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National Issue: Farm Bill Torn Asunder—House Strips SNAP (Food Stamp) Provision from Farm Bill

Politics halt legislative progress yet again

It's a different year but basically the same story. While farm policy is typically one of the most bipartisan pieces of legislation, that hasn't been the case with the 2013 farm bill process—and the chances of that changing yet this year are slim.

The **Senate** handily approved their version of a new farm bill with several key shifts, compared with their 2012 version. In particular, the Senate bill now includes a **target price** commodity program known as Adverse Market Payments (AMP), in addition to revenue-based Ag Risk Coverage (ARC). The target crop prices would be set at 2008 levels, except for rice and peanuts, which would receive a boost.

The ARC program still remains the top choice because, based on the Congressional Budget Office assessment, 80% of the outlays under the Senate bill would come through the revenue-based ARC program.

In the House, the farm bill process is riddled with numerous amendments and resulting debate—both in committee and on the floor.

As the bill was being readied for the floor, House Ag Committee Chairman Frank Lucas (R-Okla.) expressed confidence that the votes were there for the House to approve the farm bill, "short of interesting things happening on the floor," he said. Guess what? Several interesting things did happen.

First, an amendment on dairy policy from Rep. Bob Goodlatte (R-Va.) stripped the voluntary supply management plan from the package.

At the last minute.

Late in the House process, an amendment from Rep. Steve Southerland (R-Fla.) and backed by

House Majority Leader Eric Cantor (R-Va.) was approved that would allow states to impose work requirements on food stamp recipients. Democrats chafed at the amendment, which showed when the final votes were cast and the bill was defeated 195-234 (171 Republicans and 24 Democrats voting in favor and 62 Republicans and 172 Democrats voting no).

The defeat immediately spurred a search for a way forward, which led to a separate track for the farm policy portions and the nutrition portions. In the end, the farm-policy only bill was approved on a straight party-line vote of 216-208, with no Democrats opting to support the plan.

Ag circles in Washington, D.C., were in a state of shock and disbelief—the decades-standing link in the farm bill between agriculture and nutrition had been broken.

Despite the House's ultimate vote, Senate Ag Committee Chairwoman Debbie Stabenow (D-Mich.) chided the House for separating the two elements and blasting the lack of a nutrition title. The

What's in the Farm Bill for Food and Nutrition?

Title IV of the Farm Bill covers domestic food and nutrition and commodity distribution programs, including:

For Americans below the Poverty Line:

- Supplemental Nutrition Assistance Program (SNAP)/Food Stamps
- The Emergency Food Assistance Program (TEFAP)

For Seniors:

- Commodity Supplemental Food Program (CSFP)
- Seniors Farmers' Markets

For Children and Low Income Families:

- USDA Snack Program
- Community Food Project Grants

For American Indians:

- Food Distribution Programs
- Natively grown food support
- For Urban Agriculture:
- Urban Food Enterprise Development Center

Miscellaneous:

- Bill Emerson National Hunger Fellowship Program
- The Mickey Leland International Hunger Fellowship Program
- The Hunger-Free Communities Collaborative Grant Program
- The Hunger-Free Communities Infrastructure Grant Program

White House warned that should the House farm bill arrive on President Barack Obama's desk, his advisers would recommend a veto.

Another key shift in the House bill comes relative to permanent farm law. The House farm-policy only bill would replace the arcane permanent law provisions (known as the 1938 and 1949 Acts) with the new proposed Commodity Title of the bill, Title 1. That move was opposed by both the American Farm Bureau Federation and the National Farmers Union. This would likely be the first time a House farm bill was passed without the support of the two major farm groups.

Moving forward.

As it stands now, the House is scheduled to pull together a nutrition-only bill and get it approved by the chamber in September. Current indications point to the House package cutting \$40 billion from the nutrition programs—spending that makes up roughly 80% of USDA outlays under the farm bill. That compares with \$20.5 billion in reductions in the failed House farm bill and just \$4 billion in the Senate-approved bill.

How will the food stamp funding differences between the House and Senate shake out? The final figure might ultimately have to be decided by congressional leaders, Lucas says.

"This may be one of those issues where the conference committee can work out what each policy really does and the dollar effect on the budget, but then you have to have a little more guidance from on high," Lucas says. "That's not passing the buck; that's just saying it's a tough bridge to cross to achieve consensus."

Sources predict an eventual food stamp funding cut of \$10 to \$12 billion. House Ag Committee Ranking Democrat Collin Peterson (D-Minn.) declared the level of reductions to nutrition programs a non-starter.

"Adding an additional \$20 billion in nutrition cuts, on top of the poison pill nutrition amendments that brought down the Agriculture Committee's bipartisan farm bill in June, effectively kills any hopes of passing a five-year farm bill this year," Peterson says.

Chances of an extension?

So what about an extension, given there are only nine legislative days the House will be in session in September and just 16 for the Senate?

No odds, according to Stabenow and Senate Majority Leader Harry Reid (D-Nev.). But then Stabenow also opposed an extension in 2012, only to agree to one later to avert a sharp rise in milk prices when permanent law provisions would have kicked in at the beginning of 2013.

Stabenow says that is in part due to opposition to continuing direct payments, especially from Sen. Jeff Flake (R-Ariz.).

Still, the odds for an extension of the 2008 Farm Bill exist, but it might not take the shape of a status quo one-year extension. In order to address concerns by Flake and others about continuing direct payments, those might be reformed or even jettisoned if an extension takes place.

Based on the options, the most realistic scenario might be an end-of-session grouping of the farm bill, including food stamp funding, with a continuing resolution for fiscal year 2014 funding and a short-term extension of the debt-limit ceiling. The farm bill savings could then be used for some "pay-fors" regarding other issues.

An extension of the 2008 farm bill is also possible, and as noted, it might take longer than a one-year extension to get the matter on the other side of 2014 elections. The final option is a solo House-Senate farm bill conference report.

Most observers are putting their money on option one or two, noting that Washington can act when it comes to the end of the year.

Politics From All Sides

While political bashing and bluster is nothing new when it comes to legislative initiatives, what is new, based on media accounts, is when a farm group president says she was given permission by her corn grower members "to use swear words" with House members if it was necessary to get the point across.

To make her case, National Corn Growers Association President Pam Johnson says her members would tell Congress: "We are mad as hell. We are not going to take this anymore. We are going to hold you accountable."

Seldom heard from during the farm bill process, USDA Secretary Tom Vilsack waded into the political waters as well, expressing his opposition to an extension. "Extensions are an acknowledgement of failure," he said. "We need five years of certainty. This is not just a farm bill. It's a jobs bill and a food bill." Vilsack went as far as to say that farmers need to set aside their "rural politeness" and demand action from lawmakers, labeling it a "silly notion" for House leaders to strip the nutrition title from the bill.

On CBS's "Face the Nation," host Bob Schieffer chimed in and said that House Republicans passed a bill providing "welfare for the wealthy" while leaving the poor to fend for themselves.

Food Stamp Program - This program supplements the food buying power of eligible low-income households by providing them with monthly benefits through coupons or electronic benefit transfer (EBT) cards. Eligibility is governed primarily by a household's financial resources (e.g., income eligibility generally is limited to those with total cash income below 130% of the federal poverty guidelines). However, applicants and recipients also must meet some non-financial requirements — e.g., the eligibility of noncitizens is limited, work requirements are imposed on most adults. In general, benefits may be used to purchase any food item for home consumption in an approved food concern. The regular food stamp program operates in the 50 states, the District of Columbia, Guam, and the Virgin Islands. Variants of the regular program (funded through nutrition assistance grants) operate in Puerto Rico, American Samoa, and the Northern Marianas. Food stamps and nutrition assistance grants are administered by the Food and Nutrition Service and are funded as entitlements by annual agriculture appropriations acts. Recently, the food stamp program has been relabeled as Supplemental Nutrition Assistance Program (SNAP). The current administration has been criticized by some for actively recruiting participants to the program.

Target price - Price levels established by past law for wheat, corn, grain sorghum, barley, oats, rice, and upland cotton. Prior to 1996, farmers participating in annual federal commodity programs received deficiency payments based on the difference between the target price and the higher of the national market price during a specified time period, or the nonrecourse loan rate. The FAIR Act of 1996 eliminated target prices and replaced deficiency payments with fixed production flexibility contract payments through 2002.

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.

House and Senate Committees: Groups of appointed legislators who write legislation and guide Congressional action on particular issues. The **Chair** of the committee is a member of the majority party, assigned the position by party leadership, who guides the committee and determines legislative action. The **Ranking Member** of the committee is a member of the minority party, typically determined by seniority, who is the voice of the minority party in that committee. There are 21 House Committees and 16 Senate Committees, excluding those select committees formed for a temporary purpose. Additionally, there are four joint committee composed of members of both the House and the Senate.

National Issue/Current Event: Merck Withdraws Zilmax

CHICAGO, Aug 16 (Reuters) - U.S. drugmaker Merck & Co said on Friday it is suspending sales of its Zilmax animal feed additive in the United States and Canada following concerns about animals showing signs of distress after use of the product, which is given to cattle to increase their weight before slaughter.

Zilmax has been the focus of attention in the livestock industry since Tyson Foods Inc announced in early August it will no longer accept Zilmax-fed cattle for slaughter.

Chicago Mercantile Exchange cattle futures rose Friday on expectations that a cutback in Zilmax use could trim the supply of beef beginning this fall, although producers said they did not expect major changes.

Reuters reported earlier this week that a second major meat packer, JBS USA, at a cattle industry conference had presented a video from a JBS plant showing cattle having difficulty walking after they were fed beta-agonist drugs, additives that speed weight gain in animals. Zilmax is the leading commercial brand of beta-agonist.

In an interview with Reuters on Friday, Merck said no safety issues had been discovered in 30 studies since the product was introduced in the United States in 2007.

Merck said on Friday it remains confident in the safety of the product, which had sales of \$159 million last year in the United States and Canada. But the company added it will conduct an audit of how it is used "from the feedyard to the packing plant." The product is sold by Merck's animal health unit.

Merck said its decision to suspend sales will allow the company time to implement its plan announced on Tuesday to establish study protocols, identify feeders and packers to participate in its audit while creating a third-party team to oversee the process and validate its results.

Also on Friday, the U.S. Food and Drug Administration said it was working with Merck and the U.S. Department of Agriculture to gather information on Zilmax and determine if it poses a safety issue.

Livestock analysts said they were surprised by Merck's decision because the company's earlier move to address concerns about Zilmax had not included a sales halt.

"They laid out a strategy in the last few days that did not include suspension," said Jim Robb, director of the Livestock Marketing Information Center.

The halt in sales will not cause a major disruption in North American beef production if producers switch to Optaflexx, a less-potent growth promoter sold by Eli Lilly and Co's Elanco animal health unit, Robb said.

Prices for CME live cattle to be delivered in late winter 2013 and spring 2014 had been down Friday morning before the Merck announcement and then rebounded after the news. Investors bought based on a belief that cattle brought to slaughter without feeding on Zilmax would have lower body weight, resulting in less beef and higher prices, traders said.

'WAIT AND SEE'

One of Tyson's rivals, Cargill Inc, the country's third-largest meat producer, called Merck's decision to halt sales "prudent" and said it reflects a "thorough assessment of the situation."

"While Cargill has not experienced some of the cattle wellbeing issues others have, we support Merck's decision," Cargill spokesman Mike Martin said. Cargill will continue to buy cattle fed Optaflexx, he added.

Major beef packers National Beef and JBS USA could not immediately be reached for comment.

UNDER THE MICROSCOPE

The use of Zilmax drew increased scrutiny after Tyson on Aug. 7 said it would stop purchases of cattle fed the popular feed additive after some animals arrived at its packing plants having difficulty walking or moving.

Tyson, the country's biggest meat processor, said it does not know what was behind the animals' behavior, but company executives said that animal health experts have suggested that the use of Zilmax may be a cause.

In response to Merck's suspension of Zilmax, Tyson spokesman Gary Mickelson said: "We appreciate Merck's decision and will continue to monitor this issue. We'll also continue to seek input from our Animal Well-Being Advisory Panel as well as other independent animal health and welfare experts."

MERCK DEFENDS PRODUCT

Following Tyson's decision to stop buying cattle fed with Zilmax, Merck defended its product. The drug company said in a statement on Friday that tests have proven that Zilmax is safe.

Merck also said it was working with Tyson to resolve questions about the drug. Merck shares closed down 0.6 percent at \$47.70 on the New York Stock Exchange.

The halt of Zilmax sales may translate into a 1 percent drop in U.S. beef production, said Rich Nelson, chief strategist for commodities brokerage firm Allendale Inc.

Feedlots will shift to rival additive Optaflexx from Zilmax because they still want to add weight to their animals, Nelson said.

Optaflexx is less effective at adding weight to animals than Zilmax, according to producers.

Merck's decision to suspend Zilmax sales raises cattle producer Charlie Coblenz's hopes for bigger profit.

Coblenz does not use beta-agonists in his Oklahoma feeder operation because he does not raise cattle to the their finishing weights - the last few weeks before slaughter, when doses of Zilmax or Optaflexx help cattle add weight.

However, increased prices for fully grown cattle will have an effect on all cattle prices, even the younger animals Coblenz raises on his Oklahoma operation, he said.

"If everybody would take that out and cattle aren't able to gain as easily as they are now, the price of beef is going to go higher," said Coblenz. "That was my first thought."

A REVIEW OF BETA AGONISTS BY THE AMERICAN SOCIETY OF ANIMAL SCIENTISTS

A research review of beta agonists in Taking Stock by the American Society of Animal Scientists (www.asas.org) reiterates that the growth promotants used in cattle and swine production, are safe to use for food production. A former USA official believes beta agonists can help improve global food security.

When animals consume feed, they partition the extra energy into fat cells. When cattle and swine are given beta agonists, they partition the extra energy into muscle instead of fat. Many swine and cattle producers feed their animals beta agonists in the last few weeks before harvest. This is because animals are less efficient at turning energy into muscle as they get older. Beta agonists help animals deposit more lean muscle without needing more feed. Beta agonists are also approved for use in turkey production, but they are not as widely used.

The beta agonists used in livestock production are ractopamine and zilpaterol hydrochloride.

The FDA Center for Veterinary Medicine has approved ractopamine for use in swine and cattle. Elanco Animal Health has two ractopamine product lines. Paylean is the ractopamine product for swine and Optaflexx is the ractopamine product for cattle.

Zilpaterol hydrochloride is only approved for use in cattle. It is sold by Merck under the name Zilmax.

Beta agonists are safe in food animals because the compounds do not last long in animal tissue. Zilpaterol hydrochloride and ractopamine break down quickly and are excreted before the animal is harvested.

The FDA tests for beta agonist residues in pork and beef products. In rare cases where beta agonist residues have been detected, levels have been far below the Maximum Residue Limit (MRL) established for human safety by the FDA and the International Codex Alimentarius Commission.

There has never been a case of foodborne illness or side effect in humans attributed to these approved beta agonists in meat products.

Dr. Richard Raymond, former Undersecretary for Food Safety, U.S. Department of Agriculture, (In a 2013 article) believes beta agonists can help improve global food security because they lead to 6 to 7 lb. of additional meat per pig and 30 lb. of additional meat per market cow),

"If only half of the 24 million head of cattle harvested annually, a conservative estimate to be sure, yielded an additional 30 lb. of meat, this would provide 360 million more lb. of lean beef during a time when drought and high grain prices are forcing a reduction in the size of the American cattle herd. That would equate to 1.4 billion additional quarter pounders to help feed the world's children, too many of whom go to bed hungry every night," wrote Raymond.

There are no published data showing that beta agonists have an effect on animal welfare. Swine and cattle given beta agonists do not have higher incidence of injury or health problems under normal management.

One concern is joint soundness in swine and cattle given beta agonists. Tyson Foods cited this concern in a 2013 decision to stop accepting cattle given zilpaterol hydrochloride; however, researchers have not found evidence that beta agonists cause joint problems.

"Research has not observed any negative effects on animal conformation. However, cattle with poor skeletal structure (post legged, straight fronted), the added muscle could cause these problems to become more evident," wrote Amy Radunz, state beef Extension specialist at the University of Wisconsin-Madison, in a 2010 report.

Because beta agonists have only been approved in cattle since 2003, researchers are still investigating potential joint problems.

Research from the University of Alberta, Agriculture and Agri-Food Canada and Elanco Animal Health demonstrated no connection between ractopamine use and joint soundness in swine. To evaluate joint soundness, the researchers studied cartilage in weight-bearing areas of the joints.

"These results demonstrated that feeding ractopamine can increase pig growth rate and carcass leanness without detrimental effect on joint cartilage," wrote He et al.

There is some evidence that beta agonists can affect swine behavior. A 2003 study by researchers at the USDA **Agricultural Research Service** and Purdue University showed that swine given ractopamine were more reluctant to leave their pens. This means it may take more time to handle and transport these animals. These pigs also had higher heart rates and higher circulating catecholamine concentrations, chemicals associated with the flight-or-fight response.

A 2006 study published by researchers at Colorado State University and Elanco Animal Health showed that ractopamine does not affect beef cattle behavior in squeeze chutes.

Squeeze chutes are small stalls that producers use to weigh cattle and perform routine care. The researchers monitored cattle behavior by recording how fast the animals moved through chutes and whether they struggled during handling.

"No adverse effects of ractopamine supplementation on cattle behavior were observed in this study," wrote Baszczak et al.

KEY TERMS AND IDEAS

Agricultural Research Service (ARS) - A USDA agency which conducts basic, applied, and developmental research of regional, national, or international concerns in the fields of livestock; plants; soil, water, and air quality; energy; food safety quality; nutrition; food processing, storage and distribution efficiency; nonfood agricultural products; and international development.

Food and Drug Administration (FDA) - An agency within the Public Health Service of the Department of Health and Human Services. FDA is a public health agency, charged with protecting consumers by enforcing the Federal Food, Drug, and Cosmetic Act and several related public health laws. Importantly for agriculture, a major FDA mission is to protect the safety and wholesomeness of food. In this regard, its scientists test samples to see if any substances, such as pesticide residues, are present in unacceptable amounts, it sets food labeling standards, and it sees that medicated feeds and other drugs given to animals raised for food are not threatening to the consumer's health.

New Texas Ag Commissioner on the Horizon

Texas will elect a new Agriculture Commissioner in 2014, to replace Commissioner Todd Staples who is a candidate for Lieutenant Governor. The previous two agriculture commissioners used the office as a springboard to higher offices. Rick Perry served as commissioner in 1991-98, was elected Lieutenant Governor in 1998 and became governor when George W. Bush left the Texas governorship to become President of the United States. Susan Combs was elected Texas Comptroller from her position as state agriculture commissioner.

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 and comptroller.

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.

The Texas Department of Agriculture and its commissioner was not one of the original statewide offices in the executive department described in the 1876 constitution* which is still in effect today, but was established by the 30th Texas Legislature in 1907. Before its creation, official agricultural business was conducted by an agency called the Bureau of Agricultural, Insurance, Statistics and History.

Robert Teague Milner was appointed as the first commissioner until a commissioner could be elected in the 1908 election. Milner left office before the 1908 general election to become the president of the Agricultural and Mechanical College of Texas. Edward Reeves Kone took Milner's place and was elected to the office in 1908.

As of the writing of this article, three Republicans had declared their intentions to compete for the **GOP's** nomination in the 2014 **primary election**, but no Democrats.

In addition to filing paperwork and paying filing fees to their respective political party for a place on the primary ballot, candidates for office are also required to file with **Texas Ethics Commission** and file periodic campaign finance reports, which are, in turn, posted online. The Republican and Democrat Parties will hold primary elections on March 4, 2014 and since a majority vote is required to win a primary, primary run-off elections will be held on May 27, 2014.

Minor parties which do not have established primary elections, may have a place on the general election ballot if their candidates garner votes that are equal to or greater than one percent of the votes cast in the previous gubernatorial election. For the 2014 election cycle, the Green and Libertarian Parties are qualified to be on the general election ballot.

* The statewide executive officers described in the 1876 constitution were Governor, Lieutenant Governor, Secretary of State, Comptroller of Public Accounts, Treasurer, Commissioner of the General Land Office and Attorney General. The legislature established the Railroad Commission in 1891, which created three Railroad Commissioners who are elected on a statewide basis. The office of state treasurer was abolished by the voters in 1995. The Secretary of State is not an elected office, but is appointed by the Governor. Other statewide offices are judicial positions. Justices on the Texas Supreme Court and Texas Court of Criminal Appeals are statewide elected officials.

KEY TERMS AND IDEAS

General Election: is the term used to identify the Election Day designated in the United States Constitution as occurring on the Tuesday, following the first Monday of November. In Texas, gubernatorial (related to the governorship) elections are held on non-presidential even years. Constitutional Amendments are typically on odd-numbered year general election ballots, since the Texas Legislature meets in odd-numbered years and such amendments are most likely to be produced by the legislative process.

GOP: is an acronym for "Grand Old Party," the nickname of the Republican Party.

Primary Election: A primary election is an election in which registered voters in a jurisdiction select a political party's candidate for a later election. In Texas, voters are not required to declare party affiliation prior to participating in a primary, but party affiliation is derived from primary participation. A voter who participates in the Democrat primary, is a Democrat for that election cycle.

Texas Ethics Commission: was created by constitutional amendment by the voters in 1991. As it relates to the context of the above article, the TEC enforces all election laws related to political contributions, expenditures and advertising.

What do they do?

Governor The governor of Texas is the chief executive of the state and is elected by the citizens every four years. The governor makes policy recommendations that lawmakers in both the state House and Senate chambers may sponsor and introduce as bills. The governor also appoints the Secretary of State, as well as members of boards and commissions who oversee the heads of state agencies and departments. The constitutional and statutory duties of the Governor include:

- Signing or vetoing bills passed by the Legislature.
- Serving as commander-in-chief of the state's military forces.
- Convening special sessions of the Legislature for specific purposes.
- Delivering a report on the condition of the state to the Legislature at the beginning of each regular session.
- Estimating of the amounts of money required to be raised by taxation.
- Accounting for all public monies received and paid out by him and recommending a budget for the next two years.
- Granting reprieves and commutations of punishment and pardons upon the recommendation of the Board of Pardons and Paroles and revoking conditional pardons.
- Declaring special elections to fill vacancies in certain elected offices.
- Appointing qualified Texans to state offices that carry out the laws and direct the policies of state government. Some of these offices are filled by appointment only. Others are ordinarily elected by the people, but the governor must occasionally appoint individuals to fill vacancies. The governor also appoints Texans to a wide range of advisory bodies and task forces that assist him with specific issues.

Lieutenant Governor The office of the President of the Senate is occupied by the Lieutenant Governor, an executive branch position that is elected independently of the Governor. The most powerful legislator in Texas is the Lieutenant Governor – a member of the executive branch. The executive branch duties of the Lieutenant Governor are almost non-existent, except in the case of the Governor's death, resignation, removal from office, or absence from the state. In

such circumstances, the Lieutenant Governor exercises the powers and duties of the office of the Governor. The Lieutenant Governor's legislative duties, however, are much more robust. The Lieutenant Governor appoints the committees of the Senate and has the authority in the Senate to assign bills to specific committees. Generally, the various committees have responsibility over specific areas of public policy. In addition to these considerable institutional powers, the Lieutenant Governor serves on several important boards and may also cast the deciding vote on the Senate floor in case of a tie. The Lieutenant Governor serves as chairman of the Legislative Budget Board and the Legislative Council, and is vice-chairman of the Legislative Audit Committee and the Legislative Education Board. Also, when the Legislative Redistricting Board convenes (only when the Legislature is unable to approve a redistricting plan for both houses) the Lieutenant Governor serves as one of the five members.

The **Attorney General** is the lawyer for the State of Texas and is charged by the Texas Constitution to:

- defend the laws and the Constitution of the State of Texas
- represent the State in litigation
- approve public bond issues

To fulfill these responsibilities, the Office of the Attorney General serves as legal counsel to all boards and agencies of state government, issues legal opinions when requested by the Governor, heads of state agencies and other officials and agencies as provided by Texas statutes, sits as an ex-officio member of state committees and commissions, and defends challenges to state laws and suits against both state agencies and individual employees of the State. In addition to its constitutionally prescribed duties, the Office of the Attorney General files civil suits upon referral by other state agencies. In some circumstances, the Attorney General has original jurisdiction to prosecute violations of the law, but in most cases, criminal prosecutions by the Attorney General are initiated only upon the request of a local prosecutor. Although the Attorney General is prohibited from offering legal advice or representing private individuals, he serves and protects the rights of all citizens of Texas through the activities of the various divisions of the agencies. Actions that benefit all citizens of this state include enforcement of health, safety and consumer regulations; educational outreach programs and protection of the rights of the elderly and disabled. The Attorney General is also charged with the collection of court-ordered child support and the administration of the Crime Victims' Compensation Fund.

The Office of **Commissioner of the Texas General Land Office** is the oldest, continuous elected position in Texas history. Established by the Republic of Texas immediately after the Texas Revolution in 1836, the position of Land Commissioner predates the position of Governor and other state offices established by annexation in 1845. The Commissioner serves a four year term, elected statewide. By state law and gubernatorial appointment, the Commissioner of the General Land Office serves on numerous boards and commissions. As chairman of nine boards or councils, the Land Commissioner oversees matters that range from state lands and coastal issues to veterans affairs.

Secretary of State: The Secretary of State is one of six state officials named by the Texas Constitution to form the Executive Department of the State. The Secretary is appointed by the Governor, with confirmation by the Senate, and serves at the pleasure of the Governor. The first Secretary of the Republic of Texas was Stephen F. Austin. The Secretary serves as Chief Election Officer for Texas, assisting county election officials and ensuring the uniform application and interpretation of election laws throughout Texas. The Office of the Secretary of State also provides a repository for official and business and commercial records required to be filed with the Office. The Secretary publishes government rules and regulations and

commissions notaries public. The Secretary also serves as keeper of the state seal and attestor to the Governor's signature on official documents. In addition, the Secretary serves as senior advisor and liaison to the Governor for Texas Border and Mexican Affairs, and serves as Chief International Protocol Officer for Texas.

Agricultural Issue: State Tax Considerations for Agriculture

Texas agriculture and agribusiness firms pay state and local taxes, and like other businesses and individuals, they enjoy certain tax exemptions and special provisions. These exemptions and provisions are important to farmers and ranchers, but they are a relatively small percentage of the overall exemptions and exclusions granted by state and local governments. Farmers, ranchers, and agribusiness managers—as well as governmental officials—need to understand these tax exemptions and how revisions to them might affect agriculture. Agribusinesses also need to know which state or local agencies they should contact to secure the tax benefits provided by Texas law. Texas residents can also use this information in determining how the overall tax burden should be divided among various groups.

TAX PROVISIONS FOR AGRICULTURE

Texas farmers, ranchers, and agribusiness firms, can use the following tax benefits:

- ▶ Agriculture and open space land is appraised at a lower rate than for other types of property.
- ▶ Agriculture is exempt from these taxes:
 - state and local sales and use taxes on farm inputs and products (such as feed, seed, equipment and chemicals)
 - motor vehicle sales and use taxes for vehicles specialized for agricultural production
 - sales and excise taxes on fuel used on farms and ranches some state franchise taxes

The most significant tax savings for farmers, ranchers, and agribusinesses are the reduced valuation of land used for agriculture, timber, conservation, or wildlife and the exemptions from state and local sales and use taxes.

PRODUCTIVITY VALUATION OF OPEN SPACE LAND

Property taxes are a large portion of the taxes that farmers and ranchers pay. However, every state has some form of preferential treatment for agricultural, conservation, or open space land that is intended to preserve those spaces and endeavors. In Texas, value is assigned to certain properties based on their agricultural or timber productivity value rather than on market value. To receive this special valuation, the land must be used for conservation or wildlife management, or for producing crops, livestock or exotic animals, timber, or nursery crops and related products.

Productivity value is an estimate of the value of the land if it is used for agriculture, timber or wildlife only; it excludes other market forces such as speculation or commercial development, which add value to the land. The landowner, therefore, pays taxes on a valuation that may be significantly below market value, which is used for assessing most other properties.

Productivity valuation is applied only to such property as the land, fences, stock watering tanks, and irrigation wells. Houses, barns, milking parlors, and other improvements are assessed at the prevailing market value.

The taxation of certain open space land is addressed by Article VII, Section 1-d-1 of the Texas Constitution and Subchapter D (Sections 23.51 through 23.60) of the Texas Tax Code. The two provisions for productivity valuation are Section 1-d agricultural valuation, and Section 1-d-1 open space valuation. Though the terms agricultural valuation or ag exemption are often used, open space land is the appropriate term for much of the land that receives a productivity valuation.

Open-space valuation depends how the land is used, not on any characteristics of the landowner. To qualify for the open-space designation, the land must have been in agricultural production, including land for timber, conservation, and wildlife management, for 5 of the past 7

years. In the current year, the land must be devoted principally to agricultural use at the intensity of use generally accepted in the area. These intensity standards vary among counties and are set by the local appraisal district.

To receive the special appraisal for wildlife management, the owner must use the land for the purposes stated in the tax code. People who acquire land that was previously qualified as open space must apply in their own name by April 30 to avoid losing the special valuation. The valuation status then remains in force until the qualifications change or the appraiser requests a new application.

The open space provision is not an absolute exemption; if the land changes to a nonagricultural use, the owner must pay a rollback tax equal to the tax savings for the 5 most recent years (plus 7 percent interest accrued from the dates that the taxes were due). The provision saves taxes only for people who maintain their land's open space status for more than 5 years. Nevertheless, this special treatment saves landowners more money in yearly tax savings than any other state or local agricultural tax exemption or provision.

Few landowners qualify for the original 1966 1-d agricultural valuation. This designation is tied to both the land and the landowner and must be applied for each year it is claimed. Section 23.42 of the Texas Tax Code stipulates:

- ▶ The land must have been exclusively devoted to or developed for agriculture for the past 3 years.
- ▶ The landowner must use the land for agriculture as his/her occupation or as a business venture for profit in the current year.
- ▶ Agriculture must be the landowner's primary occupation and source of income.

This section defines agriculture as "the raising of livestock or growing of crops, fruit, flowers, and other products of the soil under natural conditions as a business venture for profit." Wildlife and timber uses do not qualify for Section 1-d valuation. If the land use changes and no longer qualifies for an agricultural appraisal, the landowner must pay the difference between its tax based on productivity value and the tax based on market value for the present year and the preceding 3 years plus interest at the rate published for delinquent taxes.

The agricultural or open-space valuation is a major benefit to farmers, ranchers, and owners of qualified land. Texas landowners enjoy significant property tax savings from the open space valuation provisions (Table 1).

Exemption and Special Valuation	2011 (millions of dollars)	2013 (millions of dollars)	2015 (millions of dollars)
<i>Special appraisal for agriculture and timber land^a</i>	2,702.8	2,792.6	2,947.0
<i>All Residence Homestead Exemptions</i>	1,750.7	1,844.9	1,947.2
<i>All Other Exemptions</i>	1,545.5	1,632.1	1,738.0
Total exemptions and special valuations	5,999.0	6,269.6	6,632.2
Agricultural exemptions as a % of total exemptions	45.1%	44.5%	44.4%

^aThe special appraisal includes both agriculture and open space valuations.
Source: Texas Comptroller of Public Accounts, Tax Exemptions & Tax Incidence, 2011.

In 2011, open space valuations saved Texas landowners an estimated \$2.70 billion in school property taxes alone. By 2015, this savings is projected to increase to \$2.95 billion because the market value of land is expected to increase faster than the productivity use values.

School property taxes account for more than half of the total property taxes levied in Texas. Landowners also benefit from lower county and city property taxes under the open space provision. This provision accounted 35 percent of school property tax savings (or public revenue loss) in 2001 and for 45 percent in 2011. A partial list of tax savings is available from the **Texas Comptroller of Public Accounts** on the Web at

<http://www.window.state.tx.us/taxinfo/incidence/96-463TaxIncidence02-11.pdf>.

The open space provision of the Texas Tax Code is often criticized because it decreases property tax revenue to local jurisdictions. Since 2007, more tax revenue has been lost to open space valuation than to homestead exemptions. This change occurred because the number of building permits plummeted in 2007 and residential homestead exemptions stay about the same, while the open-space valuation changes when the value of real property increases.

However, the open space exemption is assumed to remove less tax revenues than do the exemptions for properties such as religious and charitable organizations, educational institutions, personal property (vehicles, jewelry) or intangible property (bank deposits, stocks, bonds, etc.).

The Texas Comptroller (Combs 2011) reports that the value of these exemptions cannot be estimated. Similarly, the value of exemptions to farm produce and implements cannot be estimated.

For information on the open space provision of the Texas property tax law, including how to apply for an exemption, contact the local county Central Appraisal District office.

SALES AND USE TAX EXEMPTIONS

Farmers and ranchers are exempt from state and local sales taxes for most agricultural inputs they buy and for the products they sell. The exemption covers:

- ▶ Virtually all inputs used exclusively to produce agricultural goods.
- ▶ Products sold by farms and ranches such as grain, milk, livestock, and raw cotton for further processing.
- ▶ Raw food products such as vegetables and meats sold directly to consumers.

Without these exemptions, farmers and ranchers would pay a 6.25 percent state tax plus a local sales tax of up to 2 percent for their inputs and sales. This benefit is not unique to agriculture; the exemption is used across other industries to avoid taxing products multiple times as they move through production and distribution channels. Texas does not charge sales tax on non-prepared food products, regardless of whether they are purchased from farmers or from grocery retailers.

In 2011, the total sales tax exemptions granted on agricultural inputs amounted to \$414 million (Table 2). Most of this exemption was for the purchase of feed, seed, and supplies, machinery, and equipment used for producing agricultural products.

Although these tax savings are important to farmers and ranchers, exemptions for inputs amounted to only 1.7 percent of the value of all sales tax exemptions in Texas in 2011 and only 1.4 percent of the value of all sales tax exemptions plus exclusions on services.

In comparison, exemptions for food products for home consumption totaled \$1.47 billion. Exemptions on manufacturing materials, equipment, and supplies totaled \$10.41 billion. The value of sales tax exemptions on agricultural inputs also trailed that of other exempted categories such as health care supplies (\$689.6 million) and residential gas and electricity (\$881.5 million). The largest exclusion was \$879.2 million for physician services.

Agriculture's share of sales tax exemptions has declined since 2001, and the state comptroller projects that the trend will continue through 2013 (Table 2). This likely reflects the fact that, although agricultural receipts continue to increase, agriculture makes up a smaller share of the state's economy.

As of January 1, 2012, agricultural businesses must obtain a Texas Agriculture and Timber Exemption Registration Number (“Ag/Timber Number”) from the state comptroller. They may apply online at the comptroller’s website (URL: www.GetReadyTexas.org) or request a paper copy from the comptroller’s office to register the business name and address, agricultural products produced, and applicant’s Social Security Number. The Ag/Timber Number is available immediately. Permits obtained in 2011 through 2014 are valid through December 2015.

The sales tax exemption for most items purchased for farm or ranch use is obtained by completing a sales tax exemption form when buying the items. Note that the exemption forms have changed to include the Ag/Timber number. Buyers without a number and certificate may pay the sales tax and apply for a refund.

Table 2. Projected value of sales and use tax exemptions for agriculture.

Exemption	2011 (millions of dollars)	2013 (millions of dollars)	2015 (millions of dollars)
Agricultural feed, seed, chemicals, and supplies	263.5	277.2	293.8
Livestock for food	16.1	16.9	17.9
Agricultural machinery and equipment	78.4	82.5	87.4
Horses, mules, and work animals	8.7	9.2	9.8
Commercial fishing ice	0.2	0.2	0.2
Total \$151.316 agricultural exemptions	366.9	386.0	409.1
Timber operations	22.3	24.6	27.1
Electricity for agricultural use	24.5	27.0	29.2
Agribusiness items	0.5	0.5	0.5
Total agricultural exemptions by other codes	47.3	52.1	56.8
Total agricultural input exemptions	414.2	438.1	465.9
Food for home consumption	1,466.0	1,579.8	1,713.8
School lunches and certain food sales	43.3	46.9	50.8
Exemptions in all other sectors*	22,840.8	25,210.3	28,470.2
Total exemptions	24,764.3	27,275.1	30,700.7
Exclusions on services	5,810.8	6,500.3	7,331.1
Agricultural input exemptions as a % of total exemptions	1.7%	1.6%	1.5%
Agricultural input exemptions as a % of total exemptions and exclusions	1.4%	1.3%	1.2%

*Includes items taxed by other law (\$8.6 billion in 2011).

Source: Texas Comptroller of Public Accounts, Tax Exemptions & Tax Incidence, 2011.

MOTOR VEHICLE SALES AND USE TAXES

Texas tax law does not provide a blanket exemption for motor vehicles used in agriculture. Trailers and self-propelled farm machines such as tractors and combines used exclusively in farm production are exempt from the 6.25 percent motor vehicle sales and use tax.

Some vehicles that have been modified to distribute feed or fertilizer may also be exempt from motor vehicle taxes. Exemptions are not based on vehicle registration status; a truck’s farm registration does not exempt it from the motor vehicle tax.

Farmers and ranchers were projected to save about \$24.4 million in 2011 under this exemption (Table 3). These savings apply to specially adapted motor vehicles used exclusively for producing crops and livestock. In 2011 agricultural producers accounted for about 19.5 percent of the statewide total motor vehicles sales and use exemptions of \$125.3 million.

Table 3. Projected value of motor vehicle sales and use tax exemptions for agriculture.

Exemption	2011 (millions of dollars)	2013 (millions of dollars)	2015 (millions of dollars)
<i>Farm or timber use exemption</i>	24.4	25.1	26.4
Exemptions in all other sectors, including public sector and private households	100.9	106.7	114.5
Total exemptions	125.3	131.8	140.9
Agricultural exemptions as a % of total exemptions	19.5%	19.0%	18.7%

Note: The above figures reflect exemptions from the motor vehicle sales and use tax and not exemptions from the TERP surcharge.
Source: Texas Comptroller of Public Accounts, Tax Exemptions & Tax Incidence, 2011.

Although the value of agricultural exemptions is projected to increase through 2015, the share is expected to decline as spending and exemptions grow faster in other sectors than in agriculture. The law also provides exemptions for nonagricultural businesses, such as child care facilities.

Farm vehicles as defined above may also be exempt from the Texas Emissions Reduction Plan (TERP) surcharge. The TERP surcharge on the sale or lease price of diesel powered vehicles of at least 14,000 pounds is issued help the state to improve air quality and meet federal pollution emissions standards. The surcharge is 2.5 percent for 1996 model vehicles or earlier, and 1 percent for vehicles that are of 1997 models or later. Farm equipment is also exempt from the state's 2 percent Off-Road, Heavy-Duty Diesel Equipment surcharge.

Representatives of agricultural businesses should contact the comptroller's office to see if they qualify for an exemption from motor vehicle taxes.

FUEL TAX EXEMPTION

Much of the gasoline and diesel that farmers and ranchers buy is used for agricultural production; the fuel that is not used on public highways is exempt from the motor fuel tax. In 2011 this exemption saved farmers and ranchers \$10.8 million and amounted to about 9.6 percent of the value of all exemptions under this law (Table 4). In 2015, the value is projected to remain at just under 10 percent of the total fuel exemptions.

To obtain an exemption from the motor fuels tax, an end user number must be obtained from the Texas State Comptroller of Public Accounts (Form AP-197) and an end user signed statement (Form 06-710—agricultural use only—or Form 06-352—some nonagricultural use) must be submitted to the distributor.

Table 4. Projected value of fuel tax exemptions for agriculture.

Exemption	2011 (millions of dollars)	2013 (millions of dollars)	2015 (millions of dollars)
Agricultural use exemption	10.8	11.1	11.4
Exemptions in all other sectors	102.1	105.0	107.6
Total exemptions	112.9	116.1	119.0
Agricultural exemptions as a % of total exemptions	9.6%	9.6%	9.6%

Source: Texas Comptroller of Public Accounts, Tax Exemptions & Tax Incidence, 2011.

FRANCHISE TAX EXEMPTIONS

Texas's business tax is called the franchise tax, and farms organized as corporations are subject to it. However, farms, like other businesses, with a tax liability of less than \$1,000 and gross sales less than \$1,030,000 do not pay the tax, although they must still report their income.

Many nonprofits are also exempt from the franchise tax. Agricultural marketing associations and agricultural cooperatives, including farm credit cooperatives and insurance mutuals, are exempt from the franchise tax.

Producer members of cooperatives benefit from this exemption because they result in lower prices and increased patronage (dividend) payments.

Table 5. Projected value of tax exemptions for agriculture.

Exemption or provision	2011 (millions of dollars)	2013 (millions of dollars)	2015 (millions of dollars)
Open space land valuation	2,702.8	2,792.6	2,947.0
Sales and use tax exemption on agricultural inputs	414.2	438.1	465.9
Motor vehicle sales and use tax exemption	24.4	25.1	26.4
Fuels tax exemption	10.8	11.1	11.4
Total	3,152.2	3,266.9	3,450.7

Source: Texas Comptroller of Public Accounts, Tax Exemptions & Tax Incidence, 2011.

SUMMARY

Agriculture enjoys several tax exemptions and favorable provisions at the state and local level. The total tax savings documented from all agriculture exemptions totaled \$3.15 billion of \$38.2 billion in exemptions in 2011. By 2015, it is projected to be \$3.45 billion (Table 5). The projected tax savings suggest:

- Tax exemptions and special provisions are significant to farmers and ranchers. The tax savings to agriculture and agribusinesses in 2009 amounted to almost three quarters of the average annual net farm income in Texas from 2007 to 2009 (Economic Research Service, USDA). The tax savings actually exceeded the state's net farm income of \$2.2 billion in 2009, a record low year for farm incomes.
- The school property tax savings derived from the open-space land valuation accounted for 85.7 percent of all agriculture's special provisions in 2011. The actual benefit is even higher because of city and county exemptions. Though exemptions and special provisions give farmers and ranchers significant tax savings, they are a relatively small part of the total exemptions and exclusions that state and local governments grant to

taxpayers. For 2011, agriculture's provisions were about 8.3 percent of the state's \$38.2 billion in reported exemptions.

Key Terms

Texas Comptroller of Public Accounts: The Texas Comptroller's office was originally created by the Texas provisional government in 1835. The Comptroller is the chief steward of the state's finances, acting as tax collector, chief accountant, chief revenue estimator and chief treasurer for all of state government. Susan Combs serves as the Texas Comptroller of Public Accounts. She was elected in 2006, but has opted to not run for re-election. Her term expires on December 31, 2014.

National and State Issue: Water Planning

The analysis of water supply must begin with these questions: What are the challenges to our water supply? What opportunities do we have to manage and perhaps increase water supplies? This examination is critical.

American agriculture has provided a safe and reliable food supply, preserved open space and natural resources, driven economic opportunities for rural and urban America, furnished the foundation for critical industries, and expanded these roles to the world economy. Does the future hold the predictable and reliable supply of water that agriculture needs to continue these essential roles?

Population growth, weather, infrastructure limitations, investment uncertainty, lack of research, counterproductive water laws, and in many cases lack of planning and prioritization, all presently limit water supplies. At the same time, population growth creates demand for additional water and food production.

Weather also plays a major role. The current drought favors agricultural producers who have irrigation. In fact, 50% of our food supply (in value) is grown on the 16% of U.S. farmland that is irrigated. Much of the 84% of farm and ranch land that is not irrigated could produce more with irrigation.

Water supplies for cities and irrigation require adequate water infrastructure. Water infrastructure shortcomings have been described as a “trillion dollar question” facing the U.S. In this setting, it is fair to ask if we have maintained adequate research to cope with weather changes, increased production demands, and water management and utilization technologies.

POPULATION GROWTH AND POPULATION TRENDS

The U.S. population will increase from 309 million people in 2010 to over 439 million in 2050 (U.S. Census), with more than 80% of this population growth occurring in urban areas. Cities for the most part do not produce their own food and water and cannot exist without healthy supply lines. Farmers and ranchers form an important part of those supply lines, yet the support base for cities grows increasingly narrow. As of the 2010 Census, only 17% of the U.S. lives in rural areas, and agricultural producers number less than 2% of the American population.

World population is expected to increase from roughly 7.2 billion today to about 9.7 billion in 2050. The world's dependence on American agriculture is significant; in 2011 American agriculture exports totaled \$137.4 billion. From 1950 to 2000, water usage in the U.S. increased from 14 to 43 billion gallons per day, with per capita use increasing from 146 gallons per day to 179 (US EPA Clean Water and Drinking Water Infrastructure Gap Analysis Report, September 2002).

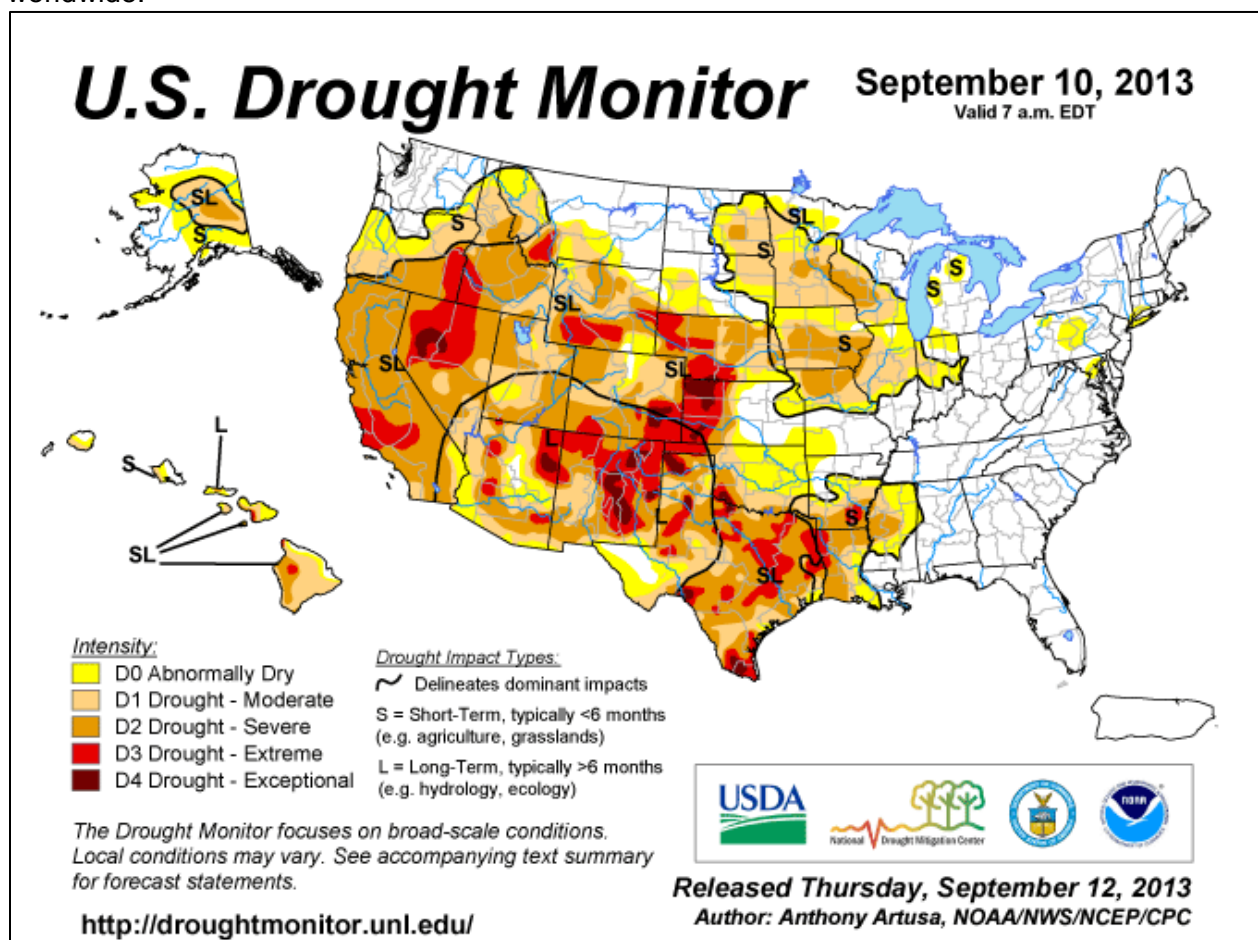
Population growth that increases overall demand and per capita consumption will be stifling to food production. Population growth and the trend to urbanization will continue to affect agricultural water supplies. In most of the U.S. there are no new sources of unused water, so growing cities increasingly reach out at greater and greater distances to take water currently used by agriculture. Approximately half of the population growth in coming decades is projected to occur in Arizona, California, Florida, and Texas, all regions that produce a huge portion of our domestic food supply.

Urban and rural citizens alike expect increased production of food, renewable fuels, and fiber, often without regard to the basic food production agronomics. These forces combine to create a “perfect storm.” Cities take the water needed to grow food for their burgeoning populations, even as prolonged droughts diminish water supplies. Producers face the challenges created by nature, but they also face antagonism from a public far removed from the realities of food production, and policies created with good but misguided intentions that have impaired productive capacity. How then do we balance the basic equation of increased food

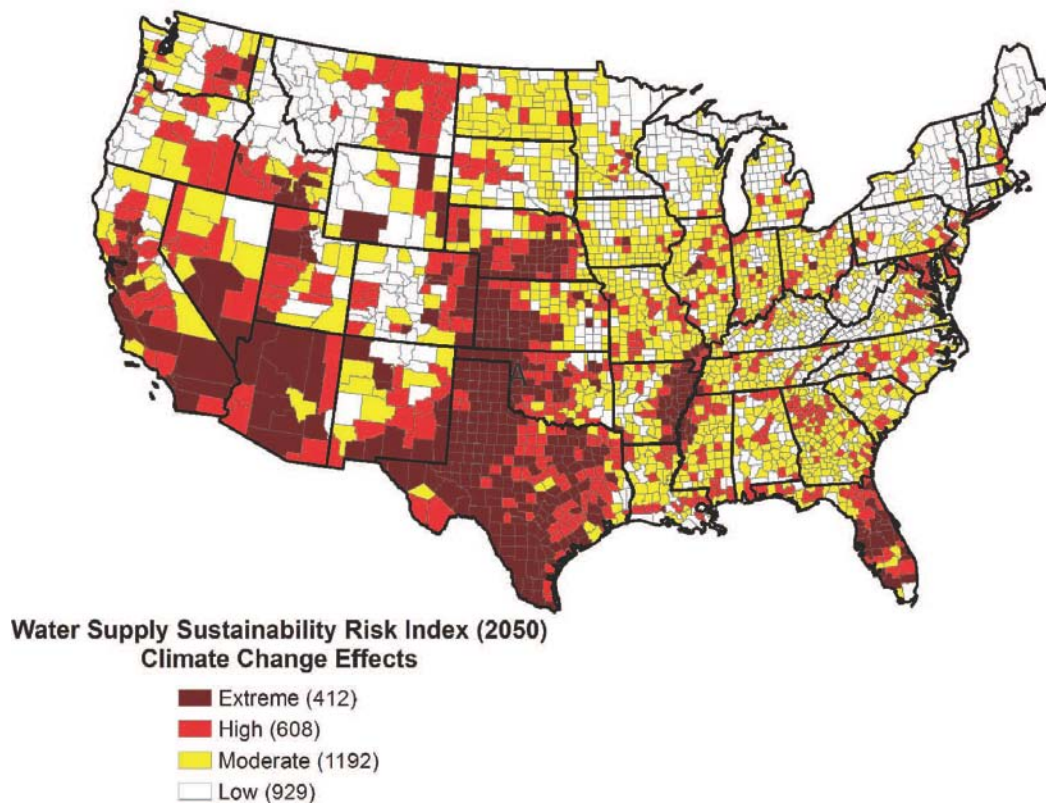
production = more water demand = need for more water supply? This question is made more difficult by the additional challenges discussed below.

WEATHER

For agricultural producers, the supply and demand equation can become exponentially complicated by short- and long-term weather patterns. The droughts of 2011 and 2012 provide a heated reminder of the weather factor. In July 2012, approximately 61% of the lower 48 states were experiencing “abnormally dry” or “drought” conditions (U.S. Drought Monitor), with the USDA predicting long-term persistent “dry” conditions for the South and Southwestern U.S. In August 2012, more than half of the counties in the U.S. had been designated as primary disaster areas due to drought (NWRA Water News Daily, Aug. 2, 2012), and in 2013, the drought persists for much of the western United States. The effects of the drought are obvious and significant, ranging from direct economic losses in the billions, to increases in household budgets for essential food and fiber items (e.g., cotton products), to potential food shortages worldwide.



American consumers, who on average spend less than 10% of their disposable income on food, may see modest increases in their food budgets. Consumers in countries such as Pakistan that already spend more than half their income on food will see catastrophic increases. While the climate change debate is both contentious and unsettled, the fact remains that the Earth experiences weather and climate pattern changes that affect agriculture.



This graphic, taken from research completed for the Natural Resources Defense Council by TetraTech, illustrates counties in the U.S. likely to face water shortages as a function of a) projected weather cycles; b) annual water demand (agricultural, urban, and industrial withdrawals); and c) projected renewable water supply (including groundwater). The weather cycle projected for this study exposes 14 states to extreme or high risk for having an unsustainable long-term water supply.

This same study estimated current and future water withdrawal as a percentage of precipitation. While the majority of the U.S. is currently consuming less than 5% of annual rainfall, water use in the western U.S. consumes approximately 30%. In arid regions, including Texas, Arizona, and portions of New Mexico and Nevada, water consumption exceeds 100% of available rainfall. This trend is unsustainable and necessitates new approaches to water policy.

Ultimately, weather patterns have changed throughout as much of the Earth's history as humans are able to study, and weather patterns will continue to change. The only effective approach is to focus research and development on more adaptive practices and technologies.

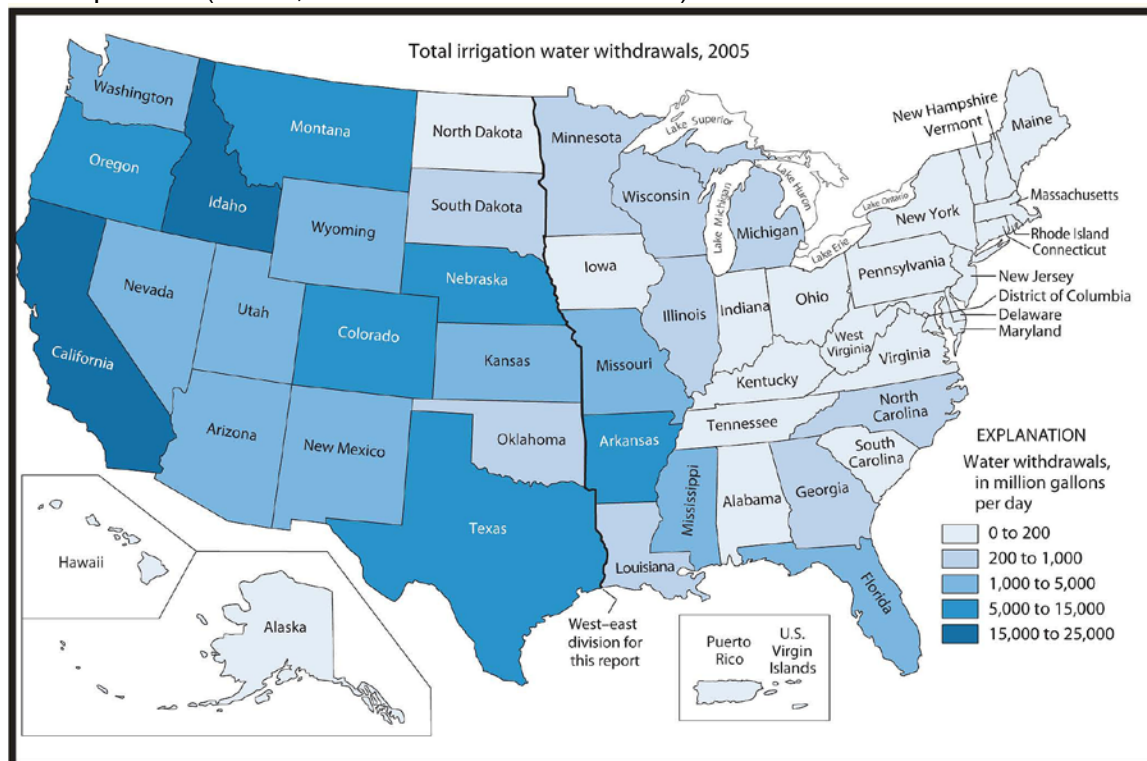
Water infrastructure, simply defined, provides the means to move water from its hydrologic source to the point of human use. Our national water infrastructure has been a work in progress from the time of early colonization. Yet, foreseeable water demands will push our existing water infrastructure well beyond its current capability. Our nation faces these challenges:

- Many water supply facilities are more than 50 years old and are nearing or beyond their design age, yet continue to function as primary facilities without redundant or reserve capacity.
- Many major facilities were built and funded as federal projects. Current federal policy mandates maintenance of such facilities, but often does not fund maintenance, improvement, or replacement. Local economies that have grown up because of and

around this infrastructure have not shown ability to fund needed repairs and replacements.

- Water infrastructure development has not kept pace with population growth and the increased need for irrigation.
- Changes in weather patterns, population distribution, and water use technologies cause economic obsolescence of existing infrastructure.
- Current water policy discourages private investment in water infrastructure over concerns with “privatizing” a “public” resource.

Efforts to address infrastructure needs must also address the need for irrigated agriculture. Nearly half of all U.S. crop economic value grows on the 16% of agricultural land that is irrigated. The remaining 84% of agricultural land (farms not irrigated) produces just over 50% of the crop value. (USDA, Economic Research Service).



Even a cursory look at irrigation water withdrawals (both from surface and groundwater sources) as shown in the above graphic reveals the need for more robust infrastructure, especially in an extreme drought year like 2012. Food production in states with heavy irrigation use, including Arkansas, California, Florida, Idaho, Kansas, Nebraska, Texas, and Washington, demonstrate the value of such infrastructure to our food production and national wellbeing. Irrigation allows production of rice in Arkansas; fruits, vegetables, tree nuts, citrus, and a range of other crops in California; citrus, fruit, and vegetables in Florida; potatoes, grain corn and sweet corn in Idaho and Washington; wheat, corn, and soybeans in Kansas and Nebraska; along with citrus, irrigated pasture, peanuts, melons, and many other food crops in Texas. In the 2012 drought, farmers who used irrigation in the parched Midwest enjoying record production, while neighboring farmers suffered greatly reduced yields or were forced to plow under drought-destroyed crops without taking a harvest.

Meanwhile, on-stream and off-stream irrigation dams and storage reservoirs are aged with increasing risk of failure, as are levees that protect farmland along the Missouri, Mississippi, and other river systems. Loss of these water management structures will curtail food production.

Constraints imposed by environmental legislation and litigation hamper replacement of these structures. Often the sheer cost of regulatory compliance and litigation originating from environmental activists render replacement projects uneconomical.

Future water supplies are likely to require significant investment and increased user costs. Since agriculture is the largest water user, producers should anticipate such water cost increases. Still, water costs must be low enough to assure an adequate food supply. Further, producers and consumers alike should recognize that higher water costs will affect production and be reflected in the price of food and fiber.

RESEARCH

A broad array of tools will be required to meet the water supply and infrastructure challenges of the coming century. In agriculture, research, innovation, and improvement are a way of life.

Agricultural technologies change as rapidly as in any other field, but agriculture remains largely the science of managing and adapting to natural processes. In short, agricultural practices must conform to the laws of nature. One such law is that the living organisms used to meet human needs require water.

Research helps improve our effectiveness in managing water resources. Against this background, some evidence suggests that the number of university programs devoted to agricultural research appear to be shrinking at the very time that our food production needs to be expanded and our water resources more carefully managed.

Agricultural research has significantly improved production efficiency. Compared to production in the 1950's, agriculture today produces up to five times more product on a per acre basis and many times greater output per person (Productivity Growth in US Agriculture, USDA, September 2007). Research in irrigation technology and plant water needs is fundamental.

Irrigation demand, when compared to population growth, has been steadily declining since the 1980's, as shown in this chart. The explanation for reduced irrigation water withdrawals lies in improved irrigation technologies and better plant varieties. These benefits were discovered through basic and applied research.

LEADERSHIP, COOPERATION, RESEARCH

Agriculture is the biggest water user in most states, especially west of the Mississippi River. The special session participants recognized the responsibility of managing this enormous resource by designating water resource stewardship as one of three priority needs. The key components to stewardship are not only to maintain good management and conservation practices, but to also improve leadership, representation, and education on water issues.

The need for strong leadership and careful management could not be more critical. Regional conflicts emerge throughout the U.S. as shared water supplies fall short. These shortages have many faces. Increased urban water demands, parched crops and other symptoms of regional drought, fisheries affected by stream flow reductions, declining aquifers, water quality impairments, and many other problems create challenges for responsible water stewards.

Though there are a broad range of water users, the effects of water supply shortages usually fall first on agriculture and subsequently on consumers through higher prices. The sheer volume of water needed for agriculture exposes producers to all the water supply problems discussed above. Farms and ranches do not have the buffering provided by the extensive infrastructure (even with its limitations) available to cities.

Agriculture's attempts to prepare against water shortages are often undermined by a lack of predictive tools. For example, after extensive flooding in areas and abundant rainfall across the northern Great Plains and mountain states in 2011, the drought of 2012 surprised weather forecasters and farmers alike.

The agricultural community, in part because of its unique perspective, can offer leadership in critical water resource planning. As a starting point, agriculture's leaders might forge constructive alliances with other water stewards. In the past, stewardship decisions such as the location, scope, design, and funding of infrastructure or allocation of water supplies were often limited to narrow groups of participants directly involved in a project. There is now a healthy trend of recruiting all relevant stakeholders when undertaking projects. This improved cooperation lends strength to shared values such as water rights protections, conservation, wise growth management, environmental protections, and aquatic and riparian habitat enhancement.

Experience suggests that this cooperative approach creates greater decision costs, but reduces litigation and other costs of conflict and provides more comprehensive solutions. This in turn increases water use efficiency and gives opportunities to distribute project costs over a larger user base. These larger constituencies can also generate greater political energy and effectiveness at the local, state, and regional level.

On the other hand, unless water stewards combine efforts, we must expect that activists will drive policy decisions and exhaust resources that otherwise could be directed toward improving water supplies. Litigation brought under the citizen lawsuit provisions of the Clean Water Act, the Endangered Species Act, the National Environmental Policy Act, and other statutes do not increase water supplies.

Agricultural leaders have many forums in which to advocate improved water stewardship. Farmers and ranchers represent a great body of knowledge gained from formal education and their operational experience, but also from service on Soil Conservation District, irrigation district and other boards, and industry organizations. Associations formed in these groups can be used to network with other water stewards and improve collaboration. The leaders trained through these efforts can develop new governing structures in districts, regional authorities, and private enterprises. These can in turn develop effective multiple benefit projects.

PUBLIC EDUCATION AND INVOLVEMENT

The common assumption that "everyone knows what we know" clouds communication. "If only they knew what I know" is a variant of the same theme. Public education regarding water resource management and food production is greatly needed. The general public does not know what agriculture producers know in part because there is little incentive to know.

Water and food are more abundant, cheaper, and convenient than at any time in human history. The vast majority of the U.S. population does not know what goes on beyond the water faucet and the grocery store. Only agricultural producers can tell the whole story first hand and have both the knowledge base and the need to do so.

With only 2% of the U.S. population directly involved in production agriculture and only 1% in full-time farming, there needs to be a concerted effort to provide future generations the enhanced understanding of the social, economic, national security, and environmental benefits of agriculture and the stewardship required to preserve and grow these unique communities and eco-systems.

The need for public education arises in many settings. For example, demands from regulatory agencies, retailers, and others who would prescribe non-sustainable production practices must be met with information and sound science. Otherwise agricultural producers will be forced out of business.

Loss of agricultural producers in the U.S. would export production to other countries and away from the soils and growing conditions that give the U.S. a competitive economic advantage and the most environmentally sound agricultural production. This loss would diminish the U.S.'s agricultural self sufficiency, increase costs and reduce food safety and security, both domestically and abroad.

Development of good policy in a democratic society first requires education of both stakeholders and the general public. The founders of our nation encouraged nothing less. The

distance between public understanding of agriculture and modern production realities might be described as either amusing or tragic. Media portrayals of agriculture are at least seriously outdated and may even be twisted by special interests. Those agendas have succeeded in distracting from the underlying truth that agriculture is broad based and showcases a multitude of products, technologies, capabilities, and a strong sense of stewardship.

Common images of the 1920's "Grandpa's farm," with a red barn, Model T Ford pickup, multiple species of domestic animals, muscle-powered farm equipment, and a laid-back lifestyle, are as incorrect in every detail as those of the rancher packing an open-sight Winchester rifle, living on the range, and coming to town only to visit the Long Branch saloon.

We can do better by incorporating meaningful facts to consumers and voters, while retaining positive preconceptions. One overriding message that should be presented to both public and water managers alike is that agriculture is on the front line of water issues. Metaphors have been applied such as "the canary in the coal mine," or "the point of the spear," but a key message is that when agriculture faces water problems, the effect on the public at large soon follows.

LEGISLATURE CREATES WATER PLANNING TOOLS, VOTERS TO DECIDE FATE OF WATER PLAN FUNDING

During a May 28 ceremony, Governor Rick Perry signed House Bill 4, which provides the mechanism for the **Texas Water Development Board** (TWDB) to provide financial assistance to local and regional water providers for projects currently identified in the 2012 State Water Plan.

Texas experienced what is thought to be the worst one-year drought on record in 2011. This weather event emphasized the need for water planning and implementation of unique water supply strategies in the 2011 regional water plans. However, the estimated cost to implement all the water management strategies recommended in the 16 regional water plans is more than \$50 billion. Many of the recommended projects in the respective plans were in limbo due to financing issues. During the regular session of the **83rd Texas Legislature**, three separate bills were passed to provide the framework for funding the state water plan—some 16 years after SB 1 was first passed.

HB 4 creates the State Water Implementation Fund (SWIFT) and the State Water Implementation Revenue Fund (SWIRFT). Each is a special fund in the state treasury outside the General Revenue Fund to be used by the TWDB without further legislative appropriation to finance projects in the state water plan.

Another provision of HB 4 requires the TWDB to prioritize state water plan projects for financial assistance, based upon certain criteria. Regional water planning groups in the state are to prepare and submit a draft priority list of projects to the TWDB by June 1, 2014. A final priority list is due September 1, 2014. This applies to all regional water plans due Jan. 5, 2016.

HB 1025 appropriates \$2 billion in funding from the state **Economic Stabilization Fund**, also known at the "**rainy day fund**," for the financial assistance.

"This \$2 billion investment will fund up to \$30 billion in projects over the next 50 years," stated a news release from the Governor's office.

Senate Joint Resolution 1 proposes an amendment to the Texas Constitution providing for creation of the SWIFT and SWIRFT to assist in the financing of priority projects in the state water plan. Voters will go to the polls during the **general election** on November 5 to approve or reject the proposed amendment.

Governor Perry was joined at the HB 4 signing ceremony by Lieutenant Governor David Dewhurst and Texas House Speaker Joe Straus. Others included House Author Representative Allan Ritter, Senate Sponsor Senator Troy Fraser and Representatives Eric Johnson, Doug Miller and Four Price.

“Water is an essential part of everyone’s life,” Perry said. “Even with rapid population and economic growth, HB 4 will help secure our water supplies for generations by creating new funds that will support local and regional projects and lower the cost of issuing bonds for much-needed water projects.”

House Speaker Straus agreed.

“The Texas House made HB 4 a top priority because we have all seen the devastation that severe drought can have on our farms, our communities and our entire economy,” Straus said.

HB 1025 was effective immediately and House Bill 4 was effective September 1, 2013.

KEY TERMS AND IDEAS

Texas Legislature: In Texas, all legislative power is vested by the state’s Constitution in a bicameral body styled “The Legislature of the State of Texas.” The Legislature is required by the Constitution to meet every two years for a regular session that may not exceed 140 days. By statute, (Article 5422), the Legislature convenes in regular session on the second Tuesday of each odd-numbered year. The Constitution also establishes the general order of business for the regular session; however, the Legislature is allowed, by affirmative vote of four-fifths of the membership of each house, to establish its own order of business. Special legislative sessions (30 day limit) may only be called by the Governor and may only consider matters submitted by him. Both the Senate and the House of Representatives operate their day-to-day business through committee systems. The rules of each house govern the organization and membership of committees. Both houses are required to have a quorum of two-thirds of its membership present to conduct business. However, each house may, with less than a quorum, compel absent members to attend. Each house is also required to publish a journal of its proceedings and votes.

Texas Senate: The Texas Senate is composed of thirty-one members, each elected for a four-year term. One-half of the Senate is elected every two years. A member of the Senate must be a citizen of the United States, a qualified elector of the state, and have attained the age of twenty-six. He must have been a resident of Texas for five years immediately preceding his election, and the last year thereof a resident of the district from which he was chosen. Except for the Lieutenant Governor who is designated by the Constitution as President of the Senate, the Senate elects its own officers, creates and enforces its own rules, and judges the qualifications and election of its own members. The Senate is required to advise and consent on virtually all of the Governor’s appointments to state commissions, boards, and offices. It is only during such nomination proceedings that the Senate is allowed to conduct a closed or executive session. All other business of the Legislature must be conducted in open session. The Senate also sits as a court of impeachment to try persons impeached by the House of Representatives; two-thirds vote of the Senators present are required for conviction. The Lieutenant Governor presides over the Senate and makes Committee assignments. He is not a member of the Senate and votes only in case of a tie.

Texas House of Representatives: The House of Representatives is composed of 150 members, each elected for a twoyear term. A member of the House must be a citizen of the United States, a qualified elector of the state, and have attained the age of twenty-one. He must have been a resident of the state for two years immediately preceding election, the last year thereof a resident of the district from which he was chosen. The House of Representatives elects its own presiding officer, the Speaker of the House, and all other officers. Like the Senate, the House creates and enforces its own rules and judges the qualifications and elections of its members. The House has maintained traditionally a larger number of standing committees than the Senate due to the larger number of members involved. All revenue bills considered by the Legislature must originate in the House of Representatives. Although the

Senate may not consider revenue measures until they have been passed on the by House, the Senate may accept, amend, or reject in total such measures as it sees fit. Also, the House alone can bring impeachment charges which must be tried by the Senate. The Speaker presides over the House and makes Committee assignments. He is a member of the House and may vote at any time.

Forms of Legislation: There are two major classes of measures considered by the legislature resolutions and bills. Bills are “introduced” and may be “passed.” Resolutions are “proposed” and “adopted.” While bills comprise by far the greater portion of the legislative work load, resolutions can sometimes be of equal or greater importance. The three types of resolutions are joint resolutions, concurrent resolutions and simple resolutions.

Joint Resolutions—These measures are reserved for matters of great importance to the legislature or the state. They are used primarily for proposing amendments to the state constitution. Other uses are: to memorialize Congress, to ratify amendments to the United States Constitution, to authorize the expenditure of legislative funds and to form joint legislative committees. They must be passed by both houses. If it is an amendment to the state constitution, it requires a two-thirds vote of each house and must be approved by the voters before it becomes law.

Concurrent Resolutions—This type of resolution is used for matters of concurrent interest to the two houses: fixing the time of final adjournment of a session, requesting information from state agencies or action by Congress, adopting or changing joint rules and for calling joint sessions of the legislature. Concurrent resolutions must be adopted by both houses and enrolled. They are then sent to committee. Other than in matters of adjournment they are submitted to the Governor.

Simple Resolutions—House simple or Senate resolutions are measures comprising independent action of the house of origin and pertain to matters involving that house only. They are used for such purposes as adoption of rules, appointment of officers and employees, requesting opinions from the attorney general and house organization, including assignment of desks to members at the beginning of a session. These measures may be referred to committee or acted on without such consideration. Adoption requires a simple majority vote.

Bills and resolutions are numbered consecutively in separate series.

S.B. 1 means Senate Bill 1

H.B. 1 means House Bill 1

S.J.R. 1 means Senate Joint Resolution 1

H.J.R. 1 means House Joint Resolution 1

S.C.R. 1 means Senate Concurrent Resolution 1

H.C.R. 1 means House Concurrent Resolution 1

S.R. 1 means Senate Resolution 1

H.S.R. 1 means House Simple Resolution 1

GLOBAL ISSUE: AGRICULTURE'S GLOBAL CHALLENGE TO FEED THE WORLD

Global agriculture's challenge to feed two billion more people by 2050 on Planet Earth would have made a sensational episode of the 1960s-1970s hit drama television series Mission Impossible.

Agricultural technology innovations could have been the ultimate mission for lead actor Jim Phelps (Peter Graves) who amazingly accomplished a myriad of seemingly impossible missions.

Agriculture faces a daunting task to feed and clothe a world population expected to reach 9 billion people by 2050. The current population is about 7.1 billion people. Over the last decade, the global population increased by 12 percent.

To fill 2 billion more mouths, worldwide agricultural productivity must increase by 70 percent to 100 percent, according to the **United Nations**. Making the challenge even more...challenging.... is that agriculture will have to produce more food with less land and water.

DuPont Crop Protection President Rik Miller says global agriculture is up to the challenge. Technological innovations will lead agriculture to achieve significant yield increases.

DuPont is a farm chemical company, but also involved in nutrition, transportation, safety and protection, apparel, home and construction, plus electronics and communications. About 40 percent of its business is in agriculture.

"I believe agriculture is on the cusp of a critical era," said Miller, a keynote speaker at the 7th annual Southwest Ag Summit held in Yuma, Arizona, this spring. The event was attended by about 600 growers, pest control advisers, and other industry members.

Miller says feeding and clothing 9 billion people will require major technological breakthroughs and the collaboration of people and organizations worldwide.

"The growing demand for food can only be met by unprecedented technical and agronomic knowledge sharing across the globe," the DuPont leader said.

COLLABORATIVE SHARING

Collaborative sharing will involve growers, agricultural support companies, academia, policy makers, government agencies, and many others. Miller says technology born from these relationships can deliver food solutions for tomorrow. Innovation will deliver the tools to help growers succeed at the local level.

"These pressing needs will challenge the way we think, act, and plan," Miller stated. "We must develop new tools to help growers around the world increase the quality, quantity, and safety of the global food supply."

He says crop protection materials (farm chemicals) must be "safer, greener, and more sustainable."

"New inventions in insecticides, herbicides, fungicides, and nematicides are needed to enhance productivity at the local level," Miller said. "New technologies will set a new bar of performance."

Reinvented products are also essential to the plan. Miller discussed **Rynaxypyr**, a DuPont insecticide mode of action on the commercial market for the about five years. This ingredient, and others, on the commercial farm chemical market are under refinement since resistance can occur over time.

Looking across agriculture, companies are creating a wide range of products with higher yields as the end goal.

"The answer to feeding the world is to get more yield from every acre," Miller said. "Research and development (R&D) will deliver the answers."

The DuPont company invests more 60-plus percent of its annual research and development budget to improve food production; more than \$1 billion per year.

NEW CROP PROTECTION PRODUCTS

What new technology is coming down the pike in crop protection and other agricultural products? Expect lower use rate technology, Miller says, which will create a smaller **environmental footprint**.

Seed treatment technology will help crops generate the “strongest biological yield and crop quality” ever. Crop technology will deliver improved drought- and saline-tolerance to allow growers to farm in harsher growing environments.

Of the two billion new residents on Earth, Miller says about one billion will live in Africa. One-half billion will be Chinese. The remaining half billion will live around the world.

While the population is increasing so is personal income. According to the **Economist Intelligence Unit (EIU)**, global income rose 32 percent over the last decade. People have more money available and want to put more protein in their diet.

EIU data says meat consumption increased 17 percent higher overall. Chicken consumption increased 32 percent, pork was up 15 percent, and beef increased 2 percent.

On the grain side, worldwide consumption is 26 percent higher over the last decade — corn up 39 percent, soybean 37 percent higher, rice climbed 15 percent, and cotton use rose by 8 percent.

Export data confirms that fresh fruits and vegetables — once considered a delicacy to many — are becoming a food staple.

Vegetable grower Steve Alameda, who farms in California and Arizona, asked Miller how growers should respond to consumers who may have negative views of pesticides. Miller responded that growers should state the facts.

“Growers should explain why they use crop protection products,” Miller told the crowd. He said, “Be well versed in ‘Where Your Food Comes From 101,’ and share the facts about agriculture.”

Miller concluded, “We need to get the public out of the 1960s mentality of **DDT** and talk about the new crop protection materials in 2013. It is a ‘better-safer-greener message’.”

THE PEAK FARMLAND DEBATE

The belief that a human plague is gobbling up the Earth, carving out more cropland, and hacking down more trees — has been turned on its head. Welcome to Peak Farmland.

Farmland expansion has reached its crest and the amount of global land needed to grow food is set to stabilize. That’s the opinion of three Rockefeller University researchers in a recent study: “Peak Farmland and the Prospects for Sparing Nature.” If the report is on target, global cropland use will shrink by an astounding 370 million acres — about the equivalent of two Californias and one Texas — by 2060.

Jessie Ausubel, one of the report authors, says, “Happily, the cause is not exhaustion of arable land, as many had feared, but rather moderation of population and tastes and ingenuity of farmers.”

Ausubel and his colleagues believe crop technology will allow agricultural yields to win the race against demand — and it won’t be a neck-and-neck finish. In short, approximately 570,000 square miles of Earth will be abandoned as farmland.)

But, as Reuters points out, the Rockefeller report may be a house of cards — buttressed by too much guesswork. “Ausubel’s study admits to making many assumptions — rising crop yields, slowing population growth, a relatively slow rise in the use of crops to produce **biofuels**, moderate rises in meat consumption — that could all skew the outcome...”

The Rockefeller report is in direct conflict with the UN and grinds against a 2009 Food and Agricultural Organization study that projects a 5 percent worldwide expansion of **arable** land by 2050 — 173 million more acres of farmland will be needed. (That’s the approximate total

acreage of California and New Mexico combined.) The UN study projects 9.1 billion people by 2050, requiring a 70 percent increase in food production.

Imminent acreage expansion is not just a UN projection. Foreign investment companies across the globe are snapping up farmland in developing countries, anticipating the food rush to come. Speculators see this new land “scramble” as a sure-bet, based on food demand and biofuels mandates. (For example, *Spiegel* reports that 100 percent of Liberia’s arable land has been bought by foreigners.)

Trends over the next few years will show who is right: Ausubel or the UN. The Peak Farmland study is anathema to **apocalyptic** boilerplate. “We are a plague on the Earth. It’s coming home to roost over the next 50 years or so,” says naturalist and BBC documentary maker David Attenborough.

Attenborough told *Radio Times* there is far more in the tea leaves than ecological doom: “...It’s sheer space, places to grow food for this enormous horde.”

In line with convention, Attenborough believes global agricultural production will never be able to keep up with population increases — and proponents of Peak Farmland believe he is dead wrong.

KEY TERMS

a-poc-a-lyp-tic [*uh-pok-uh-lip-tik*] **adjective**

1. of or like an apocalypse; affording a revelation or prophecy.
2. pertaining to the Apocalypse or biblical book of Revelation.
3. predicting or presaging imminent disaster and total or universal destruction: *the apocalyptic vision of some contemporary writers.*

DDT - The abbreviated name of a chlorinated hydrocarbon insecticide, dichloro-diphenyl-trichloromethane. It is persistent in the environment and biomagnifies in birds of prey. The Environmental Protection Agency canceled U.S. registration of virtually all but emergency uses of DDT in 1972.

The **Economist Intelligence Unit (EIU)** is an independent business within the [Economist Group](#). Through research and analysis, EIU offers forecasting and advisory services to its clients. It provides country, industry and management analysis worldwide and incorporates the former [Business International Corporation](#), a U.K. company acquired by the parent organization in 1986. It is particularly well known for its monthly country reports, five-year country economic forecasts, country risk service reports, and industry reports. The company also specialises in tailored research for companies that require analysis for particular markets or business sectors. 2006 marked the 60th anniversary of the Economist Intelligence Unit's inception. The Economist Intelligence Unit also produces regular reports on ["liveability"](#) and [cost of living](#) of the world's major cities, which receive wide coverage in international news sources. The Economist Intelligence Unit's [Quality-of-Life Index](#) is another noted report. Its current Managing Director is Robin Bew, formally the company's Editorial Director & Chief Economist.

Environmental Footprint (from Cambridge Dictionary) the effect that a person, company, activity, etc. has on the environment.

United Nations (UN), international organization established on October 24, 1945. The United Nations was the second multipurpose international organization established in the 20th century that was worldwide in scope and membership. Its predecessor, the League of Nations, was created by the Treaty of Versailles in 1919 and disbanded in 1946. Headquartered in New York

City, the UN also has offices in Geneva, Vienna, and other cities. Its official languages are Arabic, Chinese, English, French, Russian, and Spanish. According to its Charter, the UN aims: *to save succeeding generations from the scourge of war,...to reaffirm faith in fundamental human rights,...to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and to promote social progress and better standards of life in larger freedom.* In addition to maintaining peace and security, other important objectives include developing friendly relations among countries based on respect for the principles of equal rights and self-determination of peoples; achieving worldwide cooperation to solve international economic, social, cultural, and humanitarian problems; respecting and promoting human rights; and serving as a centre where countries can coordinate their actions and activities toward these various ends. The UN formed a continuum with the League of Nations in general purpose, structure, and functions; many of the UN's principal organs and related agencies were adopted from similar structures established earlier in the century. In some respects, however, the UN constituted a very different organization, especially with regard to its objective of maintaining international peace and security and its commitment to economic and social development.

National Issue: Who will Feed the World? Careers in Agriculture

Most people in this country, when they sat down to eat one of the several meals they likely enjoyed March 19, 2013, never thought about where the protein, vegetables and grains they consumed came from.

Many probably paused a few seconds to say grace, an appropriate response for the multitude of blessings they receive on a daily basis. But how many made time to consider the efforts that some farmer or rancher took to assure that Americans enjoy an abundant, wholesome supply of food? And how many thought about what a bargain they had on their dinner tables?

Not many. Not enough. Not nearly enough.

March 19, 2013 was **National Ag Day**. It's a Labor Day for farmers and ranchers, but without the attention, the fanfare and the holiday associated with the September end-of-summer ritual. For most of the nation, Ag Day went unremarked. Folks went about their business—working as usual, attending school, shopping and preparing meals—with no thought about the huge debt they owe to the people who make those meals possible and who also provide the materials for the clothes, shoes and other essential items they require on a daily basis.

They did not consider the economic impact those agrarian heroes create—the jobs that come directly and indirectly from producing, processing, transporting and selling food and fiber. They gave no thought to the number of pickup trucks sold in rural America, the tractors, combines, irrigation pipes, fertilizers, seeds, and all the other materials required to keep a farm or ranch productive and communities solvent, schools open and country roads paved—mostly. The number changes every year but the latest figure I've heard is that one farmer produces enough food to feed 144 of those of us who are free to pursue other tasks. Farmers' efficiency frees the rest of us up to run banks, teach school, care for the sick, create art or fight fires. We are not, as was many more of us three or four generations back, tied to the land, required to grow our own food and produce cotton or wool for our own clothes.

That diminution of farmer numbers is one reason why so few people ever think about agriculture. A significantly, drastically, smaller percentage of our population has even a remote association with a farm today than was the case 100 years ago. Yet we have more and easier access to food. Grocery store aisles are packed with more than just the staples—bread, milk, vegetables and meat—but food items I had never heard of when I was a boy, back 50 years and more.

Abundance. Nowhere can that word be use more appropriately than in a typical American grocery store. But with abundance also comes apathy. We expect milk to be available. We anticipate the produce aisle will be stocked with fresh vegetables and fruit. We count on a meat counter with slabs of beef, pork chops, chickens—whole and cut up or just packages of thighs or boneless, skinless breasts. We expect both abundance and convenience. And we get it. But we don't stop to think about where it came from. We don't consider the efforts a rancher made to chop the ice out of water tanks so his cattle could drink on an intolerably cold January day. We don't consider the 108-degree July day that found a corn farmer in the middle of a field trying to repair an irrigation nozzle. We never consider the anguish of watching a good crop wither away in the third month of a drought or battered to a pulp in the third minute of a hail storm.

I am privileged to know these folks. I am blessed to be able to tell their stories, empathize with their hardships and enjoy their triumphs. They are my heroes. They are my friends. They are the salt of the earth. And we salute them. Thank you.

National Agriculture Day, organized by the Agriculture Council of America, was launched in 1973 to increase public awareness of agriculture's vital role in society. National Ag Day 2014

will be held on March 25, with the theme “Agriculture: 365 Sunrises and 7 Billion Mouths to Feed.”

Aging farming population faces task of feeding the masses

August 12, 2013

You have heard the question: How are we going to feed more than 9 billion people? That is the expected world population total by 2050.

Today, the Earth is home to a little more than 7 billion people, which by the way, we do not consistently feed.

Not because we do not produce enough food, but because of infrastructure issues and political corruption.

In the United States, less than 2 percent of the population is engaged in production agriculture and they are not spring chickens.

According to the U.S. census, the average age of the U.S. farmer is 57, and the fastest growing age group is those older than 65.

Though many Americans are working well into the traditional retirement years, farmers seem to work longer than most. In the last agriculture census, 25 percent of all farm operators were older than 65, compared with 5 percent of the overall U.S. workforce.

Which means thousands of farms soon will be changing hands.

It is estimated that in the next 15 years, 70 percent of America's farmland will change hands.

How that occurs could reshape the industry that drives much of the economy in rural America.

Why do farmers keep farming into their golden years? There are many reasons; one is with mechanization, farming is less physical than when these folks started farming.

Another view is what is known as the “agrarian imperative,” the drive to keep farming, even when your body might be ready to quit.

Farmers would rather wear out instead of rust out. Additionally, recent university studies show more than half of aging farmers don't have a will or an estate plan.

So why wouldn't farmers have a secession plan? Like non-farmers, many are not excited about facing their own mortality. For others, it is an economic reason — no retirement account. They have always looked at their land as their nest egg, which puts the next generation in a bind. The increased value of the land makes it hard to cash flow the business after purchase.

Some do not have any interested heirs to take over.

Yet others have heirs who have stayed and invested sweat equity into the operation while their siblings made their way in the outside world, and the parents do not know how to be fair when fair is not equal.

Farm Boom Sows Jobs Bounty

Agriculture Students, and Their Schools, Reap Rewards of a Fertile Field

By DAVID KESMODEL and OWEN FLETCHER

Charlie Litchfield for The Wall Street Journal

Iowa State University student Andrew Filipi faced a quandary recently that many college seniors today can only dream of: choosing between two job offers six months before graduation.

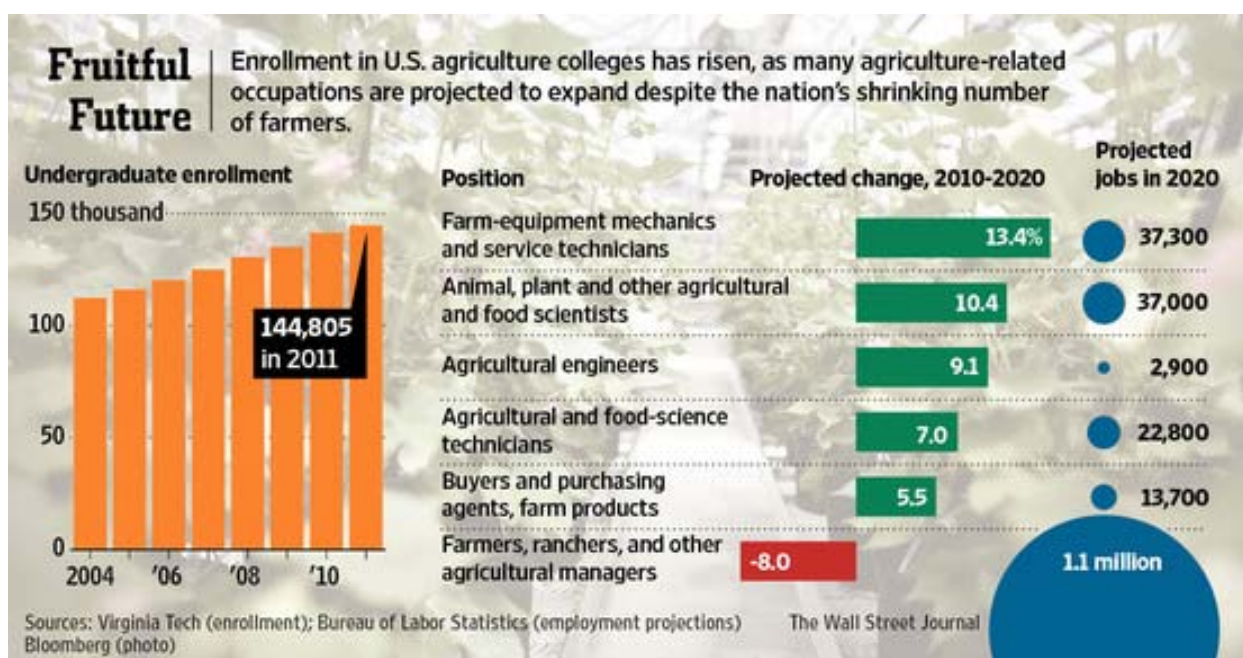
With a double major in animal science and international agriculture, Mr. Filipi is part of a wave of students at U.S. colleges of agriculture who are in high demand amid an expanding and increasingly global farm economy.

Mr. Filipi, after weighing a competing offer from a food company, accepted a sales position paying about \$50,000 a year at Dow AgroSciences, a unit of Dow Chemical Co.

"I felt really blessed to be able to choose," said the 22-year-old, who will graduate in May. "It's a huge weight off my shoulders."

With U.S. farm incomes hitting record levels in recent years as global grain prices have climbed, farmers have more money to spend on corn seed, harvesting combines, fertilizer and other products, fueling growth for the agribusiness industry. So, while many U.S. undergraduates continue to face a tough job market amid a slow-growing economy, agriculture students are benefiting from increased on-campus recruiting by agribusinesses such as Monsanto Co., DuPont Co.'s DuPont Pioneer and Deere & Co.

Highlighting the industry's strength: The Department of Agriculture projected Monday that farmers will produce bigger harvests in 2013 and that net farm income will reach a record \$128.2 billion, the highest level on an inflation-adjusted basis since 1973. Last year, net farm income fell an estimated 4% to \$112.8 billion but was still above historical averages.



The prospect of a well-paying job is helping U.S. colleges of agriculture attract more students, experts say. Nationally, undergraduate enrollment in agricultural colleges and departments rose 20% from 2006 to 2011, to roughly 145,000 students, according to Virginia Tech researcher Bill Richardson.

Ag schools also are drawing students interested in playing a role in the small-but-growing organic-food industry and in developing more-sustainable agricultural practices, according to university officials.

The agriculture sector's expansion is spurring job growth at firms that sell products and services to farmers, but little on the farms themselves. Whereas decades ago many ag-school graduates went to work on their family farm or another farming operation, few do so today. At Indiana's Purdue University, for example, just under 10% of its graduates last year who secured jobs went that route.

Ag students today generally are faring better than their peers in securing jobs. A January 2012 report by Georgetown University's Center on Education and the Workforce found 7% of recent U.S. bachelor's-degree recipients in agriculture and natural resources were unemployed,

the third-lowest rate of 15 major degree programs, behind only health and education. The report, based on 2009 and 2010 U.S. Census data, found an overall jobless rate for recent graduates of 8.9%.

Students with science and technology skills tend to be especially sought-after. In fields such as plant sciences, universities are struggling to meet employers' needs. "Students who have some science credibility and know their way around a farm are incredibly valuable," said Scott Smith, dean of the University of Kentucky's College of Agriculture.

At Iowa State's College of Agriculture and Life Sciences, companies have been "swarming to campus" lately, said Mike Gaul, the college's director of career services. A record 208 companies attended its fall career fair in October, up from 176 a year earlier, he said. At Clemson University's College of Agriculture, Forestry and Life Sciences, officials said companies have been presenting job offers earlier in students' senior years than they used to, and some recruits are receiving signing bonuses.

Agribusiness giant Cargill Inc., whose operations include grain trading and meat processing, is nearly doubling the number of college students it will hire in its current fiscal year that runs through May. The company declines to say how many students it will hire but says it is filling jobs in operations management, quality assurance and commodities trading.

"It's increasingly competitive to find the top talent that we need," said Heather Benson, who manages Cargill's college recruiting for North America.

Monsanto, the world's largest seed company, said it hired nearly 300 college students last school year for internships and semester-long "co-op" programs, and plans to increase that number by 25% this year. The company permanently hired nearly 70% of the graduating seniors from last year's group.

Deere, the world's largest seller of farm machinery, is stepping up its hiring of college graduates this school year. Deere is doubling the size of its development program for engineers and recruiting students with degrees in fields such as crop science and agricultural economics.

Overall, Deere has added 5,000 U.S. jobs in the past two years as it seeks to replace retiring baby boomers and meet rising global demand for its tractors and combines, said Marc Howze, vice president for global human resources.

One issue catching up to the industry today is that enrollments at agricultural colleges fell sharply during the U.S. farm crisis in the 1980s. "It's a huge issue, but one that we've anticipated," Mr. Howze said.

Students say the strong job market is allowing them to be flexible about career decisions.

Justin Benavidez, a senior majoring in agricultural economics at Texas A&M University, turned down a job offer from meat-packing giant JBS SA so he can pursue his master's degree. He plans to intern with JBS this summer and is banking on getting a job offer there after graduate school.

"If they were willing to hire me as a bachelor's candidate," the 21-year-old said, "my thinking is they would be just as willing to hire me as a master's candidate."