egg laying cages. It’s challenging to understand why these production practices are used on an emotional level. When looking at peer-reviewed research, science says that these management styles are not only efficient for the farmer, but also provide optimum animal safety and health.

Like many animals, pigs establish a hierarchical social order when mixed together. When sows are in groups, dominant sows tend to act aggressively (e.g., by biting); they can cause serious injuries to less-dominant sows. Submissive sows also may have difficulty getting access to enough feed, which can lead to poor weight gain and pregnancy complications. Gestation stalls or individual stalls were introduced beginning in the 1960s as a way to help protect and nurture all sows during pregnancy, a time when they are particularly vulnerable.

When it comes to raising pigs, there is no one right system. Both group housing and individual stalls have pros and cons. Pig farmers continue to utilize research, invest in their housing systems and use their experiences to provide optimum living conditions for each pig. Additionally, farmers continue to educate not only themselves but their employees about the latest animal care standards to ensure proper treatment of the pigs.

Poultry has similar challenges. They develop a pecking order and once that order is established, the strongest eat and drink first and can bully other birds. Each time new birds are introduced in the flock, a new pecking order is established. This can be a stressful time for the birds.

Can you explain the benefits and risks of raising free-range animals?

Not necessarily. Free range can have a lot of benefits such as insect control, adding organic matter back to the soil, but when it comes to healthier from a protein structure standpoint, Iowa State University researched the protein composition of free range and organic broilers. According to their research, protein was slightly higher in the free range birds. However, the increase wasn't significant:

> *"Although polyunsaturated fatty acid composition was significantly higher for organic broilers; meat yields, proximate composition, and sensory qualities, in practical terms, did not show differences. Therefore, consumers are basing purchase decisions on more than the quantitative and qualitative attributes evaluated in this study, and are probably including intangible values related to the different production systems as perceived by individual consumers."*

There can be additional risks with free range birds, including higher susceptibility to diseases transferred by wild birds and migratory waterfowl. Additionally, free range birds often carry more bacteria, leading to an increase in pathogens that have potential to cause foodborne illnesses. The same can be said for pigs raised free range. Pigs that graze in the open are often exposed to more bacteria, a vehicle for foodborne illnesses.

Can you explain what "grass fed" and "grain fed" mean? Is one better than the other?

Most cattle are grass fed, spending the first part of their life grazing on pasture. Once at a feedyard during the latter half of their life, cattle have access to a healthy, balanced diet. Cattle can get the nutrients they need from eating a wide range of plants, including a variety of grains and grasses, and in some cases, renewable feeds like distillers grains, cornstalks, wheat stubble, citrus pulp and almond hulls – feed that has been left over from the primary harvest but cattle can utilize as part of a balanced diet. Cattle cannot survive on corn alone. In fact, a corn-only diet makes cattle sick, which is why feedyard managers carefully plan out diets for the different ages, weights and types of cattle they're raising.

Cattle diets can modestly affect beef's fatty acid profile. For example, extended grain feeding can result in beef with increased levels of monounsaturated fat (the same heart-healthy kind found in olive oil) while feeding on grass longer (depending on the type of grass) can influence the amount of omega-3 fatty acids in beef. However, because the fat profiles are only modestly influenced, most experts agree that when beef is consumed in the context of the total diet, the human health benefits from beef's nutrient rich package and high quality protein are the same from all beef choices.

USFRA'S View on Animal Welfare

Farmers and ranchers are committed to the safest and most appropriate care for their animals. They care deeply about the health and safety of their animals and take pride in them. They also know that consumers are concerned about animal care.

USFRA believes that farmers and ranchers work diligently to keep their farm animals safe, healthy and comfortable. They want consumers to know that they understand that well-cared-for animals are an important part of a safe and healthful food supply for everyone. That is why

farmers and ranchers rely on the guidance of veterinarians when they make decisions about a variety of animal husbandry practices, including housing strategies and the use of health-care products to decrease disease risk and to promote animal health.

USFRA supports farmers' and ranchers' abilities to raise their animals using the management style that best fits their farm or ranch. With that freedom comes the obligation to assure the animals' well-being and the safety of our food supply. In America, farmers and ranchers continue to look for new ways to improve the methods they use to care for their animals. Based on decades of experience and research, some of our farmers and ranchers choose indoor housing for their pigs, dairy and poultry. Others choose free-range, for example, and some species, like cattle for beef, are still mostly raised outside. The decisions are impacted by many factors from the animal's needs to weather and environment as well as specific consumer market demands. And as long as the animals are getting high-quality care and as long as human health is not negatively impacted, USFRA believes (and science agrees) all are acceptable.

When it comes to how animals are housed, fed and cared for when sick; how they are transported; or how they are cared for during periods of working (a time when vaccinations, branding, castration and ear tagging potentially occur), the bottom line is that today's farm animals live healthier lives than ever before. For example, today's farming and ranching have virtually eliminated some former common causes of human foodborne illnesses. Pigs raised indoors, a practice that sometimes elevates concerns, has made a great difference in the safety of pork. Pathogens, such as *Trichinella spiralis,* formerly one of the most prominent pathogens, have largely disappeared with the movement of pigs to indoor production.

The system is not perfect. Unfortunately, there are on occasion a few incompetent or uncaring people such as those seen in occasional undercover videos who abuse animals. Anyone who abuses animals should be prosecuted to the fullest extent of the law. Their practices do not represent the vast majority of farmers and ranchers.

Everyone who works with animals on a farm or ranch should be properly trained in best care practices for raising animals, and there species-specific programs – often funded by farmers and ranchers themselves and veterinarian endorsed – that offer that training. Additionally, the Center for Food Integrity has organized a committee of experts to review undercover videos for specific practices and to determine whether proper treatment for the animal was followed, adding balance and providing an expert analysis to these types of videos.

Farmers and ranchers should continuously strive to improve animal care for not only the animal's wellbeing but also so our food supply is as safe and healthy as possible. This means basing practices on peer-reviewed studies as well as lifetimes of practical experience. Partnerships with veterinarians are critical – and a key part of animal care on America's farms and ranches. Examples of innovations in animal care include:

- Waterbed or sand flooring in dairy barns – reduces strain on their hooves and provides a comfortable place to lay
- Solid-wall alleyways and circular animal chute working facilities (animal herds commonly like to move in circles and using circular working facilities increases comfort by allowing the animal to react naturally when sorting and moving)
- Efficient temperature control systems and enhanced ventilation systems increases comfort
- Manure disposal systems, keeping animals clean and free of walking or laying in unsanitary conditions

Through extensive research, farmers and ranchers handle their animals much differently compared to 20 years ago. In the raising of cattle, some new practices can be attributed to Temple Grandin, who works with farmers and ranchers and animal experts across the U.S. Her extensive research has taught farmers and ranchers careful techniques on how to move

animals at home in the pasture or feedlot, during transportation and in packing facilities. She's also provided her expertise in designing structures for herd animals that reduce flight and increase comfort while keeping herds manageable. Additionally, university research on best management practices has become a priority.

Farmers and ranchers put into action the best management practices for their animals. USFRA believes most farmers and ranchers work toward this goal and often go above and beyond to care for their animals – whether that's helping a mother through a difficult birth, bringing a newborn calf indoors during cold winter weather or providing medical attention when an animal is sick.

While opinions regarding management techniques for animal safety and health greatly differ, it's important that all farmers and ranchers work together with consumers to get a clearer understanding of why specific management styles work for one type of farm/ranch compared to another.

What are GMOS?

From an agricultural standpoint, genetically modified organisms (GMOs) are plants developed through a process in which a copy of a desired gene or section of genetic material from one plant or organism is placed into another plant to achieve a desired trait, such as resistance to an insect or improving the ripening process in order to better meet a customer's market need.

This transgenic biotechnology is an extremely precise method of plant breeding based on a complete understanding of the plant's genetic code, allowing scientists to change a single characteristic or trait in the plant without changing anything else about the plant's genetic makeup.

Biotechnology is used to develop traits that make crops more tolerable or resistant to plant diseases, pests, extreme environmental conditions such as drought, and specific plant herbicides. These traits not only help keep plants healthier but can also help maintain or improve our environment. For example, herbicide tolerant crops allow farmers to use less tillage which reduces nutrient runoff and soil erosion (helping our rivers) and retain additional soil moisture (requiring less irrigation) all while maintaining yield, nutritional value and handling experiences.

Which foods are GMO's?

Eight crops – corn, soybeans, cotton, canola, alfalfa, sugar beets, papaya and squash – are available from GM seeds for commercial use in the U.S. A ninth, potatoes, was recently approved. These crops have been developed primarily for herbicide tolerance and insect and disease resistance; helping farmers to maintain yield while reducing the level of inputs needed and protecting the environment. A few of the above mentioned crops are credited with saving specific crops from disease.

Produce items are often mistaken for being GMO, including things like pluots, large apples and different colored carrots, but these were developed through other breeding techniques. Further, GM tomatoes, apples, rice and potatoes are currently in the research and development stage and are not available to the market.

What percentage of U.S. crops are GMO?
Corn: 90%
Soybeans: 93%
Cotton: 90%
Canola: 90%

How does food food from GMO's differ from non-GMO food?

Crops from GM seeds are identical to those from non-GM seeds. In addition, organic foods are identical in nutritional value to non-organic foods.

"The nutritional value of GMO foods is tested and compared against non-GMO foods. Numerous studies have shown no nutritional difference between commercially available GMO and non-GMO foods. In fact, genetic modifications can actually improve nutritional content for some foods."--Dr. Peggy Lamaux, Cooperative Extensions Specialist at the University of California, Berkeley as quoted on Bestfoodfacts.org.

Proteins used in GMOs are not allergenic, and these proteins do not appear in commercial oils or in the meat, milk, or eggs or animals fed with genetically modified foods.

Some people believe that GM seed use for commercial crops is widespread in whole fruits and vegetables. Commercially available crops from GM seeds only include corn, soybean, cotton, canola, alfalfa and squash (viral resistant) and nothing beyond that.

Fruits and vegetables from GM seeds are not commercially available. Any changes in those crops are not the result of GMOs. For example, seedless fruits available today are the result of conventional breeding, not genetic modification.

What's the regulatory approval process for GMO's?

On average, each GM seed variety takes an average of $136 million and 13 years to bring to market because of the research, safety studies and regulatory approval process necessary. No other type of new seed that comes to market from other breeding methods goes through approval, including the thousands of conventional and organic seeds developed from mutagenesis. Only GMOs are required to be reviewed.

USDA conducts a mandatory review on all GMOs to prove they are safe to grow. EPA conducts a mandatory review of GMOs that contain a trait related to "regulated articles", such as being resistant to insects or herbicide tolerant to prove GMOs are safe for the environment.
FDA conducts a voluntary review to prove GMOs are safe to eat.

All data submitted for these approvals can be made publicly available. Further, if new studies from any source come to light that show any harmful effects of an existing GM product, they must be submitted to the regulatory agencies for further review. To date, the FDA has reviewed many studies that questioned the safety of today's GMOs and have found them not scientifically valid.

"FDA has no basis for concluding that bioengineered foods differ from other foods in any meaningful or uniform way, or that, as a class, foods developed by the new techniques present any different or greater safety concern than foods developed by traditional plant breeding." (FDA Quote)

Should GM food be labeled?

USFRA supports voluntary labeling. Consumers deserve choices and they can choose to purchase foods without ingredients from GMOs by looking for the "USDA Organic label." Some companies also voluntarily label products as "non-GMO." USFRA supports transparency, which can take a variety of forms, in products grown or produced from GM seeds. Food from GM seeds has the same nutritional characteristics as food from seeds produced through conventional breeding, including organic crops. It is inaccurate to categorize food from GM seeds as harmful to human health because it simply has not been proven. USFRA encourages all consumers to turn to trustworthy, scientifically valid sources of information.
The USDA and FDA state the following:

> *"If a bioengineered food is significantly different from its traditional counterpart, such that the common or usual name no longer adequately describes the new food, the name must be changed to describe the difference. If an issue exists for the food or a constituent of the food regarding how the food is used or consequences of its use, a statement must be made on the label to describe the issue. If a bioengineered food has a significantly different nutritional property, its label must reflect the difference. If a new food includes an allergen that consumers would not expect to be present based on the name of the food, the presence of that allergen must be disclosed on the label."*

Are GMO's really important to feed the world's growing population?

By 2050, we may need to grow twice as much food with the same resources to keep up with population growth – 2 billion more people. GMOs can be an important solution to this challenge and help protect the environment.

Even in the first 18 years of GMOs being available, without GM seeds, more land would have been needed to grow the same amount of crops (see estimates below). This could have meant and could mean in the future turning protected and conserved lands into farms without the use of GM seeds.

The PG Economics seventh annual report on crop biotechnology impacts states that, "if crop biotechnology had not been available to the (15.4 million) farmers using the technology in 2010, maintaining global production levels at the 2010 levels would have required additional plantings of 5.1 million ha of soybeans, 5.6 million ha of corn, 3 million ha of cotton and 0.35 million ha of canola. This total area requirement is equivalent to 8.6 percent of the arable land in the US, 23 percent of the arable land in Brazil or 25 percent of the cereal area in the EU (27). Being that the amount of arable land is fixed, the need for increased planting would likely have pulled fragile marginal lands and tropical forests into production.'

What role do GMO's play in feeding a growing population?

As the world's population continues to grow, possibly by two billion by 2050, and if agriculture's land resources stay the same or shrink, GM seeds can play a vital role in feeding the world while improving environmental sustainability. GM seeds can contribute to a reduction in the amount of land, water and chemicals needed to produce more food.

This can contribute greatly to conservation and environmental stewardship. In particular, GM seeds can help protect the land and keep soil healthy. Additionally, as seed companies and researchers continue to make new strides in developing crops with the use of genetic engineering, there are increased opportunities to enhance the nutritional profile of foods that are important in developing countries that need nutrient-rich food. About 870 million people are estimated to have been undernourished during the period of 2010–2012. This represents 12.5 percent of the global population, or one in eight people. The vast majority of these 870 million people live in developing countries, where the prevalence of undernourishment is now estimated at 14.9 percent of the population.

Today, according to ISAAA (The International Service for the Acquisition of Agri-Biotech Applications), GM seeds provide extensive benefits to small farmers around the world. More than 90 percent of farmers who use GMOs globally are small farmers or people who resource poor farmers in developing countries. For the first time, more than half, 52 percent, of GM crops were grown in developing nations versus 48 percent for industrialized countries (ISAAA).

What are the benefits of GMO's, both today and in the future?

Researchers and scientists are continually developing new GM varieties and/or hybrids for several specific reasons:

- Improve environmental stewardship while maintaining yields on less land with fewer inputs; in particular, drought tolerant corn is being introduced to the U.S. market
  Improve nutrition (for example, healthier soybean oils that eliminate trans fats and contain increased levels of Omega 3)
- Make foods safer (for example, removing allergens)
- Disease resistance
- Pest and herbicide resistance
- Better shopping and handling experience (for example, fruits that ripen at the right time, have better flavor and remain fresh longer)

These benefits and traits illustrate that genetic modification, conducted in a scientifically sound way, has the potential to provide more healthy and plentiful food for a growing world population.

The future may not hold just more yields on less land with fewer environmental impacts, but it may also include the sorghum genus with increased Vitamin A, iron, zinc and improved protein quality, or broccoli with increased antioxidants.

USFRA'S VIEW ON GM SEEDS

USFRA supports farmers' choices to plant and grow conventional crops, GM crops, organic crops or a combination. Similarly, USFRA supports consumers' choices to purchase foods they prefer. Many of our farmers plant GM seeds for reasons such as protecting their crops from adverse weather. Some of our farmers choose organic production. All of these methods of production contribute to meeting consumer demands for food products as well as producing healthy choices for everyone and protecting the environment.

Farmers also use GM seeds for a number of reasons – to reduce crop damage from weeds, diseases and insects as well as from adverse weather conditions such as drought or flooding. GM seeds often allow farmers to be more precise about their use of inputs like nutrients, pesticides and water needed to grow crops.

Safety and FDA Review

"FDA has no basis for concluding that bioengineered foods differ from other foods in any meaningful or uniform way, or that, as a class, foods developed by the new techniques present any different or greater safety concern than foods developed by traditional plant breeding."

Since 1995, food from GM seeds has been commercially available and has been proven safe for human and animal consumption. No other crops have been more studied or subject to greater scientific review. GM seeds undergo testing for safety, health and nutritional value – and regulation is overseen by The Food and Drug Administration (FDA), The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service and the Environmental Protection Agency (EPA).

Research shows that the current commercial crops from GM seeds have the same nutritional properties as non-GM seed crops and are not harmful for humans and animals to consume. In the years that farmers have grown crops from GM seeds (since 1995), there has not been a single instance of harm to human health.

For roughly 10,000 years, farmers have been genetically altering plants and seeds through selective breeding to improve characteristics such as hardiness, yield, taste and nutrition. Today's GM seeds are part of this evolution – their development is sped up and more precise by inserting the genes from one plant into another in a laboratory setting.

Using Fewer Resources to Feed More People

As the world's population grows, possibly adding two billion more people by 2050, and agricultural production land resources stay the same or shrink, GM seeds can be a critical tool in feeding the world without depleting resources or harming the environment. GM seeds can contribute to a reduction in the amount of land, water and chemicals needed to produce more food. This can contribute greatly to conservation and environmental stewardship, in particular helping to save protected land and keeping soil healthy. Additionally, as seed companies and researchers continue to make new strides in developing crops with the use of genetic engineering, there are increased opportunities to enhance the nutritional profile of foods that are important in developing countries that need nutrient-rich food.

A Commitment to Answering Consumer Questions – and Meeting Their Demands

As more and more people ask questions about how we as a society grow and raise our food, it's perhaps a good time to take a look at the context. In the middle of the last century people began growing concerned about how we would be able to feed and nourish the growing population, especially in poor and developing countries.

Researchers at agricultural universities began exploring better ways to raise food. Some of what they came up with included genetically modifying seeds to create crops that solve nutritional deficiencies.

USFRA understands that some consumers may have important questions about food from GM seeds. Farmers and ranchers and their industry partners should strive to answer these questions. We encourage farmers and ranchers to share their personal opinions and stories about why they chose to use or not to use GM seeds with consumers. Additionally, we encourage objective, scientifically verified research to uncover additional GM seed potential for human, animal and planet health.

Consumers have the right to choose what foods they want. USFRA supports transparency, which can take a variety of forms, in products grown or produced from GM seeds. Food from GM seeds has the same nutritional characteristics as food from seeds produced through conventional breeding, including organic crops. It is inaccurate to categorize food from GM seeds as harmful to human health because it simply has not been proven. USFRA encourages all consumers to turn to trustworthy, scientifically valid sources of information.

The USDA and FDA state the following: “If a bioengineered food is significantly different from its traditional counterpart such that the common or usual name no longer adequately describes the new food, the name must be changed to describe the difference. If an issue exists for the food or a constituent of the food regarding how the food is used or consequences of its use, a statement must be made on the label to describe the issue. If a bioengineered food has a significantly different nutritional property, its label must reflect the difference. If a new food includes an allergen that consumers would not expect to be present based on the name of the food, the presence of that allergen must be disclosed on the label.”

KEY TERMS AND IDEAS

Codex Alimentarius: The international standards-setting organization on food safety and science issues.

Food and Drug Administration (FDA): A subordinate organization of the U.S. Department of Health and Human Services that has the primary responsibility for assuring the safety and wholesomeness of the food supply. The agency also regulates drugs for humans or animals, cosmetics, and medical devices.

National Academy of Sciences was established in 1863 by an Act of Congress, signed by President Lincoln, as a private, nongovernmental institution to advise the nation on issues related to science and technology. Members are elected by their peers for outstanding contributions to research. Dr. Ralph J. Cicerone is president.

USFRA AFFILIATES

- *Alabama Farmers Federation*
- *American Farm Bureau Federation**
- *American Farm Bureau Women's Leadership Committee*
- *American Farm Bureau Young Farmers & Ranchers*
- *American Sheep Industry Association*
- *American Soybean Association*
- *American Sugar Alliance*
- *Arkansas Farm Bureau Federation*
- *Association of Agricultural Production Executives*
- *California Farm Bureau Federation*
- *California Pork Producers Association*
- *Cattlemen's Beef Board/Beef Checkoff**
- *Dairy Business Milk Marketing Cooperative*
- *Delaware Soybean Board*
- *Federation of State Beef Councils**
- *Georgia Farm Bureau*
- *Illinois Corn Marketing Board*
- *Illinois Farm Bureau*
- *Illinois Soybean Association*
- *Indiana Corn Marketing Council*
- *Indiana Farm Bureau Federation*
- *Indiana Soybean Alliance**
- *International Dairy Foods Association*
- *Iowa Corn Growers Association*
- *Iowa Pork Producers Association*
- *Kansas Corn Commission*
- *Kansas Farm Bureau*
- *Kansas Soybean Commission*
- *Kentucky Corn Growers*
- *Kentucky Farm Bureau*
- *Maryland Grain Producers Utilization Board*
- *Maryland Soybean Board*
- *Michigan Corn Growers Association*
- *Michigan Farm Bureau Family of Companies*
- *Minnesota Corn Growers Association*
- *Minnesota Farm Bureau*
- *Minnesota Soybean Research & Promotion Council**
- *Missouri Corn Growers Association*
- *Missouri Farmers Care*
- *Montana Farm Bureau Federation*
- *National Association of Wheat Growers*
- *National Cattlemen's Beef Association**
- *National Corn Growers Association**
- *National Milk Producers Federation**
- *National Pork Board**
- *National Pork Producers Council**
- *Nebraska Corn Board*
- *Nebraska Farm Bureau Federation*
- *Nebraska Soybean Board**
- *New York Farm Bureau Federation*
- *North Carolina Animal Agriculture Coalition*
- *North Carolina Farm Bureau Federation*
- *North Dakota Corn Growers Association*
- *North Dakota Soybean Council*
- *Ohio Corn & Wheat Growers Association*
- *Ohio Farm Bureau*
- *Ohio Soybean Council*
- *Oregon Farm Bureau*
- *Pennsylvania Farm Bureau*
- *South Carolina Farm Bureau Federation*
- *South Dakota Soybean Research & Promotion Council*
- *Tennessee Farm Bureau Federation*
- *Tennessee Soybean Promotion Council*
- ***Texas Farm Bureau***
- *United Soybean Board**
- *USA Rice Federation*
- *U.S. Grains Council*
- *U.S. Poultry & Egg Association**
- *Virginia Farm Bureau Federation*
- *Washington Association of Wheat Growers*
- *Washington Farm Bureau*
- *West Virginia Farm Bureau*
- *Wisconsin Corn Growers Association*
- *Wisconsin Farm Bureau*
- *Wisconsin Soybean Marketing Board*