2016 Georgia Ag Forecast

Situation and Outlook Reports

THE UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES

Introduction

From production to processing, agriculture is the largest industry in Georgia. It supports the state through jobs, provides Georgians with food and fiber and contributes numerous other benefits that stretch far beyond our corner of the country. Agriculture is Georgia, and we at the University of Georgia College of Agricultural and Environmental Sciences are doing everything we can to support both.

The University of Georgia Center for Agribusiness and Economic Development and the college's Department of Agricultural and Applied Economics strive to serve Georgians by providing the most up-to-date and relevant agricultural and economic information. Our faculty work to deliver quality research and analysis so that you can make pertinent decisions that will enhance your agribusiness operation.

Georgia agriculture competes in a global market. Economic conditions here and overseas, as well as politics, can have a significant impact on producers here in Georgia. As we look ahead to 2016, agricultural exports are forecast to decline as a result of lower prices, strong competition and diminishing Chinese demand. The Georgia Ag Forecast will explore the impact of these falling exports on Georgia agriculture.

With this in mind, we present the 10th annual Georgia Ag Forecast Situation and Outlook Reports. The material presented here represents the best thinking of our economists who work with the various agricultural sectors in our state. Whether you're interested in row crops, livestock, agritourism, honey bees or timber, we've compiled the impacts from 2015 and the potential for 2016 for you. We hope the situations and outlooks addressed in this book will help you make informed business decisions for the upcoming year.

We thank our sponsors, Georgia Farm Bureau and the Georgia Department of Agriculture, for providing the support that allows us to extend research-based information from the University of Georgia to our state's citizens. This is our job now, just as it was when the University of Georgia and other land-grant universities were founded more than 150 years ago.

We also thank you for your participation.

Josef Broder
Interim Dean and Director
University of Georgia College of Agricultural and Environmental Sciences

Kent Wolfe
Director
University of Georgia Center for Agribusiness and Economic Development

Octavio A. Ramirez
Department Head
University of Georgia College of Agricultural and Environmental Sciences
Department of Agricultural and Applied Economics

CONTENTS

AUTHORS

Jennifer A. Berry.....*University of Georgia College of Agricultural and Environmental Sciences*
Department of Entomology
Email: jbee@uga.edu; Phone: 706-769-1736.

Dr. Cesar L. Escalante ..... *University of Georgia College of Agricultural and Environmental Sciences*
Department of Agricultural and Applied Economics and UGA Cooperative Extension
Email: cescalan@uga.edu; Phone: 706-542-0740.

Dr. Esendugue Greg Fonsah .....*University of Georgia College of Agricultural and Environmental Sciences*
Department of Agricultural and Applied Economics and UGA Cooperative Extension
Email: gfonsah@uga.edu; Phone: 229-386-3512.

Nick Forsburg ..... *University of Georgia Warnell School of Forestry and Natural Resources*
Harley Langdale Jr. Center for Forest Business
Email: forsburg@uga.edu.

Dr. Jeffrey M. Humphreys ..... *University of Georgia Terry College of Business*
Simon S. Selig Jr. Center for Economic Growth
Email: jhumphre@uga.edu; Phone: 706-425-2962.

Bob Izlar ..... *University of Georgia Warnell School of Forestry and Natural Resources*
Harley Langdale Jr. Center for Forest Business
Email: bizlar@uga.edu; Phone: 706-542-6819.

Dr. John C. McKissick .....*University of Georgia College of Agricultural and Environmental Sciences*
Center for Agribusiness and Economic Development
Email: jmckiss@uga.edu; Phone: 706-542-9080.

Dr. Tommie Shepherd .....*University of Georgia College of Agricultural and Environmental Sciences*
Center for Agribusiness and Economic Development
Email: tlshep@uga.edu; Phone: 706-542-9081.

Dr. W. Don Shurley .....*University of Georgia College of Agricultural and Environmental Sciences*
Department of Agricultural and Applied Economics and UGA Cooperative Extension
Email: donshur@uga.edu; Phone: 229-386-3512.

Amanda R. Smith .....*University of Georgia College of Agricultural and Environmental Sciences*
Department of Agricultural and Applied Economics and UGA Cooperative Extension
Email: aziehl@uga.edu; Phone: 229-386-3512.

Dr. Nathan B. Smith .....*University of Georgia College of Agricultural and Environmental Sciences*
Department of Agricultural and Applied Economics and UGA Cooperative Extension
Email: nathans@uga.edu; Phone: 229-386-3512.

Dr. Forrest E. Stegelin .....*University of Georgia College of Agricultural and Environmental Sciences*
Department of Agricultural and Applied Economics and UGA Cooperative Extension
Email: stegelin@uga.edu; Phone: 706-542-0850.

Dr. Kent L. Wolfe .....*University of Georgia College of Agricultural and Environmental Sciences*
Center for Agribusiness and Economic Development
Email: kwolfe@uga.edu; Phone: 706-542-0752.

U.S. and Georgia Economics

By Jeffrey Humphreys

The National Outlook

The 2016 U.S. economic forecast indicates that the economic recovery that began in the second half of 2009 will be sustained. The rate of 2016 gross domestic product (GDP) growth – 2.5 percent – will be slightly higher than 2015's 2.3 percent, but well below the average of the last 50 years, which was 2.9 percent. U.S. GDP growth will be higher in 2016 than in 2015 because we will see: (1) slightly stronger spending by U.S. consumers, (2) slightly stronger spending by businesses for equipment and structures and (3) continued improvement in housing market conditions.

With the year-over-year rate of 2016 U.S. GDP growth predicted at a below-average rate, the U.S. economy will be vulnerable to economic shocks and/or policy mistakes. The three main risks to economic growth are: (1) mistakes in U.S. fiscal or monetary policy, (2) a sharper-than-expected slowdown in China's economic growth as it transitions to a growth model based on consumer spending rather than exports or investment spending and (3) financial panics and/or massive shifts in asset prices. The probability of recession is 25 percent, which is the same as the recession probability estimated at this time last year.

In 2016, consumer spending, gross private domestic investment and spending by state and local governments will contribute to U.S. GDP growth. In contrast, net exports and changes in private inventories will subtract from 2016 U.S. GDP growth. Subpar productivity growth, albeit higher than in 2015, is another factor that will hold down 2016 GDP growth. Spending by the federal government will be a neutral factor in terms of 2016 U.S. GDP growth.

Less positively, the Federal Reserve's monetary policy stance will become less stimulative as it slowly raises short-term policy interest rates. The federal funds rate will approach 1 percent in December 2016. The inflation-adjusted federal funds rate, therefore, will still be less than zero, less stimulative, but hardly restrictive.

On an annual average basis, total nonfarm employment will increase by 1.4 percent in 2016, which is less than the 2 percent gain estimated for 2015. Courtesy of the upturn in housing, job growth will be very broadly based. Companies will hire as domestic demand for goods and services expands. Venture capital, which fuels job creation, will be more available than it was from 2008 to 2015. GDP growth will sustain job creation, but the pace of job growth will decelerate significantly. Expectations of below-average top-line growth, a tighter labor market and productivity gains will be factors behind the slowdown in job growth. Weak global demand for U.S. exports also will restrain domestic job growth.

With a 5 percent unemployment rate, the buyer's market for workers becomes a seller's market. Indeed, it's already very difficult to hire workers who have very specialized training or educational requirements. As the labor market tightens, wage growth will accelerate, but low productivity growth will prevent wages from rising very rapidly. Wages and benefits will rise by 2.4 percent. Health insurance costs will be the primary force behind benefit cost increases. Unit labor costs will rise about 2 percent. One implication of the slow growth of wages and unit labor costs is that the Federal Reserve does not need to raise short-term policy interest rates very quickly.

In the coming year, construction companies will post the fastest rate of employment growth. Professional and business services will see the second fastest rate of job growth. Transportation and warehousing will see the third fastest rate of job growth. Education, health services, leisure and hospitality, wholesale trade and state and local government subsectors also will see solid employment gains. Retail and information subsectors will see limited, but positive, employment

U.S. and Georgia Economics, *continued*

growth. Providers of financial activities are not expected to gain or lose significant numbers of jobs, but within this broad sector, banks will cut jobs even as insurance, real estate and rental leasing companies add positions. Mining, the federal government and utilities are the only major sectors expected to shed jobs.

In 2016, U.S. manufacturers will continue to hire, but at a much slower pace than in 2015. Continued gains in manufacturing employment reflect cyclical factors, such as the growing demand from consumers and businesses for durable goods. For example, the upcycle for housing will provide a strong tailwind to U.S. manufacturers. Weak export markets partially explain the slowdown in factory job growth.

Housing will be a strong tailwind for U.S. GDP growth. That's primarily due to cyclical factors, but the demographic trends are also gradually becoming more supportive. In 2016, the number of single-family housing starts for new construction will increase by about 20 percent to 850,000 units. That large percentage gain in single-family housing starts pales in comparison to the peak-to-trough plunge in activity that occurred. Single-family housing starts peaked at 1.747 million units – annualized rate – in the third quarter of 2005 and bottomed at 356,000 units in the first quarter of 2009.

Existing single-family home prices stabilized in 2012 and rose substantially from 2013 to 2015. Existing home prices will continue to rise, but at a more moderate rate of about 3 percent in 2016. Any remaining pockets of home price depreciation are spotty, reflecting local imbalances rather than overall, macroeconomic conditions. As the record of home price appreciation lengthens, potential homebuyers who have been waiting on the sidelines will increasingly opt to become homeowners. Rising rents will strongly reinforce this trend. In 2016, the share of homes sold to people who live in them will rise and the share sold to investors will decline.

If oil prices remain relatively steady, consumer price inflation will increase by 1.7 percent in 2016, compared to 0.1 percent in 2015. That's close to the range that the Federal Reserve appears to be targeting. Higher housing prices – rents – and higher medical prices will drive the increase.

The Georgia Outlook

The prospects for Georgia's economy are mixed. The good news is that Georgia's economy will continue to grow, and it will expand faster than the nation's economy. What accounts for this optimism? First, Georgia has a large number of major projects in its economic development pipeline. Second, Georgia's economy will get more leverage from the housing recovery than the national economy. Third, Georgia will see much faster population growth than the nation. Finally, low oil and gas prices are much better for Georgia's economy than for the U.S. economy. Georgia's above-average pace of GDP growth will be sustained and the above-average pace of personal income growth will accelerate. The bad news is that the pace of job growth will slow.

Specifically, Georgia's GDP will grow by 3.3 percent in 2016. That's almost identical to the 3.2 percent growth estimated for 2015. Georgia's 2016 GDP growth rate will exceed the 2.5 percent rate estimated for U.S. GDP. Even better, Georgia's 3.2 percent GDP growth will be above the long-term average rate of U.S. GDP growth, which is 2.9 percent. Georgia's personal income will grow by 5.7 percent in 2016, which is higher than the 4.6 percent gain estimated for 2015. It also exceeds the 4.9 percent gain expected for U.S. personal income in 2016.

Job growth will slow. Specifically, Georgia's nonfarm employment will rise by 2.3 percent in 2016. That's smaller than the 2.7 percent gain estimated for Georgia in 2015. It's also smaller than the 3 percent gain reported for 2014. It will exceed the 1.4 percent gain estimated for the U.S. in 2016. So, even as job growth slows, Georgia will continue to outperform the nation with respect to the pace of job growth.

One reason why Georgia's job growth will slow is that, in the wake of the Great Recession, many companies were too cautious about hiring and were essentially playing catch up in 2014 and 2015. Now, most companies are no longer significantly understaffed, so this extra push for job growth is gone. Job growth will also slow because businesses' profits are coming under more stress. That's partially because expectations about the national and global economies moving into higher gear have not been realized. Going forward, expect an increased focus on boosting productivity by controlling the number of workers rather than additional hiring in anticipation of a big acceleration in top-line growth. Finally, major cutbacks at the U.S. Army's Fort Benning and Fort Stewart in Georgia will be headwinds for statewide job growth.

On a more positive note, the quality of the jobs created is likely to increase. A larger share of the new jobs created will be full-time rather than part-time. Also, Georgia's tighter labor market should cause wage growth to accelerate.

One consequence of the slowdown in job growth is that Georgia's unemployment rate will drop more slowly. Georgia's unemployment rate will average 5.5 percent in 2016. That's only 0.6 percentage points lower than in 2015. In each of the last four years, Georgia's unemployment rate dropped by almost twice as much.

FINANCIAL OUTLOOK

The large number of relocation and expansion projects announced from 2012 to 2015 makes us optimistic about Georgia's economic outlook. Because it takes many years to build out the typical economic development project, many of the projects announced over the last four years will continue to provide a tailwind to Georgia's economic growth in 2016 and beyond. Examples include Baxter International's new facility, which will add 1,500 biotechnology jobs; General Motors Co.'s information technology (IT)-innovation center in Roswell, Georgia, which will add 1,000 high-tech jobs; and Chime Solutions' call center in Morrow, Georgia, which will create more than 1,100 jobs.

In 2016, jobs at newly established headquarters will be a very important force powering Georgia's economic growth. For example, Sage will establish its North American headquarters and innovation hub in Atlanta, creating 400 jobs. The relocation of Mercedes-Benz's U.S. headquarters from New Jersey to Atlanta adds up to 800 jobs. Hartsfield-Jackson Atlanta International Airport makes the Atlanta area an ideal location for operating corporate headquarters due to its large number of direct domestic and international flights. Access to talent and the strength of the business community are also important drivers of headquarters locations.

New high-tech industries, such as healthcare IT, cybersecurity, mobile apps and advanced manufacturing, will be a major contributor to Georgia's economic growth in 2016. Atlanta's high concentration of college-educated workers, business partners, established high-tech companies and research universities will continue to attract new high-tech companies. For example, Fiserv, a provider of financial services and technology solutions, will add 500 jobs over the next five years, bringing its total employment to about 2,500 workers.

Healthcare IT is an emerging industry that promises to create thousands of high-paying jobs in Georgia over the next decade. Life sciences companies are attracted by the presence of the Centers for Disease Control and Prevention, University of Georgia, Emory University and nonprofits, such as the national headquarters of the American Cancer Society.

The innovation district that's developing around Technology Square has achieved the critical mass needed to attract high-tech companies to Midtown Atlanta. For example, Kaiser Permanente will establish an IT campus in Midtown that will create 900 jobs. NCR will also build a new headquarters campus in Midtown near Technology Square.

Another reason Georgia will do well in 2016 is that the U.S. automobile manufacturing industry is becoming increasingly concentrated in the Southeast. Georgia is the sweet spot in the middle of the Southern Auto Corridor, with proximity to major assembly plants, major suppliers, interstates, ports and rail systems. Georgia's major projects have included Kia Motors America's assembly plant in west Georgia and Mercedes-Benz's new corporate headquarters in Atlanta. The Volkswagen assembly plant just across the state line in Chattanooga, Tennessee, and the recent announcement that Volvo will build an assembly plant in Charleston, South Carolina, make Georgia an even more attractive place to site automobile parts suppliers.

Small business formation and expansion will make a greater contribution to Georgia's economic growth in 2016. Obtaining financing has been a problem for Georgia's entrepreneurs because: (1) home price depreciation was much more intense here than it was nationally and (2) Georgia led the nation in bank failures. The situation has changed: Georgia's home prices are up about 36 percent from their lowest point, so home equity will be much more available to finance new business startups and small business expansion. Also, businesspeople have had enough time to establish new relationships with surviving or new bankers.

Home building and real estate development have long been extremely important to Georgia's economy. This traditional driver of growth finally got traction in 2012 and continued to move forward from 2013 to 2015. In 2016, the number of single-family housing starts for new construction will increase by 23 percent. New, multi-unit homebuilding will rise by 10 percent. Georgia gets a four-for-one deal from the housing recovery because: (1) home builders and Realtors benefit directly and (2) demand increases for goods produced by Georgia's large floor covering, building materials and forestry industries. Plus, (3) Georgia's large transportation and logistics industry benefits from higher levels of activity in construction, a very transportation-intensive activity. Finally, (4) recent and continuing increases in U.S. home prices will make it even easier for companies and people to relocate to Georgia.

Existing single-family home prices will rise by 5 percent in Georgia in 2016. Lower-priced homes will appreciate the fastest. That's partially because the lowest tier has the most ground to make up and remains the furthest from full price recovery. It also reflects investors' interest in purchasing inexpensive, single-family homes for use as rental properties.

There's tremendous potential for more active housing markets because a huge, pent-up supply of household formation has accumulated. Improving economic and housing market conditions, in combination with soaring rents, will cause that potential to be unleashed.

U.S. and Georgia Economics, *continued*

Demographic forces are another factor behind Georgia's improving economic performance. Due to job growth and the housing recovery, geographic mobility turned up in 2014 and continued to recover in 2015. Corporate relocations, small business expansion and the housing recovery are bringing more people to Georgia. In 2016, Georgia's population will grow at a pace that exceeds the national average – 1.1 percent for Georgia versus 0.8 percent for the U.S. More specifically, domestic net migration will rise to about 30,000 people, up from a net loss of almost 6,000 people in 2013. Population growth will be a stronger driver of the state's GDP in 2016 than from 2008 to 2015.

Finally, low oil and gasoline prices will boost Georgia's economy more than the national economy. That's because Georgia is an oil-consuming, rather than an oil-producing, state. Georgia has an extensive transportation and distribution industry, and Georgians have relatively long commutes.

There will be several challenges to Georgia's growth. First, the restructuring of the federal government will be a major headwind for Georgia's economy in 2016. The U.S. Army recently announced plans to cut 4,400 active-duty soldiers based in Georgia, including about 3,400 at Fort Benning and almost 1,000 at Fort Stewart. An unknown additional number of civilian employees will be laid off. The adverse multiplier effects of these direct job losses will be substantial.

Second, Federal Reserve actions to increase short-term policy interest rates will be a slightly stronger headwind for Georgia than for the nation as a whole. That's because Georgians carry relatively more debt and have relatively less savings. Also, interest-sensitive economic sectors – construction, real estate development, building materials manufacturing, forestry – have a greater impact on Georgia's overall growth than on the nation's overall growth.

Third, Georgia trails many other states when it comes to educating its children. According to the National Center for Education Statistics, Georgia's eighth-graders rank 40th among the states in math, 34th in reading and 28th in science. Ultimately, a failure to educate our children lowers Georgians' relative standard of living. That's showing up in the incoming data. After rising for decades, per capita personal income in Georgia peaked at 95 percent of the U.S. average in 1999. Since then, we've seen an almost continuous slide of per capita income in Georgia relative to the U.S. The data for 2014 clocked per capita personal income in Georgia at only 85 percent of the national average, a level last seen in 1982. Georgia dropped 15 places in the national rankings, from 26th highest per capita personal income in 1999 to 41st in 2014.

Adjusting our priorities to put much greater emphasis on educational achievement will be critical in terms of improving Georgia's competitiveness, which ultimately determines Georgians' relative standard of living. ■

Table 1. United States and Georgia Baseline Forecast, 2015-2016

United States	2011	2012	2013	2014	2015	2016
Gross Domestic Product, Billions of 2009 Dollars Percent Change	15,020.6 1.6	15,354.6 2.2	15,583.3 1.5	15,961.7 2.4	16,328.8 2.3	16,737.0 2.5
Nonfarm Employment (Thousands) Percent Change	131.8 1.2	134.1 1.7	136.4 1.7	139.0 1.9	141.8 2.0	143.8 1.4
Personal Income, Billions of 2009 Dollars Percent Change	12,726.5 3.7	13,112.5 3.0	13,078.1 -0.3	13,715.4 4.9	14,235.0 3.8	14,682.9 3.1
Personal Income, Billions of Dollars Percent Change	13,254.5 6.2	13,915.1 5.0	14,068.4 1.1	14,964.2 6.4	15,577.7 4.1	16,341.0 4.9
Civilian Unemployment Rate (Percentage)	8.9	8.1	7.4	6.2	5.3	5.0
CPI-U, Annual Percentage Change	3.2	2.1	1.5	1.6	0.1	1.7
Georgia	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Gross Domestic Product, Billions of 2009 Dollars Percent Change	413.5 1.4	417.4 0.9	425.7 2.0	435.5 2.3	449.5 3.2	464.3 3.3
Nonfarm Employment (Thousands) Percent Change	3900.5 1.0	3954.0 1.4	4035.4 2.1	4155.6 3.0	4267.8 2.7	4364.4 2.3
Personal Income, Billions of Dollars Percent Change	357.3 7.1	369.1 3.3	378.2 2.4	394.8 4.4	412.9 4.6	436.5 5.7
Housing Permits, Total Percent Change	18,493 7.1	24,350 31.7	36,174 48.6	39,423 9.0	46,252 17.3	55,222 19.4
Unemployment Rate (Percentage)	10.2	9.2	8.2	7.2	6.1	5.5

Source: The Simon S. Selig Jr. Center for Economic Growth, Terry College of Business, University of Georgia

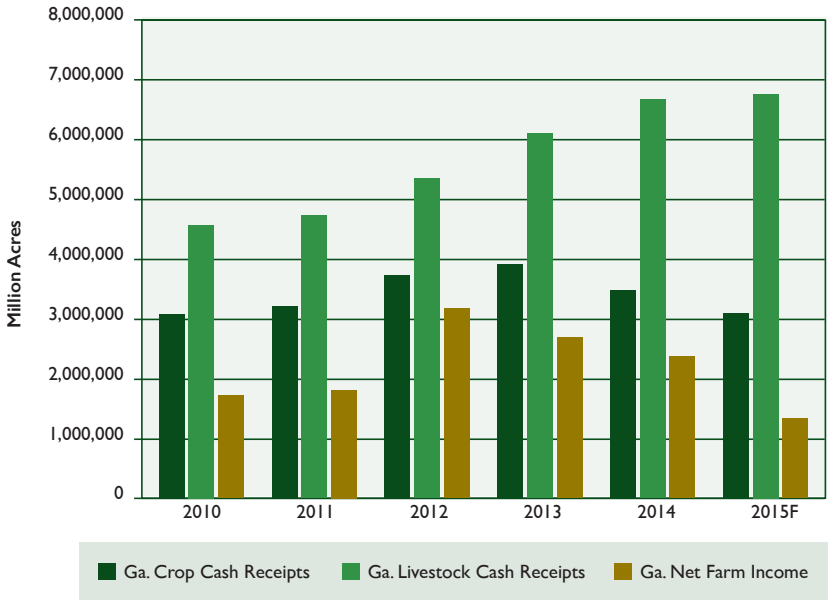
U.S. and Georgia Farms

By Cesar Escalante

According to the 2015 farm income and expense estimates released in late August 2015 by the U.S. Department of Agriculture's Economic Research Service, the U.S. farm sector experienced a continuation of the trend of declining net farm incomes that started after 2013. The estimated net cash income for all U.S. farms in 2015 is about 21 percent below the 2014 level, while estimated (overall) net farm income for 2015 dropped to its lowest level since 2009, registering a 36 percent rate of decline. Receipts from the two major farm industry categories decreased from their 2014 levels by 6.22 percent for crops and 9.13 percent for livestock. National crop receipts have been on a steady downward trend since the end of 2012. Farm input prices have also been falling recently at a much slower trend compared to the rates of decline in commodity prices.

Given available USDA data on Georgia's farm income statement in 2014, the state's 2015 farm profit-loss condition was derived using the national growth trends – changes from 2014 to 2015 levels – in receipts and expenses reported by the USDA for specific commodity categories. The reconstructed state farm income statement indicates that the derived crop cash receipts for Georgia in 2015 decreased by 11.37 percent over the 2014 level, a trend consistent with the 2013-2014 rate of decline calculated at 12.24 percent (Figure 1). Revenue contributions from sectors experiencing falling incomes, such as cotton, feed crops, food grains, oil crops and vegetables and melons, resulted in depressed total crop cash receipts for Georgia. In contrast, the state's livestock cash receipts registered a small growth of 1.76 percent, even as corresponding national figures for this farm segment dropped by about 9 percent. This divergent trend can be attributed to the good performance of the state's poultry industry, which registered a 5.19 percent increase in 2015 cash receipts. The trend in the state's net farm income mirrors the national trend as both have been declining since 2012.

Figure 1. Georgia Farm Receipts and Net Income, 2010-2015



Source: USDA Economic Research Service

The U.S. farm sector's asset growth will be moderated by a slower growth in the average value of farmland, the sector's primary asset that grew by only 2.4 percent in 2015. This growth rate pales in comparison to the previous annual growth rates that ranged from 8.1 percent to 9.6 percent during the 2011-2014 period. National cropland values increased by only 0.7 percent, whereas pastureland values increased by 2.3 percent during the same period. The situation is reversed in Georgia's case as the overall decline of 0.9 percent in farmland values in 2015 was primarily due to declining pastureland values (-1.92 percent), even as cropland values rose by 2.6 percent during the last 12 months.

As a result of these movements in farmland values, the U.S. farm sector recorded a decline in aggregate asset values (3.5 percent) for the first time since 2009 (Figure 2). National debt levels, however, have continued to rise during this period, primarily due to sharp increases in non-real estate farm loans. This trend is expected to persist during the next several months. New and incremental operating loans account for the bulk of increases in farm borrowing activity as farm businesses need to procure external funding for their working capital requirements in the face of decreasing cash receipts. Farm business owners, however, have been prudent in their other investment decisions as many were observed to have reduced their capital spending. In spite of such moderation, the farm sector's overall borrowing level has gone up in 2015 due to higher levels of operating loans. Given these asset and debt movements in 2015, the resulting debt-asset

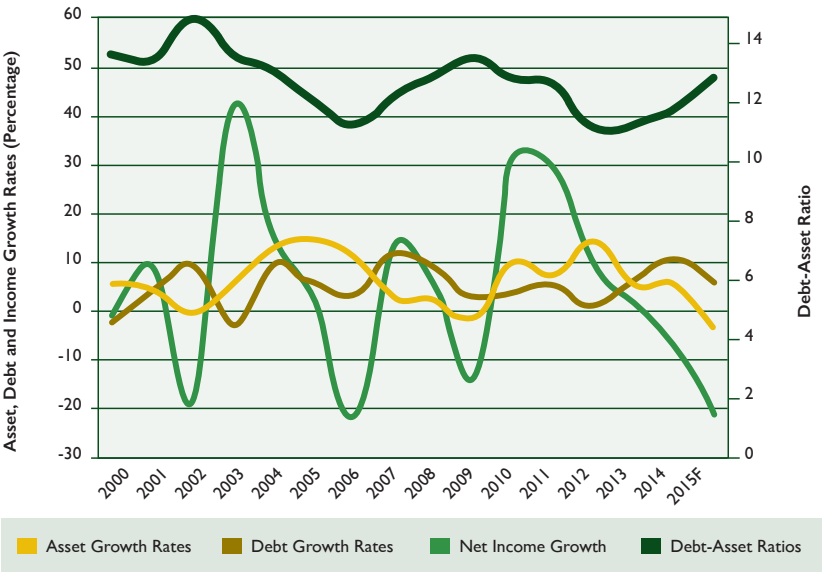
U.S. and Georgia Farms, *continued*

ratio has increased to almost 13 after remaining at levels below 12 since 2012. The 2015 ratio remains at a favorable level by historical standards (Figure 2).

Interest rates have remained low as of the third quarter 2015. Figure 3 plots historical, national, weighted average, farm lending rates. The plots also show regional rates for the Southeast compared to the Corn Belt, which has the largest regional share in the national farm loan portfolio. The trends indicate that recent lending rates are still around the recession and post-recession levels that were induced by, among other things, the lowering of the federal funds rate to levels close to zero. National and regional lending rates fluctuated within the range of 3.2 to 4.5 percent since late 2014 to mid-2015. This year, analysts expect the Federal Open Market Committee to finally raise the federal funds rate, given a number of moderate growth signals from recent economic reports. Hence, as early as the first quarter of 2015, the share of farm loans with fixed loan rates has increased considerably.

The farm lending industry has fared well in 2015. Results of the July 2015 survey, conducted by the Federal Reserve Bank of Atlanta among regional senior loan officers, indicate an optimistic outlook among lenders who continued to ease some loan terms, especially those applying to their larger farm business clients. Across the nation, agricultural banks continued to operate financially strong and profitable operations as farm loan delinquency rates and the proportion of nonperforming farm loans and charge-offs continued to decline relative to aggregate and specific industry loan portfolios. Beyond 2015, these favorable indicators in agricultural lending can only be sustained if the deteriorating trend in farm income can be tempered, if not reversed. ▪

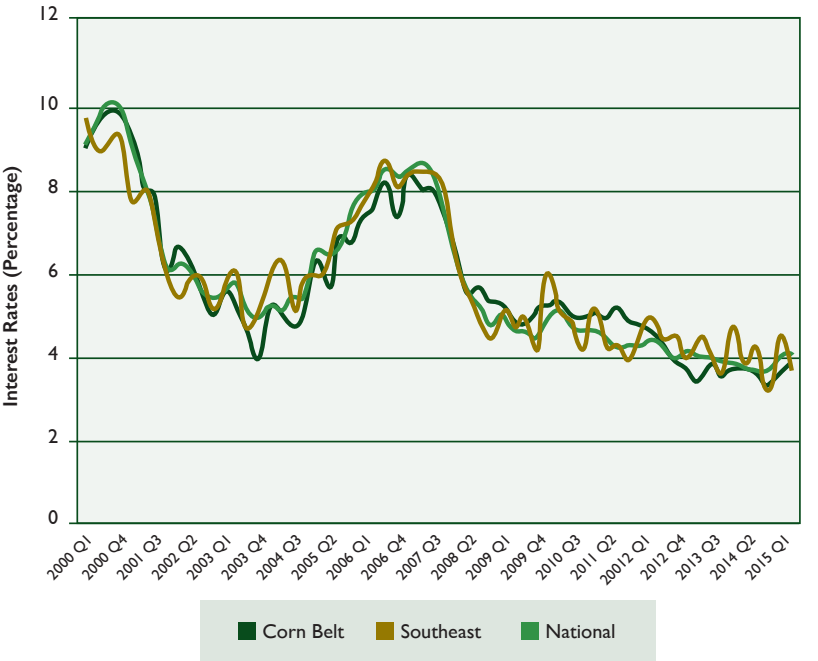
Figure 2. Debt-Asset Ratios and Growth in Assets, Debt and Income, U.S. Farms, 2000-2015



Source: USDA Economic Research Service

Figure 3. Historical Quarterly Weighted Average Loan Interest Rates, Nation vs. Southeast and Corn Belt, 1Q 1995 to 2Q 2015*

* First Quarter (1Q) 1995 to Second Quarter (2Q) 2015



Source: Agricultural Finance Data Book, Federal Reserve Bank of St. Louis

Inputs and Production Expenditures

By Forrest Stegelin

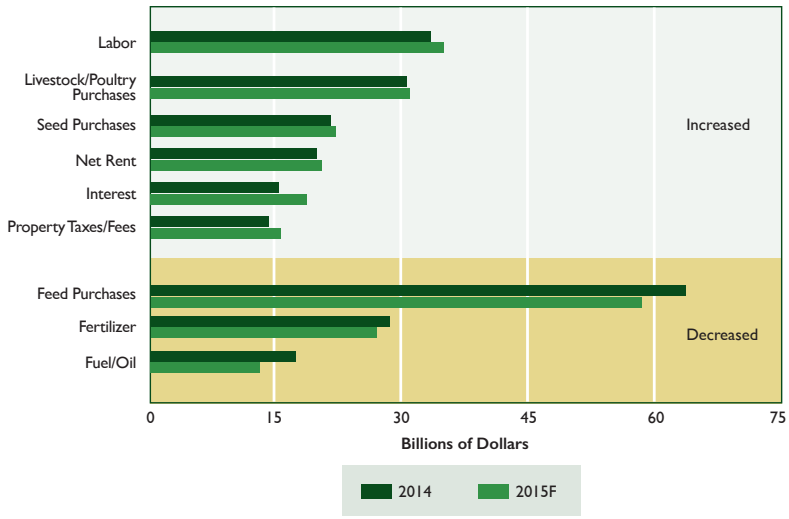
Farm sector profitability on the income statement is expected to weaken in 2015 due to lower forecast values for livestock and grain receipts. Both net cash and net farm income are forecast to decline again in 2015 after reaching historic highs in 2013. Net cash income is expected to fall 21 percent, while net farm income is forecast to drop a whopping 36 percent. These are the largest declines since 1983 in both nominal and inflation-adjusted, or real, terms. Total production expenses are forecast to fall in 2015 for the first time since 2009, with energy inputs, fertilizer, seed, pesticide and feed experiencing the expenditure declines. Expenses for labor, interest and property taxes are expected to rise.

On the farm sector balance sheet, declining assets resulting from a decline in farmland values and higher debt are forecast to reflect a 5 percent decline in owner equity, also the first drop since 2009. In spite of increasing financial pressure on the farm sector, the solvency ratios of debt-to-asset and debt-to-equity ratios remain relatively low compared to historical levels.

Production expenses in 2015 are forecast to be the second highest in real and nominal terms, trailing only 2014 values, in spite of a forecast decline in total farm production expenses for the first time in six years. Because production expenses are expected to decline less than gross farm income (as a percentage), tighter margins will result.

Granted, the national herd size is increasing. With larger numbers of cattle on feed, spending for feed is expected to be 7 percent lower in 2015 due to lower feed prices. Continued rebuilding of the cattle inventory and renewed poultry purchases to restore inventory depleted by avian influenza should show a small increase in livestock and poultry purchases.

Figure 1. Farm Production Expenses by Selected Component, 2014-2015F



Source: USDA Economic Research Service, Farm Income and Wealth Statistics. Data as of Aug. 25, 2015.

Fuel and oil expenses are expected to decline by almost 30 percent in 2015, reflecting the U.S. Department of Energy's forecast for the price of diesel and gasoline fuel for the agricultural sector. Seed, pesticide and fertilizer expenses used in crop production are anticipated to decrease, primarily driven by the lower fertilizer prices.

Production expenditures expected to show a 2015 year-end increase include labor, due to higher wage rates; interest payments; rents; property taxes, including real estate and personal property taxes; and miscellaneous expenses, which include insurance premiums, irrigation, contract and grazing fees and higher crop insurance premiums (Figure 1).

The aforementioned comments are representative of the production expenditures experienced by conventional farmers and ranchers. For those who produce organic crops, higher returns (as a result of higher prices), lower yields and higher costs of production are the norm, in spite of lower fertilizer and chemical expenses. The composition of costs varies substantially for conventional versus organic production. Conventional crop growers had significantly higher seed, fertilizer and chemical costs than organic growers, and lower costs for fuel, repairs, capital and labor, as organic systems substituted manure and field operations for fertilizer and chemicals. Organic producers had higher fuel and capital costs because they used more field operations, particularly for tillage. Labor costs for organic production were also significantly higher due to the man-hours employed (Figure 2).

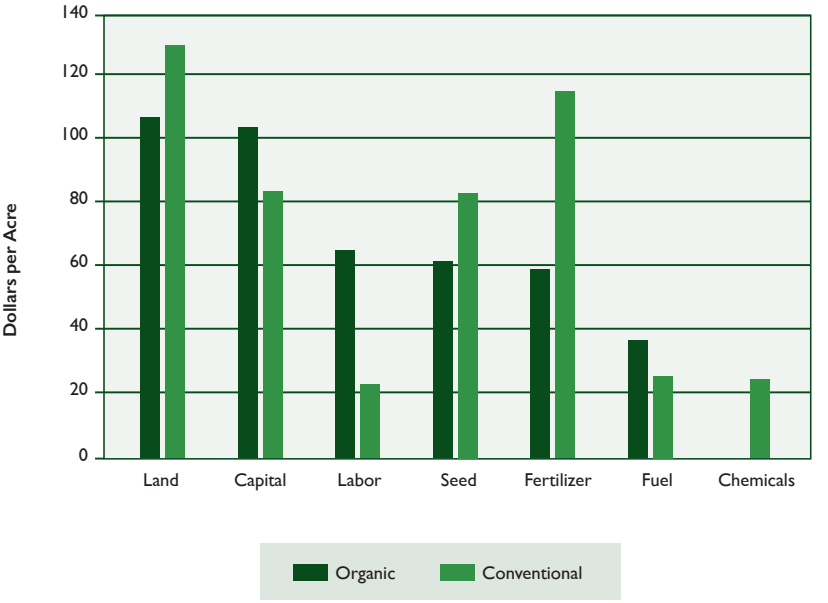
As for the outlook for production inputs expenditures for 2016, fertilizer prices should edge down – but only

Inputs and Production Expenditures, *continued*

slightly – across all products. On the other hand, if weather does not allow for good fall fertilizer applications, price will ration the supply during the spring groundwork and cause prices to rise. Barring any crises in fuel production, fuel prices for diesel and gasoline will rebound slightly above 2015 values, while natural gas prices will stabilize near current levels. There are several new brands of agricultural chemicals coming on the market – several are tied to merger, acquisition and buyout developments among existing companies and/or profit centers – as well as the release of new generics, which will have an up-and-down wave action, not just a ripple effect, among the pesticides, herbicides, fungicides and insecticides traditionally purchased by crop farmers. Most of the acreage intentions are understood for the next few years as producers signed up for participation in the various programs of the 2014 farm bill. Now, the only unknowns are whether the weather and the markets will cooperate.

For those farmers looking over the next decade, the University of Missouri's Food and Agricultural Policy Research Institute (FAPRI) released a "2015 U.S. Baseline Briefing Book" in which projected annual percentage changes for selected cost components were itemized, using indices with 2011 equaling 100, annually through 2024. The institute's projections for 2024 are for total production items to increase 24 percent over the 2011 values. The largest percentage gainers among the production expenses were for wage rates, up 47 percent; herbicides, 43 percent; insecticides, 38 percent; farm machinery, 36 percent; seeds, 36 percent; fuels, 35 percent; and taxes, 35 percent, and interest, 33 percent. Surprisingly, there were some projected cost declines over the next decade: mixed fertilizer, down 12 percent, and nitrogen fertilizer, down 2 percent, although potash and phosphate costs are anticipated to rise 6 percent. ▪

Figure 2. Costs per Acre



Source: USDA Economic Research Service Calculations from USDA National Agricultural Statistics Service's 2011Certified Organic Production Survey and Crop Production 2011 Summary

Farm Bill

By Don Shurley and Nathan Smith

The Agricultural Act of 2014, or 2014 farm bill, instituted major changes in the production agriculture safety net. A new farm bill is enacted every five years, and one of the many purposes of the farm bill is to provide income support and stability for farm income, or what is often referred to as the "safety net." Besides safety net modifications, the 2014 farm bill provided opportunities and challenges for producers and landowners. Due to delays in passing the legislation and implementing regulations, producer and landowner decisions and elections were not made until 2015, and any payments retroactive to the 2014 crop year.

The Good and the Bad

The 2014 farm bill provided a one-time opportunity for landowners to update crop bases and payment yields on the farm. Also, cotton base acres on a farm became generic base, providing beneficial planting flexibility and enhanced program eligibility.

The Direct and Counter-cyclical Payment Program (DCP), instituted in the 2002 farm bill, was repealed and replaced with Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) programs.[1] The Direct Payment (DP) was a fixed, completely decoupled payment. Loss of the DP will be felt financially. The new PLC program, however, is similar to the Counter-cyclical Payment (CCP) and is potentially better than CCP for most crops.

The new farm bill also contained new and expanded crop insurance products to provide additional risk management tools to producers.[2] The Stacked Income Protection Plan (STAX) was introduced for cotton in 2015. The Supplemental Coverage Option (SCO) was initiated and is available in combination with the PLC program. Revenue insurance coverage for peanuts became effective in 2015.

Concerns about the new farm bill include the uncertainty about the amount of payments and the cash flow of payments. Farms that produce peanuts also tend to produce cotton. Although generic base provides planting flexibility and enhanced program eligibility, there will be a risk of overplanting peanuts due to peanut prices being well below the PLC reference price on peanuts.

There are also concerns about cotton's competitiveness, how cotton can compete with ARC or PLC programs on other crops and the net amount and uncertainty of STAX indemnities.

Payment limitation could be a problem on large, diversified farms.

Updated/Reallocated Bases

Farm bill program payments (formerly DCP, now ARC and PLC) are made on base acres, not actual production or acres planted. Under the 2014 farm bill, landowners were given the option – a one-time election – to retain the crop bases on a farm as they were for the 2008 farm bill – as of Sept. 30, 2013 – or to reallocate bases based on the farm's acres planted from 2009 to 2012.

Base acres on a farm could not be increased, but could be "reallocated." The decision to retain or reallocate had to be made for all bases on the farm; individual crop bases could not be retained while others were changed and vice versa. Cotton base acres on a farm remained as under the 2008 farm bill, could not be increased or decreased and became generic base.

Table 1. Bases of Covered Commodities and Cotton/Generic Base*

	2008 Farm Bill	2014 Farm Bill	Acres Change	Percentage Change
Barley	6,221	4,493	-1,728	-27.8 percent
Canola	396	1,831	+1,435	+362.4 percent
Corn	468,945	416,621	-52,324	-11.2 percent
Grain Sorghum	51,324	50,175	-1,150	-2.2 percent
Oats	42,122	44,284	+2,162	+5.1 percent
Peanuts	507,668	753,328	+245,660	+48.4 percent
Soybeans	99,067	139,185	+40,118	+40.5 percent
Sunflowers	861	2,462	+1,602	+186.1 percent
Wheat	445,383	382,111	-63,272	-14.2 percent
Cotton/Generic*	1,461,724	1,456,949	-4,775	-0.3 percent
Total Bases*	3,083,711	3,251,439	+167,728	+5.4 percent

Source: U.S. Department of Agriculture Farm Service Agency, "Yield Updating," "ARC/PLC Election Data," Table 5, fsa.usda.gov/programs-and-services/arcplc_program/index

*By regulation, bases could not be increased on a farm, but the sum across all farms and bases in the state may show an increase or decrease due to farms enrolled or not enrolled and changes in base acres due to participation in or expiration of the USDA's Conservation Research Program.

Farm Bill, *continued*

Overall, across all farms in the state, peanut and soybean base acres increased (Table 1 and Figure 1). Generally, this reflects higher acres planted on the farm compared to the 2002 and 2008 farm bill historical period from which the base was determined. Corn, wheat and barley bases decreased. Likewise, this generally reflects fewer acres planted on the farm as compared to the previous farm bill history from which base was determined. There were big increases in percentages for canola and sunflower bases. Oat and grain sorghum bases remained about the same.

The decision to retain or reallocate bases also depended on which program – ARC or PLC – was expected to be most beneficial by crop. Bases were retained or reallocated on a farm-by-farm basis depending on which bases – old or new – would likely increase total ARC/PLC payments over the life of the farm bill.

ARC and PLC Elections

The Direct and Counter-cyclical Payment Program (DCP) from the 2002 and 2008 farm bills was eliminated and producers on a farm had to make a one-time election of PLC or ARC program coverage. This election was on a farm-by-farm, crop-by-crop basis. Making this decision, among other factors, was based on which program was believed to be the most beneficial over the life of the new farm bill, which lasts 2014 to 2018.

With the exception of peanuts, most bases of covered commodities[3] were enrolled in ARC-County (Table 2). Peanuts went exclusively to PLC. With the exception of canola, 70 percent or more of all other covered commodity bases were enrolled in ARC.

The ARC and PLC election decisions by producers were as expected based on prior analyses conducted,

Figure 1. 2014 Farm Bill Base Acres by Crop, Compared to 2008 Farm Bill Bases

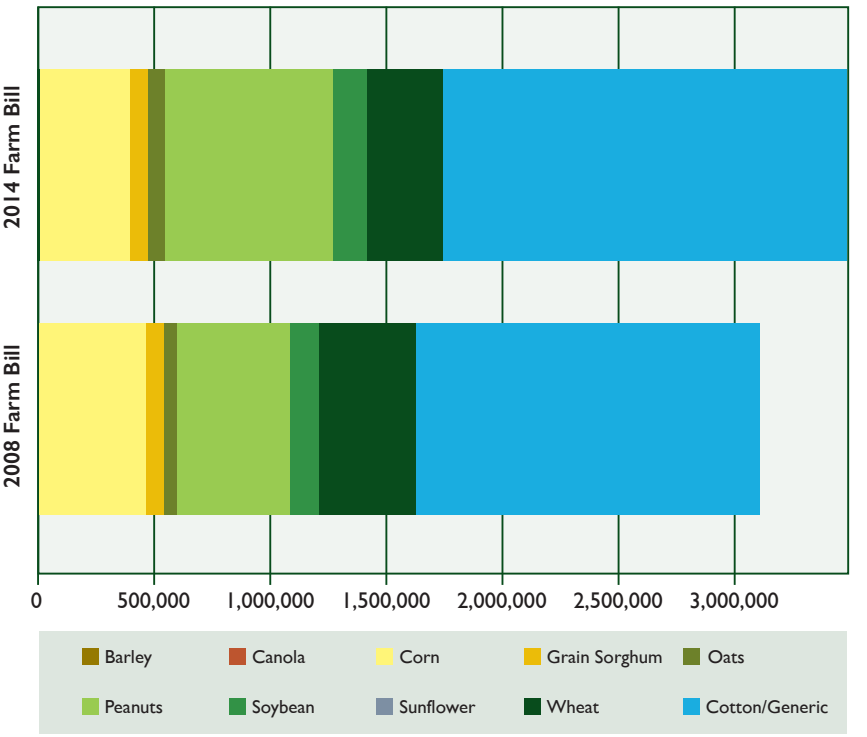


Table 2. Bases of Covered Commodities and Cotton/Generic Base

	2014 Farm Bill Base Acres	Enrolled in ARC*		Enrolled in PLC	
		Acres	Percent of Base	Acres	Percent of Base
Barley	4,493	3,631	80.8	862	19.2
Canola	1,831	994	54.3	837	45.7
Corn	416,621	358,690	86.1	57,931	13.9
Grain Sorghum	50,175	37,974	75.7	12,201	24.3
Oats	44,284	38,724	87.4	5,560	12.6
Peanuts	753,328	478	**	752,849	99.9
Soybeans	139,185	121,637	87.4	17,548	12.6
Sunflowers	2,462	1,804	73.3	658	26.7
Wheat	382,111	283,887	74.3	98,224	25.7

Source: U.S. Department of Agriculture Farm Service Agency, "Yield Updating," "ARC/PLC Election Data," Table 3, fsa.usda.gov/programs-and-services/arcplc_program/index

*Total of both ARC-County and ARC-Individual; ARC-Individual equals only 92.5 acres of grain sorghum base, 1.3 acres of oat base and 296 acres of wheat base.

** Less than 0.1 percent

comparing expected ARC and PLC by crop. It was anticipated that peanuts would go PLC while all other crops would go primarily ARC-County. This was due to current low prices triggering PLC payments for peanuts and relatively high-benchmark price years for other crops used in the ARC calculation, which would likely result in attractive payments early in the farm bill years.

ARC/PLC elections, although not made until 2015, were retroactive to the 2014 crop year. At the time of election, producers had some knowledge of the outlook for both 2014 and 2015 prices and yields. Although the remainder of the farm bill is unknown, there was less uncertainty associated with likely payments in early years of the bill. This was factored into decisions.

For the 2014 crop, if enrolled in PLC, peanuts and canola were the only Georgia crops receiving a payment (Table 3). For 2015 crops, a PLC payment is projected for all crops except barley and soybeans. The PLC payment for peanuts is expected to be greater for 2015 than 2014.

As shown previously in Table 2, all covered commodities in Georgia, with the exception of peanuts, were enrolled mostly in ARC-County. ARC paid for 2014 crops when PLC did not (Table 3). ARC will also likely pay more for 2015 crops than PLC.

Table 3 shows the projected PLC payment rates for 2015. Comparatively, the 2015 ARC benchmark prices are also shown. Assuming the 2015 county yields were equal to the 2015 benchmark yields, an ARC payment would trigger if the Marketing Year Average (MYA) prices were less than 86 percent of the benchmark prices. The 2015 benchmark price for corn, for example, is $5.29 per bushel, and 86 percent of that would be $4.55 per bushel. The 2015 MYA price for corn is currently $3.65 per bushel, $0.90 below

Table 3. PLC and ARC Payments for 2014 and 2015 Crops

	PLC Payment Rates*		ARC Payment/Acre and Prices**		
	2014	2015	2014 Payment	2015 Benchmark	2015 MYA (P)
Barley	$0.00 per bushel	$0.00 per bushel	$33.33	$5.57	$5.20
Canola	$0.0315 (P) per lb.	$0.0515 per bushel	N/A	$0.2158	$0.1500
Corn	$0.00 per bushel	$0.05 per bushel	$64.05	$5.29	$3.65
Grain Sorghum	$0.00 per bushel	$0.35 per bushel	$26.13	$5.10	$3.60
Oats	$0.00 per bushel	$0.20 per bushel	$14.77	$3.48	$2.20
Peanuts	$95 per ton	$175 per ton	$65.72	$557	$360
Soybeans	$0.00 per bushel	$0.00 per bushel	$26.98	$12.27	$8.90
Sunflowers	$0.00 per lb.	$0.0265 per lb.	N/A	$0.2347	$0.1750
Wheat	$0.00 per bushel	$0.50 per bushel	$19.11	$6.70	$5.00

Source: U.S. Department of Agriculture Farm Service Agency, Nov. 10, 2015. fsa.usda.gov/programs-and-services/arcplc_program/index

*"P" means projected. PLC payment will be rate times payment yield times 85 percent of base acres.

** 2014 is the simple county average amount for all Georgia counties with base of the crop and where a payment was made. Excludes counties with base, but with no payment made. "N/A" means data not available. The 2015 benchmark price is the Olympic average price received for the 2010 to 2014 crop years. Assuming the average county yield, an ARC payment would trigger if the 2015 MYA price is below 86 percent of this benchmark price.

Farm Bill, *continued*

the trigger. This compares to a $0.05 per bushel projected PLC payment rate. Likewise, no PLC is expected for soybeans, but assuming the benchmark yield, the 2015 MYA price is projected to be $1.65 per bushel below the trigger ($12.27 x 86 percent - $8.90 = $1.65).

New Crop Insurance Tools

The 2014 farm bill provided several new insurance policies, including revenue insurance for peanuts, STAX for cotton and SCO for covered commodities if PLC was selected.[2] Table 4 is a summary of acres insured by crop for the 2015 crop year as well as participation in SCO and STAX.

SCO is optional, but can be purchased only in combination with an underlying yield or revenue companion policy and having elected PLC coverage for the crop. STAX (for cotton only), on the other hand, can be purchased as a stand-alone policy; no companion policy is required.

Few SCO policies were purchased in Georgia for 2015 crops. Only 609 acres of corn and 1,988 acres of soybeans were covered by SCO, compared to almost 58,000 corn base acres and over 17,000 soybean base acres enrolled in PLC (Table 2). SCO was only available for corn, cotton, soybeans and wheat (two counties) in Georgia for 2015.

STAX was purchased for over 450,000 acres, or 40.3 percent, of cotton acres planted. There were 1.064 million acres of cotton insured, excluding STAX. Adding the STAX acres sums to 1.516 million acres, 395,526 acres more than planted. So, most STAX-insured acreage also had an underlying policy. Of the 451,719 acres insured with STAX, 99.2 percent was insured at the maximum 90-percent area loss trigger level.

Participation in STAX was less than half of acres planted and insured. Still, this is a relatively good endorsement by Georgia growers. Nationally, approximately 30 percent of acres planted and insured were insured with STAX. Participation is likely to increase or decrease from year to year based on the experience of growers and continuing education about the policy.

A new revenue policy was available for peanuts in 2015. Of the 732,801 acres insured, 68.3 percent of those acres were insured with the revenue policy. ▪

Table 4. Acres Planted, Insured and Participation in SCO and STAX

	Acres Planted*	Acres Insured**	Percent of Acres Insured	Acres SCO**	SCO Percent	Acres STAX**	STAX Percent
Barley	N/A	0	0	0	0		
Canola	N/A	3,933	N/A	0	0		
Corn	330,000	258,349	78.3	609	0.2		
Cotton	1,120,000	1,063,807	95.0	0	0	451,719	40.3
Grain Sorghum	50,000	15,806	31.6	0	0		
Oats	65,000	6,180	9.5	0	0		
Peanuts	790,000	732,801	92.8	0	0		
Soybeans	330,000	251,026	76.1	1,988	0.6		
Sunflowers	N/A	N/A	N/A	N/A	N/A		
Wheat	215,000	133,742	62.2	0	0		

*Source: USDA National Agricultural Statistics Service, quickstats.nass.usda.gov/. Acres planted of barley, canola and sunflowers not available.

**Source: USDA Risk Management Agency, rma.usda.gov/data/sob.html, Summary of Business, Nov. 16, 2015. Excludes STAX acres. SCO acres of corn and soybeans provided by RMA internal audit, Nov. 23, 2015.

Footnotes:

[1] PLC is protection from low prices, similar to the former Counter-cyclical Payment Program. PLC pays if the MYA price falls below the reference price as specified in the farm bill. Reference prices can be found in "Choosing the ARC or PLC Commodity Program" at: caes.uga.edu/departments/agecon/extension/farm-bill/index.html
The ARC program is a county-based revenue guarantee program. A payment is made if the actual revenue for the crop is less than 86 percent of the county benchmark revenue. PLC and ARC payments are made on 85 percent of base acres of the crop, including generic base acres assigned to acres planted of the crop.

[2] SCO is a county- or area-based policy for yield or revenue. Payment is made if the county or area actual yield or revenue falls below 86 percent of the actual yield or revenue. Payment is made on all acres planted. STAX is for upland cotton only. It is a county or area revenue policy. "Coverage bands" are available, with the maximum being 90 to 70 percent, in which case a payment is made when actual county revenue for cotton is less than 90 percent of expected revenue. Payment is capped at 20 percent of expected revenue (90 minus 70 percent). SCO may be purchased for cotton in lieu of STAX.

[3] ARC and PLC are available for "covered commodities." Covered commodities produced in Georgia include barley, canola, corn, grain sorghum, oats, peanuts, soybeans, sunflowers and wheat. Cotton is not a covered commodity and is not eligible for ARC or PLC.

Peanuts

By Nathan Smith

An oversupply of peanuts is the big concern for the peanut industry heading into 2016. Peanut stocks will be historically high as a result of increased production from the 2015 crop. Peanut warehouse capacity will be stretched to the limit, especially in the Southeast. While total consumption is projected to increase, it will not be able to keep up with the production increase.

The U.S. Department of Agriculture's National Agricultural Statistics Service estimates a record peanut crop of 1.7 million tons for Georgia. Georgia growers planted 32 percent more acres and harvested 780,000 acres, resulting in a 4,400-pound-per-acre average yield in 2015. Georgia's record large crop represents 54 percent of total U.S. production. Growers cut back on cotton and corn planted acres to increase peanut acreage. The shift was noticeable in the Southeast – Alabama, Florida, Georgia and Mississippi – where each state increased peanut plantings, leading to a 24 percent increase to 1.22 million acres. The Southeast pushed U.S. plantings up by 20 percent to 1.62 million acres in 2015. While Georgia and Southeast yields are up overall, the Southwest and Virginia/Carolina region is down in 2015, resulting in about the same U.S. average yield as 2014: 4,000 pounds per acre. The 2-ton yield and increase in acres has total U.S. production pegged at 3.16 million tons on 1.582 million harvested acres, up 22 percent from 2.6 million tons, in 2014. The U.S. record for peanut production is 3.37 million tons, harvested in 2012. The 2015 production estimate could end up closer to 3 million tons due to the flood losses in South Carolina, which could drop production by 100,000 tons or more.

Total peanut use for the 2014 crop is estimated to have ended below the previous year. Seed use increased, so the residual category is the source of total use dropping by 70,000 tons to 2.518 million tons. The 2015 marketing year began on Aug. 1 and shelled edible use is up over 4 percent for the first three months, with snacks leading the way. The 2015-2016 peanut marketing year is projected to total 2.8 million tons, an increase of 11.5 percent. Domestic use is projected to increase 4.6 percent to 1.54 million tons. Exports are projected to increase 5 percent from last year's 540,000 tons. However, early indications are that exports will hold steady. With the larger crop, crush is projected to rise 17 percent to 790,000 tons.

2016 Forecast

A record carryover of peanut stocks is projected for 2016. The current record is 1.385 million tons from the 2012 crop. Edible use increases appear to be shifting from peanut butter to snack peanuts, likely due to the surplus from 2015. A new record carryover of 1.45 million tons is projected by the USDA, but it likely will be less than the 2012 record given lower production in South Carolina. Peanut grade inspections to date also indicate a trend of lower yields than expected, so the big crop could shrink with the final crop size reported in January 2016. The 2016 outlook faces a large surplus of peanuts and low prices for peanuts and other crops. Georgia growers can expect prices below $400 per ton, likely in the $375 to $385 range. Uncertainty surrounds contracts for 2016 as producers will be concerned about the issue of beneficial interest in respect to redeeming loans when there is a market loan gain (MLG) or loan deficiency payment (LDP). Growers may be wary of signing a contract at low prices if they are at risk of MLGs and LDPs counting against their peanut payment limit and reducing their Price Loss Coverage (PLC) payment. Ninety-nine percent of peanut base acres elected the PLC program. The 2014 PLC payment rate ended up at $95 per ton and, adjusting for the 85 percent payment factor and 6.8 percent sequestration, the payment per base acre was $75.26 per ton. The PLC payment for the 2015 crop should be higher as prices for 2015 peanuts were lower. Current U.S. average market price is about $400 per ton, which would result in a $140-per-ton payment rate.

Peanut acres need to be reduced in 2016 from a supply and rotation standpoint. Warehouse space will be a major concern in the Southeast. Growers who plant peanuts without a contract could risk the lack of a "home" to store loan peanuts in if there is not enough warehouse space. There could be 600,000 tons of 2015 peanuts in storage at harvest time, creating a shortage of space. Rotations will be shortened if adjustments are not made in 2016 impacting the yield prospects in the longer run. Planting decisions will be more difficult due to the low-price, surplus-supply situation, and growers face a cash flow challenge in 2016. The PLC program will help, but growers need to look at planting acreage that results in the optimum price when considering rotation, payment limits and the PLC payments. ■

Source: USDA Economic Research Service
2016 Projections by UGA Cooperative Extension Economist Dr. Nathan Smith

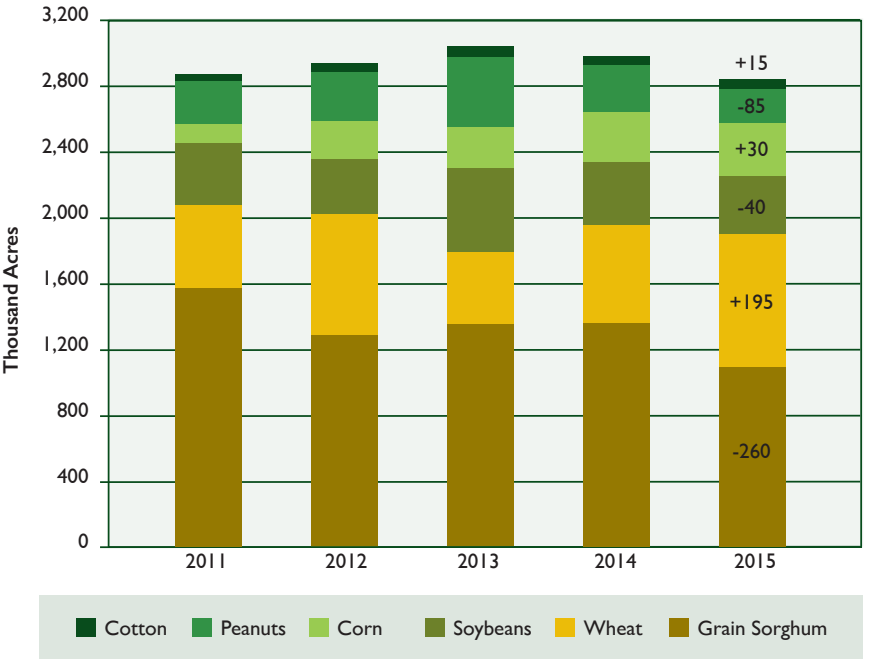
Row Crop Net Returns

By Amanda Smith, Nathan Smith and Don Shurley

As of November 2015, commodity prices for all of the major row crops grown in Georgia are down from the same time last year. Peanut prices are down significantly because of record production. Corn and soybean prices are down as a result of another year of excellent U.S. production and large global supplies. Cotton prices are down due to large global supplies and weak demand. A strong U.S. dollar further weakens demand for U.S. exports. From an input standpoint, fuel and fertilizer prices are down as well. This upcoming year will mean even tighter margins for growers as compared to 2015. The drop in commodity prices has exceeded the drop in input prices. Producers need to thoroughly evaluate expected prices, yields and costs before determining what to plant in 2016. Furthermore, they need to consider the impact that the farm bill safety net programs, such as crop insurance, the Stacked Income Protection Plan (STAX) for cotton and the Price Loss Coverage (PLC) or Agricultural Revenue Coverage (ARC) programs for the other commodities, may have on net returns.

Producers base planting decisions on expected price, input costs, historical and projected yields, crop rotation, availability of credit, potential government payments and weather expectations. Risk management tools, like crop insurance, are also part of the decision process. Figure 1 shows the planted acres for select row crops in Georgia from 2011 through 2015. Producers' planting decisions in 2015 resulted in a large acreage shift away from cotton and corn primarily into peanuts and soybeans. Georgia producers planted less cotton (down 260,000 acres) and corn (down 40,000 acres), while they planted more peanuts (up 195,000 acres) and soybeans (up 30,000 acres). Wheat acreage was down 85,000 acres as a result of difficulty obtaining wheat seed for 2015. Georgia producers planted more acres of grain sorghum (up 15,000 acres) than they did in 2014.

Figure 1. Planted Acres and Change from 2014 of Selected Row Crops in Georgia, 2011 to 2015



Source: USDA Farm Service Agency and National Agricultural Statistics Service

Table 1 shows preliminary estimates of how net returns are likely to compare for Georgia row crops in 2016. Both nonirrigated and irrigated expected prices, yields, income, costs and net returns are shown for comparison. These are estimates of relative net returns based on current market conditions and expectations prior to planting. Expected income does not include potential payments received from government programs, such as the PLC or ARC programs, or cotton-specific STAX crop insurance program. Expected yields and variable costs are based on adjustments made to the 2015 University of Georgia enterprise budgets for corn, cotton, grain sorghum, peanuts, soybeans and wheat. These budgets and the 2016 Crop Comparison Tool can be accessed at agecon.uga.edu/extension/budgets/ or by contacting your county UGA Cooperative Extension agent.

Budget estimates should be used as a guideline or starting point for individual operations whose yields and local prices for inputs will vary. Producers are encouraged to utilize the budgets by entering their own numbers to determine which crop enterprise will provide the highest net return to their operation.

Break-even price and yield are also included in Table 1 for producers to consider when making a pricing decision. The break-even price is the price a producer must receive in order to cover their variable costs, or operating expenses, at the expected yield (found in the third column in each table). The break-even yield is the yield needed to cover variable costs given the expected price. The expected price for Georgia's major row crops is found in the second column of each table. Expected prices are estimates based upon current (as of November 2015) 2016 harvest

time futures prices and adjusted for expected basis, except for peanuts. The expected peanut price is an estimate of what contract prices may be during 2016. The expected cotton price includes a loan deficiency payment or marketing loan gain and accounts for expected adjustments for fiber quality. Producers should consider forward-pricing a portion of their production at prices that have the highest probability of profit. The break-even prices and yields shown do not include returns to land (land rent) and management (payment to the producer). A producer should account for these costs when marketing their crop.

Relative net returns for nonirrigated production appear to favor peanuts and cotton. Producers may also consider double-cropping some acres with wheat prior to planting cotton. Irrigated production appears to favor cotton, peanuts, corn and soybeans. Producers should place priority on crop rotation when net returns are comparable among crops. Cotton and corn acres are likely to increase in 2016. Peanut acres are expected to decrease primarily because of the need to rotate acres. Soybean acres are likely to decrease. Grain sorghum and wheat acres are likely to remain similar to 2016 plantings. ■

Table 1. Per Acre Net Return Above Variable Cost, Break-even Price and Yield

Nonirrigated Production							
	Expected Price[1]	Expected Yield per Acre	Income per Acre	Variable Costs per Acre[2]	Net Return per Acre[3]	Break-even Price[3]	Break-even Yield per Acre[1]
Corn	$4.25/bu.	85 bu.	$361	$305	$56	$3.59/bu.	72 bu.
Cotton	$0.70/lb.	750 lbs.	$525	$430	$95	$0.57/lb.	614 lbs.
Grain Sorghum	$3.90/bu.	65 bu.	$254	$210	$44	$3.23/bu.	54 bu.
Peanuts	$370/ton	1.70 ton	$629	$520	$109	$306/ton	1.41 ton
Soybeans	$8.60/bu.	30 bu.	$258	$220	$38	$7.33/bu.	26 bu.
Conventional Wheat	$5.00/bu.	55 bu.	$275	$205	$70	$3.73/bu.	41 bu.
Intensively Managed Wheat	$5.00/bu.	75 bu.	$375	$300	$75	$4.00/bu.	60 bu.
Irrigated Production							
	Expected Price[1]	Expected Yield per Acre	Income per Acre	Variable Costs per Acre[2]	Net Return per Acre[3]	Break-even Price[3]	Break-even Yield per Acre[1]
Corn	$4.25/bu.	200 bu.	$850	$620	$230	$3.10/bu.	146 bu.
Cotton	$0.70/lb.	1,200 lbs.	$840	$550	$290	$0.46/lb.	786 lbs.
Grain Sorghum	$3.90/bu.	100 bu.	$390	$325	$65	$3.25/bu.	83 bu.
Peanuts	$370/ton	2.35 ton	$870	$610	$260	$260/ton	1.41 ton
Soybeans	$8.60/bu.	60 bu.	$516	$290	$226	$4.83/bu.	34 bu.

Source: Data based on authors' revisions of the 2015 UGA Enterprise Budgets for Corn, Cotton, Grain Sorghum, Peanuts, Soybeans and Wheat

[1] Prices are 2016 harvest time futures prices as of November 2015, adjusted for expected basis. Peanut price is expected contract price. Cotton price includes an LDP or MLG and adjustments for fiber quality. Season average prices may vary. This analysis shows relative returns for comparison and ranking only.

[2] Income per acre does not include government payments from PLC, ARC, STAX or other crop insurance programs.

[3] Excludes hand weeding, land rent, fixed costs and any custom harvesting, storage, hauling, etc. if necessary. Due to volatility in the input markets, variable costs could change ±5 percent.

Cotton

By Don Shurley

There are concerns throughout the industry about cotton's competitiveness and sustainability. The U.S. and global economic situation for cotton has changed in recent years. All segments of the cotton industry are trying to adapt to the changes and reposition accordingly. The global cotton situation continues to be characterized by record stocks and weak demand. The supply side will adjust, and has adjusted. Demand now has to improve or grow, and this is a challenge. Based on current economic and supply and demand projections, it is likely that cotton prices for the 2016 crop will take a similar path as they did for 2015.

U.S. Situation

Cotton growers planted 8.56 million acres in 2015, down 22.5 percent from 2014 and the lowest acreage since 1983. Production is forecast at 13.28 million bales, down roughly 3 million bales, or 18 percent, from 2014.

More important than plantings, cotton production is determined by acres actually harvested – how much acreage will be abandoned or replanted to another crop due to weather – and yield (Figure 1). In recent years, acreage abandonment has been very high due to drought in Texas. For 2015, however, Texas weather was much improved, resulting in a national abandonment of less than 5 percent. A portion of the Texas crop was even planted late due to excessive rainfall.

U.S. cotton exports for the 2015 crop year are expected to be 10.2 million bales, the lowest level since 2000 but somewhat consistent with the small crop and less available supply. Exports are also down due to a Chinese policy of limiting imports and to the loss of

Figure 1. U.S. Cotton Acres Planted, Harvested and Yield

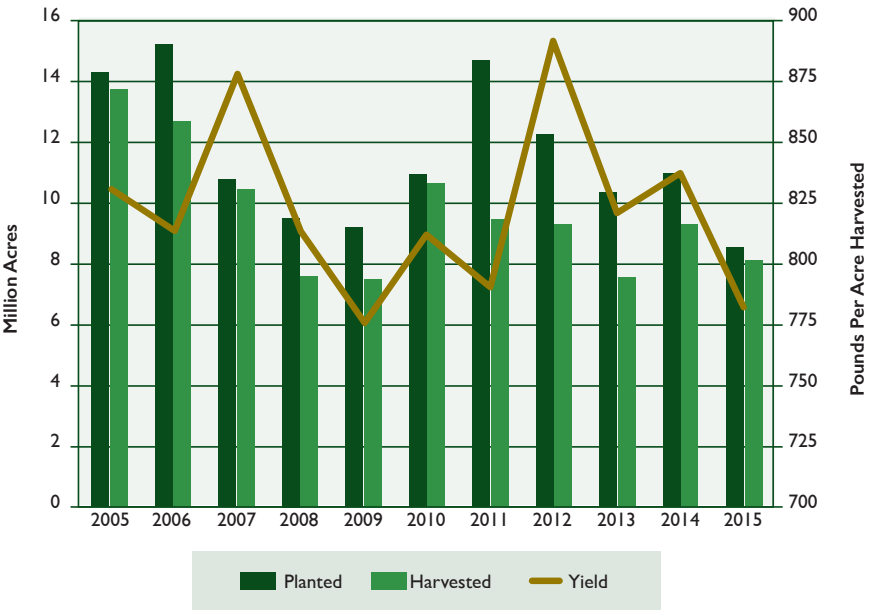
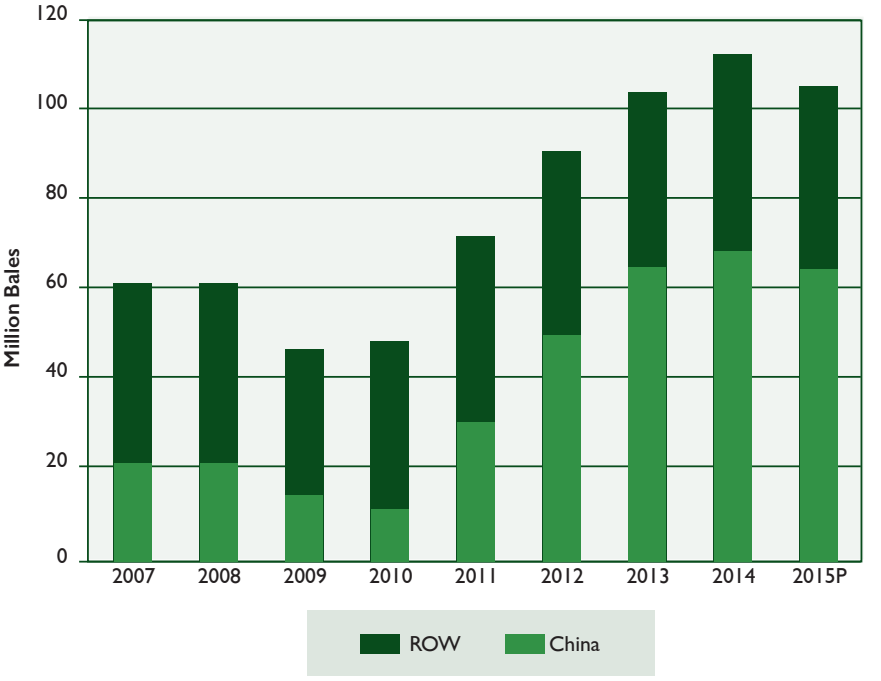


Figure 2. Ending Stocks
Total, China and the Rest of the World (ROW)



U.S. market share to other countries, especially India.

There are concerns throughout the industry about cotton's lack of competitiveness and sustainability on many fronts, from grower acreage decisions to the mills versus synthetic fibers. From a grower perspective, many of the concerns can be cured by a return to 80 cents or better, but a return to that price level could make cotton even less competitive at the mill.

Global Situation

The global cotton situation continues to be characterized by record stocks, 61 percent of which are in one country: China (Figure 2). Large stocks typically mean lower prices, but there continue to be questions and uncertainty about: (1) the quality of this cotton and (2) the price and policy mechanisms that would bring these stocks into the supply pipeline. On at least two occasions, the Chinese government has offered amounts of this cotton for auction to its own mills, but sales have been lackluster. Some of these stocks are two to three years old and most of it purchased – imported or from its own farmers – at prices well above today's market level. Thus, China has a vested interest in wanting or needing the price of cotton to go up so stocks could be sold or used at minimal loss. But putting these stocks in the pipeline in any significant way would threaten to take prices even lower. This is a real policy contradiction.

The cotton picture is also characterized by weak demand. During 2015, even with uncertainties on the supply side and the smallish U.S. crop, it was difficult for prices to sustain any upward momentum due to demand issues. There has been concern, for example, about an economic slowdown in China.

World demand (use) is forecast at 111.6 million bales for the 2015 crop year, a slight improvement from 2014. Demand has slowly trended up, increasing 8.5 percent since the recent low in 2011. While this seems positive, it ignores what is going on behind the scenes. In June 2015, world demand for the 2015 crop year was forecast at 115.3 million bales. By November, the forecast was revised downward to only 111.6 million bales. The demand outlook has weakened.

The supply side will adjust and has adjusted. Demand now has to improve or grow, and this is a challenge. The harsh reality is that, unless demand grows, and given the fact that we have record stocks, we'll simply need less cotton produced.

New Players in the Cotton Game

The U.S. and global economic situation for cotton has changed in recent years. All segments of the industry are trying to adapt to the changes and determine how to reposition.

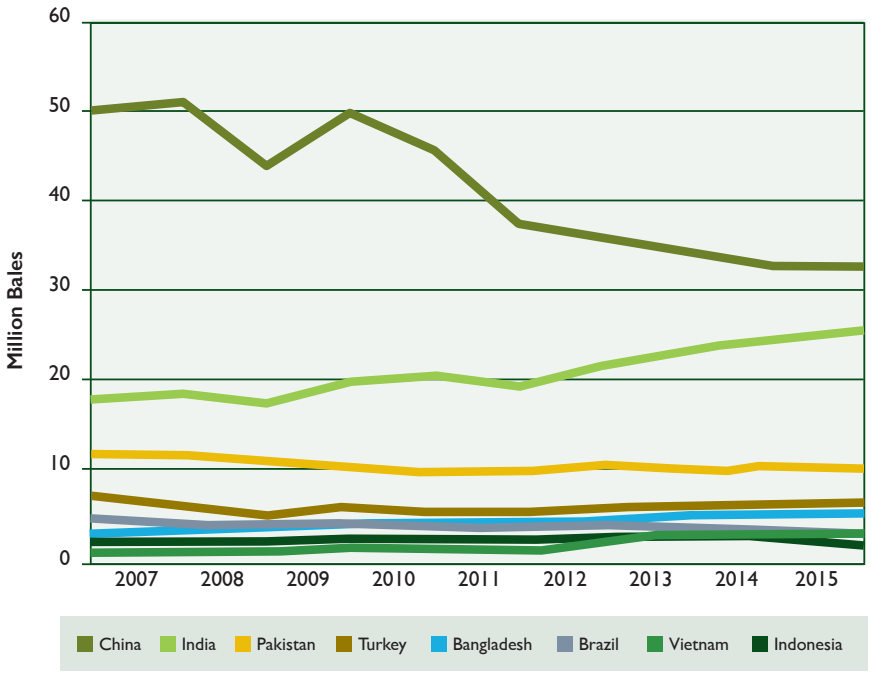
World cotton exports are typically 35 to 45 million bales annually. The U.S. is the world's largest exporter, typically accounting for about 35 percent of the total, but U.S. market share has slipped in recent years. The market share for India and Brazil has increased. India's cotton production has doubled since 2003 and will exceed China's for 2015. India's mill use and exports have increased substantially and its exports are major competition for the U.S.

China is the largest mill user of cotton. Often when demand is discussed, China is the focus of attention, and rightfully so, but there is an even larger, less understood picture.

World demand has declined and the decline in China's textile mill industry has largely contributed to it. This decline is not evidenced everywhere, however. In fact, China's decline has been partially offset by increases in other countries (Figure 3).

The mill industry in some other countries has actually increased in a declining market. Since the peak in

Figure 3. Mill Use of Cotton by Country



Cotton, *continued*

world demand in 2006, overall use has declined 10 percent from 2006 to 2015, but India has increased 41 percent; Bangladesh, 77 percent; and Indonesia, 35 percent.

Vietnam now has a 4.5 million-bale-a-year mill industry and could become an even bigger factor in the cotton industry with the passage of the Trans-Pacific Partnership agreement. Mill use in former Soviet Union states Kazakhstan, Turkmenistan and Uzbekistan has grown by 74 percent.

Southeast and Georgia Situation

Many cotton growers in Georgia and the Southeast have one crop alternative that cotton growers in other parts of the country do not have: peanuts. Further, cotton acreage in the Southeast tends to be relatively stable compared to the mid-South, states like Arkansas, Louisiana, Mississippi, Missouri and Tennessee. This is due to a lesser agronomic and economic advantage to switch to corn and soybeans.

In 2015, Southeast cotton acreage was down 17 percent due largely to shifts to peanuts and soybeans. Georgia acreage was down 19 percent. Cotton yields were generally below 2014 levels, with the exception of Georgia, where the state average was almost 2 bales per acre. The Carolinas and Virginia suffered substantial losses in yield, quality and harvested acreage due to heavy rainfall in early October. Georgia cotton will likely see some reduction in yield and quality due to November rains.

Overall and in recent years, fiber quality in Georgia and the Southeast is greatly improved. Buyers and mills are willing to pay for good quality cotton and the basis is strong. With improved quality, more stable acreage and convenient location to mills and export shipping, Georgia, and the Southeast, is positioned to strengthen its role and status within the supply chain.

Peanut acreage expanded in 2015 due to provisions of the new farm bill and the high probability of Price Loss Coverage payments on peanuts planted and assigned to generic base. Georgia cotton acreage could increase in 2016 despite continued low prices. Corn and soybean prices are below year-ago levels and it is unlikely or questionable that the large 2015 level of peanuts is sustainable from a beneficial crop rotation standpoint.

2016 Price Outlook

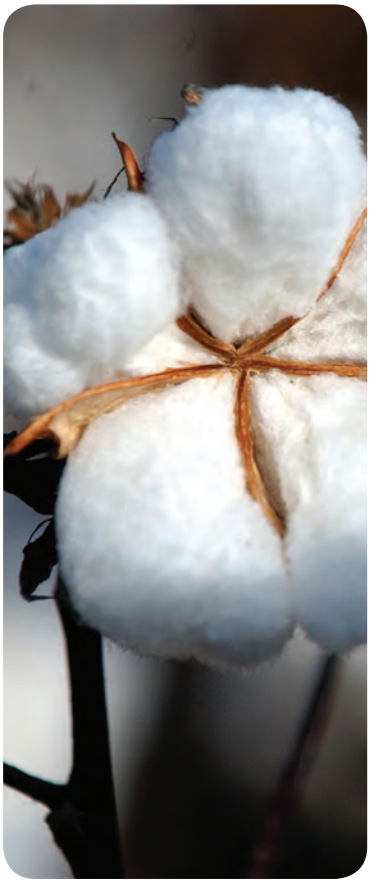
At this juncture, 2016 cotton prices are similar to 2015. December 2016 cotton futures prices are currently around 63 cents and just slightly higher than December 2015 prices. Compared to 2015, 2016 soybean futures are lower and corn is the same. The peanut price for 2016 is unknown. Compared to 2015, we could surmise that cotton for 2016 is in a better position compared to soybeans and is about the same compared to corn.

For much of 2015 prior to harvest, December 2015 futures traveled sideways in a range of mostly 62 to 67 cents. Growers were waiting on 70 cents, but that opportunity never materialized. The pattern for the 2016 crop could look the same.

U.S. acreage and production could be up for 2016. This would keep pressure on prices given the weakening in demand and level of world stocks. With prices in the 60s, U.S. acreage was down 22 percent for 2015 but would not have declined this much had weather in Texas cooperated.

The optimistic likely price is 68 to 70 cents or better. The pessimistic likely price is 60 cents. For planning and budgeting projections, a price of 68 to 70 cents is suggested and this would include any Loan Deficiency Payment (LDP).

Why would farmers plant 60-cent cotton? The answer takes into account three things: (1) what else can the farmer plant and how do the net returns compare; (2) what are the crop rotation benefits; and (3) will the price of cotton be low enough to benefit from marketing assistance loans? When prices are low, producers realize that an LDP or marketing loan gain (MLG) will be available. A strong basis, good premiums for fiber quality and the LDP or MLG can all result in a total received that can be 9 cents above the expected market price. ▪



Environmental Horticulture and Turf

By Forrest Stegelin

The 2014 Georgia environmental horticulture farm gate value totaled $608 million, according to the 2014 Georgia Farm Gate Value Report published by the University of Georgia Center for Agribusiness and Economic Development. The report includes county and commodity data for greenhouse production, which accounted for 43.6 percent of the total environmental horticulture farm gate value; container nursery production, 24.1 percent; turfgrass production, 17.2 percent; field nursery production, 12.8 percent; and miscellaneous production, 2.2 percent. The 2015 report should indicate an increase in farm gate dollar values for greenhouse, container, field and turfgrass production reflecting the expansion – facilities or businesses, volume of plant material and marketing mix – and efficiency – labor, equipment, technology and/or distribution – gains realized by the Georgia industry over the past years. Although margins will still remain thin, total profits or net income should improve due to capacity increase and associated capacity utilization.

The environmental horticulture industry is adept at dealing with both the opportunities and the challenges associated with change. Firms reported adding new technologies – from propagation with automated potting and sticking machines; to misting or wand irrigation; to heating, ventilation and air conditioning (HVAC) units; to robots; to double screens; to energy efficiency and/or alternative energy systems, relying more on sensors and computerization – without replacing labor. Employees were put to other, more meaningful tasks than hand sticking or potting, spacing or watering, focusing on the objective of quality control and marketability of plants. Businesses also reported performing more planning and what-if, market, margin, cash flow and capital investment analyses to help find where their competitive advantage might lie and where to investigate new opportunities, such as new plant introductions; growing for the gift market rather than the seasonal markets of annual bedding plants, mums or poinsettias; for particular demographics of customers and their needs; for interiorscapes, xeriscapes and succulents; or for vegetables and fruit/vegetable transplants for food. Other firms cited advancing their marketing technologies to meet the 21st century through larger social media presences and better communications and merchandising practices. Complete change is not the norm; some firms just learned how to do better what they were already doing, and to do more of it.

These anecdotal observations and comments are meaningful as these were the focus areas that growers indicated in their plans for maintaining and improving profitability during 2015, as reported in the 2015 Georgia Ag Forecast. So, what should be expected during 2016? The Georgia environmental horticulture and turf industry will continue improving on successes and shoring up weaknesses, looking toward price leadership in the Southeast. Rather than be a follower of others' pricing strategies, Georgia growers now realize they have the ability to produce quality plants at costs comparable to those in other states, to market innovatively as a centrally located producer in the Southeast and to price confidently, knowing there is value worthy of a price premium for the plant materials grown in Georgia. As customers gain more consumer spending power – more disposable income – they have also become more educated as to what plants best serve their needs and growing conditions, and the customers are seeking those solutions and showing that they are willing to pay accordingly.

The U.S. Department of Agriculture annually publishes a floriculture crops summary from survey data obtained by the National Agricultural Statistics Service. This survey, due to budget constraints, only reports data from the 15 states of California, Florida, Hawaii, Illinois, Maryland, Michigan, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, Texas and Washington – not Georgia – and for growers with sales exceeding $10,000. A similar nursery crops survey and publication was terminated in 2011, also due to budget issues. The June 2015 publication of the "Floriculture Crops 2014 Summary" does provide some insight into the floriculture or greenhouse crops sector of the industry. The wholesale value of all floriculture crops is trending down slightly, about 3 percent per year, since a high in 2012. The top five states of California, Florida, Michigan, North Carolina and Texas accounted for 63 percent of the 15-state total value. The number of producers is also down among the 15 states by about 20 percent from year-earlier numbers. The area used for production is stable, suggesting that expansion occurred by the active producers. The number of hired laborers is increasing, both on a per-business basis and on a total employment basis, with the highest numbers associated with the 2014 summary. Many of these same observations for the 15 states were reported for Georgia in the 2015 Ag Forecast. ■

Fruits and Nuts

By Esendugue Greg Fonsah

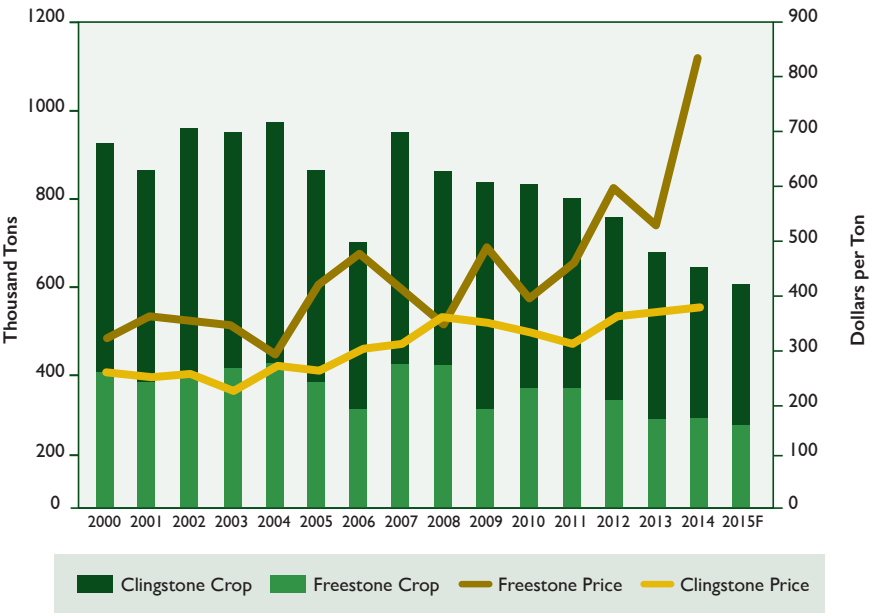
The forecast for 2015 depicted a $2 billion increase in horticultural crop exports. The increase in exports is partially credited to fresh and processed fruits and vegetables, including tree nuts such as pecans. California fresh and processed peaches suffered an 8 percent decline in production, which helped to keep prices high, especially given that increased peach production in South Carolina and Georgia was not enough to dampen market prices (Figure 1).

According to the U.S. Department of Agriculture National Agricultural Statistics Service's report, these three states – California, South Carolina and Georgia – together produce the lion's share (80 percent) of U.S. peaches and 65 percent of total acreage. While California is big on processed and fresh peaches, Georgia and South Carolina are strictly limited to fresh market peach production.

Although U.S. agricultural imports are forecast to hit a record high of $122.5 billion in 2016, the overall trade surplus is expected to decline by $8 billion. The increased import of horticultural crops, such as sugar and other tropical products, continues to have a major impact on agricultural trade balances.

The grower's price index for fruit and nuts was stronger in 2015 as compared to 2014 due to the fact that major fruit-producing states, like California and Florida, experienced downward production that created natural shortages and kept prices high. However, the consumer price index, although strong compared to 2014, was not as strong as the grower's price index, partially because of the lower year-to-year retail price for navel oranges, apples, bananas and seedless grapes.

Figure 1. Trend in California Peach Production that Triggered Strong Growers Prices, 2000-2015

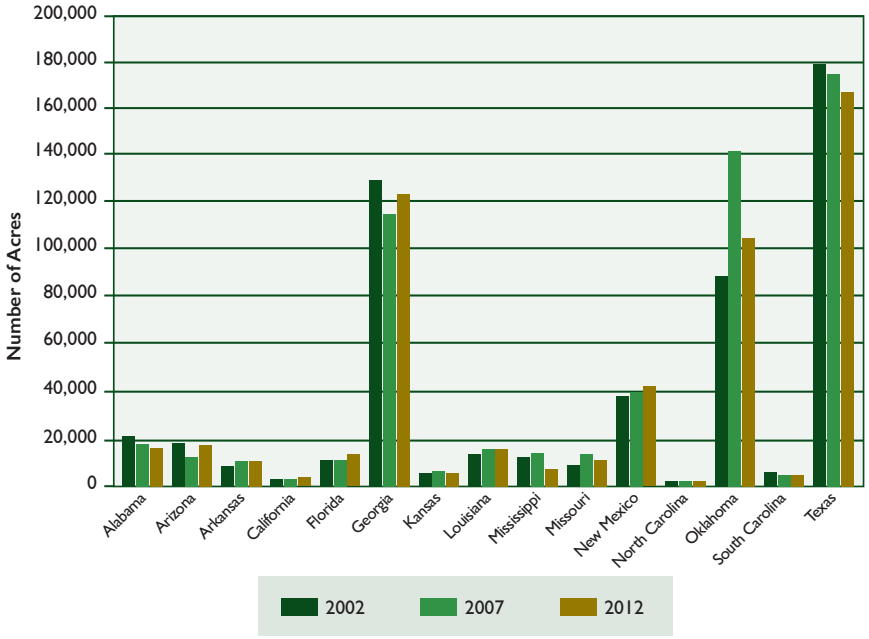


Source: USDA, National Agricultural Statistics Service, Non-citrus Fruit and Nuts Summary, Various Issues and Crop Production, May 2015

2015 U.S. pecan exports (shelled basis) of 71 million pounds were an increase of 32.3 percent as compared to 2014, whereas almonds and pistachios (shelled basis) recorded 8.3 percent and 17.9 percent decreases, respectively.

The only tree nut that performed relatively well compared to pecans – Georgia is still the largest producer and exporter of pecans – was walnuts, with a 13.8 percent increase as compared to 2014. Despite the significant increase in pecan exports, the U.S. still imported 76 million pounds of pecans (shelled basis) during the September and October marketing season 2015, equivalent to a 79 percent increase as compared to 2014. In terms of acreage, Texas is the leader out of the 39 U.S. pecan-growing states. However, while acreage is decreasing in Texas, the opposite trend has been observed in Georgia (Figure 2). Consumer and producer prices for fruits and nuts are expected to be strong in 2016. ■

Figure 2. U.S. Pecan-Producing States by Acres, 2002, 2007 and 2012*



*2012 numbers only show states that produced 1,000 acres or more in 2012.

Grains and Soybeans

By Nathan Smith

Corn, soybeans and wheat acreage in Georgia continued a trend that started in 2014. Corn and wheat acreage dropped, while soybean acreage increased. Growers shifted a few more acres from corn to peanuts, and increased soybean acreage. Corn and soybeans each came in at 370,000 planted acres, while wheat dropped to a low of 215,000 acres. Planted sorghum acres increased by 10,000 acres to 50,000 in Georgia.

Georgia average yields were up for corn and soybeans in 2015, while wheat was disappointing in terms of yield and quality. The soybean average yield is pegged at a record 44 bushels per acre, the Georgia corn yield is pegged at 181 bushels per acre and the wheat average yield dropped to 43 bushels per acre in 2015. The U.S. corn average yield is estimated at 169.3 bushels per acre, 1.7 bushels below last year's record. U.S. soybeans are expected to finish with a record yield of 48.3 bushels per acre. At 42.5 bushels per acre, the wheat average yield was one-tenth of a bushel less than 2014. While corn futures set a low over a year ago at $3.23 per bushel, soybean and wheat prices have set recent, new lows of $8.55 and $4.50 per bushel, respectively. Future direction will depend on plantings and the production outlook for 2016, as well as world harvest.

Corn

Georgia corn growers planted 330,000 acres in 2015, continuing the downtrend that began in 2014. About 85 percent of the planted acreage was harvested, resulting in 280,000 harvested acres. The U.S. Department of Agriculture's National Agricultural Statistics Service estimated a new record yield of 181 bushels per acre, breaking the 2012 record of 180 bushels per acre.

Total production in Georgia is estimated at 50.68 million bushels. High yields are a result of irrigation, with nearly 80 percent of corn acres reported as irrigated last year. Georgia corn production represents about 30 percent of the total corn needed for livestock and poultry production in Georgia.

Nationally, U.S. corn growers reduced plantings by 2.2 million acres in 2015 to 88.4 million acres. The average yield was again excellent in the U.S. at 169.3 bushels per acre, 1.7 bushels less than the 2014 record. Harvested acres dropped 2.4 million to 80.7 million acres. Total corn production is down 570 million bushels from last year's record, pegged at 13.65 billion bushels. Total corn use set a record with the 2014 crop, ending on Aug. 31, 2015, at 13.75 billion bushels.

The 2015-2016 marketing year is projected to retract by about 100 million bushels to 13.65 billion bushels. The reduction is expected to come from ethanol use and exports. Ethanol use is projected to decrease by 35 million bushels to 5.175 billion bushels. Corn exports are projected to be down 3.4 percent at 1.8 billion bushels. However, U.S. export sales are more than one-third below the USDA expectation through November, indicating exports could be off more than previously thought. The sales pace should pick up in the second half of the marketing year. Feed and residual use is projected to level off at 5.3 billion bushels. Ending stocks of corn will not change much, given both total production and total use are projected at 13.65 billion bushels. The projected ending stocks are pegged at 1.76 billion bushels, a 2 percent increase due to 30 million bushels in imports.

Corn prices were not very attractive to Georgia corn growers in 2015 and have set recent lows heading into 2016. 2014 record global production pushed prices below $4 and 2015 will not be a record – ending stocks are now expected to be about the same at 200 million metric tons or more. The U.S. price range for the 2015 crop is projected at $3.35 to $3.95 per bushel. Georgia prices ranged from $3.75 to $4.50 per bushel for 2015. The 2016 average price will likely be in the same range. Corn is a good crop to rotate in with cotton and peanuts. Irrigated farms in southwest Georgia will likely keep their current rotations. Thus, Georgia corn acreage is not expected to fall below 300,000 acres and should stay about the same for 2016, if not increase a little.

Wheat

Georgia wheat acreage and production took another big hit in 2015. Planted acres fell 85,000 acres to 215,000 total acres. Production fell by 45 percent due to a drop in harvested acreage – 145,000 acres – and lower yields. The Georgia average yield fell 12 percent to 43 bushels per acre. Total wheat production was estimated at 6.24 million bushels. Acreage for 2016 is not expected to improve due to lower prices and some growers not wanting wheat to be allocated to generic base acres. New crop prices ranged from $4 to $4.25 per bushel in Georgia's southwest corner to $4.80 to $5 during planting for other parts of the state.

At 2.05 billion bushels, U.S. wheat production is slightly up for the 2015-2016 marketing year. Even though planted acres decreased by 2.2 million acres to 54.6 million acres, harvested acres increased by 700,000

acres to 47.1 million acres. The average U.S. yield was flat at 43.6 bushels per acre. Total U.S. wheat use is projected to hold steady and maybe increase less than 0.5 percent to 2.02 billion bushels. While production and use are pretty much equal, ending stocks are expected to grow 21 percent to 911 million bushels after including 125 million bushels of imported wheat. U.S. exports continue to decline due to competition from other countries. Global wheat production continues to grow, as well as ending stocks. With plenty of wheat in the market and a stronger dollar, U.S. wheat is trading at a price disadvantage. The 2016 outlook for wheat shows total acreage being down, with winter wheat seeding down 7 percent at 42.41 million acres and soft red winter wheat seeding down 16.4 percent to 7.1 million acres.

Wheat prices in 2016 will be lucky to have a "$5" in front of them for much of the year. Any price improvement will likely come from a world production event or major disruption in trade. There are some concerns over production and geopolitics in the Black Sea and Middle East regions, but there is enough world carryover that such an event is not likely to significantly affect prices.

Soybeans

Georgia soybean production was up in 2015, as growers planted 30,000 more acres and harvested a record yield. The projected average state soybean yield is 44 bushels per acre, four bushels better than the 2013 record. U.S. soybeans also set a new record for yield and production in 2015. Plantings dropped by only 100,000 acres from the 2014 record to 83.2 million acres. Harvested acres dropped 200,000 acres to 82.4 million acres. The U.S. average yield is pegged at a new record of 48.3 bushels per acre. The resulting U.S. soybean production is projected to reach a new record of 3.98 billion bushels, surpassing the 2014 record crop of 3.93 billion bushels.

The 3.86 billion bushel record for total soybean use was set in the 2014-2015 marketing year due to strong exports and crush. While 2015 production is higher, total use is expected to decrease due to a drop in exports. The USDA is projecting a total use of 3.74 billion bushels, with domestic crush projected to increase 1 percent to 1.89 billion bushels. This would be a record crush figure. Soybean meal export commitments are at a record high and will be supportive of meal demand as long as shipments can be met. Demand should also grow with an increase in livestock numbers. Exports are projected to decrease 7 percent to 1.72 billion bushels, or 46 percent of total use. Ending stocks will quickly build up to over 465 million bushels, almost two-and-a-half times the previous year. Ending stocks were projected to reach these levels last year, but China continued to buy U.S. soybeans and South America had export problems.

South America had a big crop last year, and has the potential for a big crop based on increased acres. Global production of soybeans is projected to increase 1 percent to a record 321 million metric tons. The U.S. competes with South America for exports to China. China accounts for two-thirds of global imports. The U.S. and South America account for over 80 percent of global exports. The record crops will grow global ending stocks by 7 percent to 83 million metric tons.

The big factor – besides two years of large world production of soybeans – is the strength of the U.S. dollar. It has grown relative to Chinese yuan, but the Brazilian real has also fallen around 40 percent relative to the dollar, making their soybeans significantly cheaper. Soybean acres in 2016 will likely decrease in the U.S., with corn prices having found their bottom and soybeans still searching for one. Georgia may decrease soybean acres, but tight margins might also keep soybean acres stable due to the lower cost of production. U.S. soybean acreage in 2016 is expected to remain above 83 million acres, with current prices. An increase will come from corn, but some cotton acres in the South could again shift to soybeans. The combination of high costs and low prices will put pressure on cash flow. Some growers may be forced to go with more soybeans due to financing. The USDA projection for the 2015-2016 crop average price ranges between $8.15 and $9.65 per bushel. The futures price for 2016 has traded around $9 per bushel. Farmers need to pay attention to pricing opportunities this winter and spring, and take advantage of rallies. Once the crop is planted and the production is better known, soybeans are likely to follow a seasonal pattern of declining into harvest. ▪

Vegetables

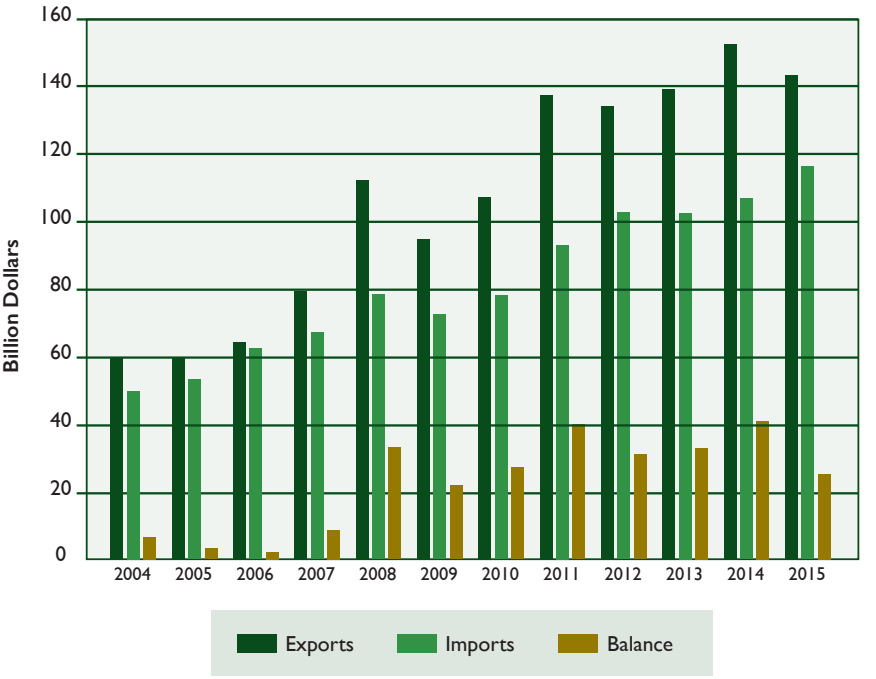
By Esendugue Greg Fonsah

Vegetables and Pulses

In the 2014 farm gate report, Georgia vegetables stood at more than $1 billion compared to a decade ago when the figure was barely $600 million. The Georgia vegetable industry's dynamism is evidenced by this rapid growth in a short space of time. For instance, U.S. Department of Agriculture National Agricultural Statistics Service and University of Georgia Center for Agribusiness and Economic Development reports show that Georgia vegetable production is ranked among the best in the nation. Georgia is ranked second in cucumber and spring onion production, third in sweet corn and watermelon production and fourth in bell pepper, snap bean and cantaloupe production. Among the principal reasons for this success are superior planting materials, development of disease-resistant cultivars, precision agriculture, better irrigation management and water use practices, improved mulching technology and an excellent Cooperative Extension delivery support system. Despite the drought and water availability problems in California, a primary vegetable- and pulse-producing state, total vegetable production in the U.S. still increased by 5 percent last year, and this increase is expected to continue into 2016.

For the past decade, the U.S. has been enjoying steadily fluctuating, but increasing, agricultural trade balances (Figure 1). For instance, in 2006, U.S. exports and imports totaled $68.6 billion and $64 billion respectively, with a positive balance of trade of $4 billion. In 2014, export and import trades totaled $152.5 billion and $109.5 billion respectively, generating a balance of $43 billion (Figure 1).

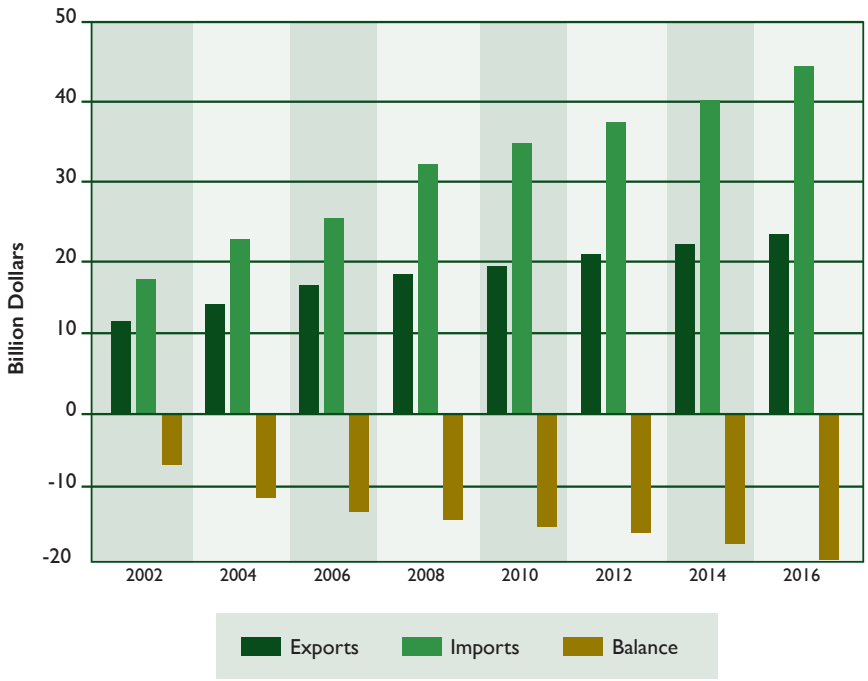
Figure 1: Trend in U.S. Agricultural Trade, 2004-2015



Source: Outlook for U.S. Agricultural Trade, AES-59, page 1. Aug. 28, 2008. U.S. Department of Agriculture Economic Research Service and Foreign Agricultural Service, fas.usda.gov

While the overall U.S. agricultural trade balance – export balance minus import balance – looks pretty good, the reverse is true for horticultural produce, as the sector has been experiencing increasing negative trade balances during the same time period. On a global scale, U.S. vegetable and pulse exports continue to increase, but not as much as imports (Figure 2). For instance, in 2002, total horticultural exports were worth $11.4 billion, whereas imports were worth $18.3 billion, hence a negative $6.9 billion balance. Since 2002, the negative horticultural trade balances have consistently been increasing. In 2014, U.S. exports were $22.5 billion compared to $40.5 billion in imports, thus generating a negative balance of $18 billion (Figure 2). ▪

Figure 2: Projection of U.S. Horticultural Trade, 2002-2016



Source: Outlook for U.S. Agricultural Trade, AES-59, page 1. Aug. 28, 2008. U.S. Department of Agriculture Economic Research Service and Foreign Agricultural Service, fas.usda.gov

Beef

By John McKissick

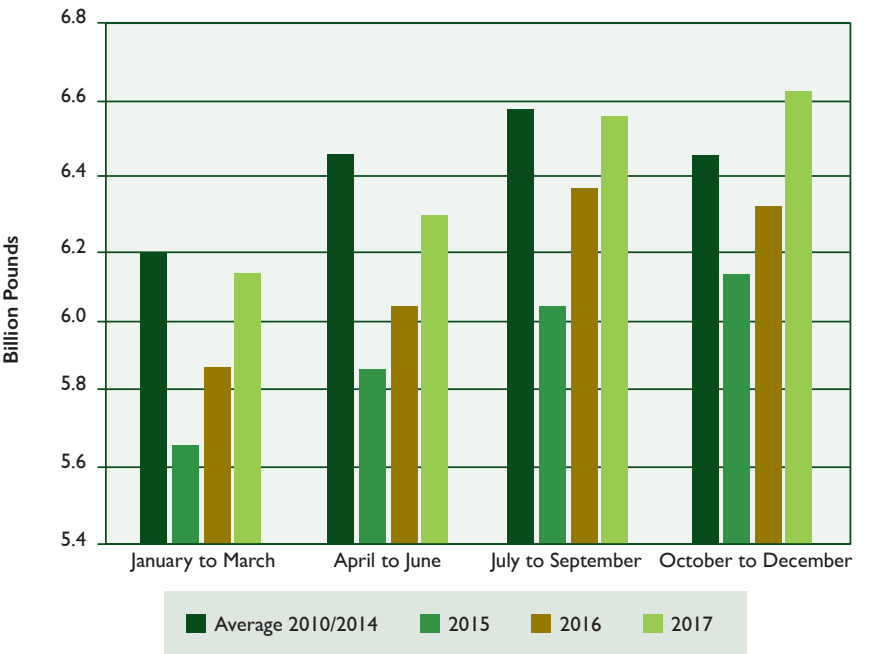
In 2015, the beef industry turned the page on the beef supply reduction phase of the so-called beef cycle. In late 2015, beef supplies began to grow for the first time in nine years, and beef cattle prices retreated from the record high prices of 2014 and early 2015. While the price transition was more sudden than expected for several reasons external to the beef cycle, the reality is that the next several years will see growing beef herds and more feeder calves on the market. Most Georgia producers are questioning how much further calf prices will fall. At this point, 2016 may shake out to be another relatively profitable year for calf producers, as the bulk of 2014 and 2015's expansion will not hit markets until 2017. Calf prices could be only moderately off the records of 2015 by spring 2016, as the factors responsible for the sharp, year-end price drop will likely ease. After 2016's spring seasonal highs, calf prices should gradually decline to levels around 2015's fall price, provided the market can avoid some of the pitfalls encountered in the last half of 2015. Thus, 2016's calf markets would have a normal, seasonal year, with high spring prices $30 to $50 per hundredweight (cwt.) below 2015's record and moderately declining to around $5 to $10 per cwt. or less, below this past fall's steeply discounted prices.

The beef cow inventory is the driver of available beef supplies and the factory. The cow-calf man's profit cycle, combined with dry weather across much of cattle country, produced continued cow herd liquidation through early 2014. But, with record profits in the books for a few years, cattlemen across the country were eager to expand herds. Replacement beef heifers were up 4 percent in mid-2014 and another 6.5 percent in mid-2015. Expansion reduces an already depleted beef supply, as retained heifers and some older cows don't show up as beef on the market. In time – about three years – the currently retained heifer's progeny will be on the market and beef calf supplies will gradually rise again. This is the cattle cycle and its effect will be assurance of relatively low beef calf availability into 2017.

The 2014-2015 price optimism caused cattle feeders to bid record levels for feeder calves, betting on prices continuing to climb. Once fed cattle prices started retreating, cattle feeders responded by holding cattle longer, waiting for better prices to erase some of their losses. Delayed feedlot marketing during the summer resulted in a severe finished cattle backlog and record high market weights. The results were predictable: when the cattle had to go to market, the purge resulted in severe fed cattle price pressure and a record year of losses for cattle feeders. By year's end, feedlots were gradually marketing their way out of the mess and market weights were beginning to retreat. The red-ink bath made feeders leery of replacing cattle and pushed feeder calf prices sharply lower. The fed cattle backlog will likely not be fully cleared until late winter or early spring of 2016. By that time, the industry may more clearly see that there are fewer cattle to place in feedlots and some strength should return to both the feeder calf and fed cattle markets.

The import/export balance has also supplemented beef supplies. As U.S. beef reached record price

Figure 1. Commercial Beef Production
U.S. Quarterly



Source: University of Georgia and Livestock Marketing Information Center

levels, foreign beef suppliers pushed more beef into U.S. markets, making U.S. beef less attractive abroad. The strength of the U.S. dollar relative to other world currencies has also worked to make U.S. beef even more expensive as exports and imports even more attractive. Overall, 2015 beef exports were down by about 14 percent and imports up by 16.5 percent as compared to 2014. The result was an additional 3.5 percent of beef added to U.S. supplies. The net import margin was upward of 7 percent during the fall, just as the heavyweight fed cattle backlog reached its peak. While the general types of beef we import and export are different, there's still more beef to market with obvious price impacts. The export/import balance should be somewhat more favorable in 2016, but will still remain historically large, providing only slight beef price support.

Table 1. Beef Outlook Summary

	2014	% Change	2015	% Change	2016	% Change
Beef Production (Million lbs.)						
I	5,868	-4.97	5,664	-3.5	5,868	+3.6
II	6,184	-5.06	5,855	-5.3	6,020	+2.8
III	6,179	-6.50	6,066	-1.8	6,370	+5
IV	6,021	-6.26	6,136	+1.9	6,323	+3
Year	24,252	-5.71	23,721	-2.2	24,581	+3.6
Net Beef Imports (Million lbs.)						
Yearly	374	+210	1,209	+223	620	-48.7
Price (Cost per cwt. for 500-lb. to 600-lb. steers, Georgia auction markets)						
I	$184.12	+18.86	$259.82	+41.1	$200	-23
II	$206.95	+49.53	$261.11	+26.2	$206	-21.1
III	$238.35	+64.21	$226.52	-5	$197	-13
IV	$258.68	+61.17	$181.94	-29.7	$185	+1.7
Year	$222.03	+48.28	$232.35	+4.6	$197	-15.2

Beef Demand and Impacts

Competing meat supplies and prices will have a negative impact on beef demand in 2016 and 2017 as broiler and pork producers continue expansion, although at a more moderate rate. 2016 broiler production will be up again 2 to 3 percent after a 5.5 percent year-over-year 2015 gain. Needless to say, broiler meat prices will be lower and even more competitive in the meat case. Pork producers also added to the growing meat mountain by managing to produce 7 percent more product in 2015. The rebound in pork production was achieved primarily through a rebound in pig production from 2014's pig-robbing virus. Pork producers are likely to produce around the same level in 2016 as in 2015. Total meat supplies will be up by at least 3 percent in 2016. Since all meats have experienced declining exports as a result of a host of economic factors, the amount of meat competing in domestic markets for consumers' dollars will lead to even more competition and price specials. While beef doesn't compete directly with other meats, the growing record total meat supplies will certainly dampen beef demand to some extent.

Other long-term beef demand concerns were uncovered in 2015. Several publications ran headline stories on beef safety and red meat's alleged negative health impacts. Beef demand, as properly measured, has held remarkably well during the period of record beef prices. At this point, it does not appear that there will be long-term negative repercussions from these "studies" on beef demand. But, as beef supplies grow and supplies of competing meats balloon, beef producers and processors need to do all within their power to produce safe, high quality beef. A fall in beef demand would be a severe blow to beef cattle prices in the face of expanding beef cattle numbers.

Beef Prices and Profitability

Georgia's efficient cow-calf producers should reap profitable years in both 2016 and 2017, barring unforeseen increases in input costs. Profits will be much lower than in 2014 and moderately off of 2015's level. Those producers who have made recent high price investments in the business or who are not producing calves as efficiently as possible through best management practices will be hard-pressed to recover their true total cost of production. Prices are likely to show more normal trends, peaking in spring and declining into yearly fall lows. The return to normal, seasonal price trends presents opportunities for astute producers stockering or maintaining ownership through fall/winter stockering programs. ▪

Pork

By John McKissick

The 2015 pork industry survived a two-year roller coaster ride in relatively good profit fashion. 2014 saw pig numbers take a dive due to porcine epidemic diarrhea virus (PEDV). On the strength of the reduced pork supply, 2014 pork prices reached record highs. Those producers with pigs reached record profitability due to the return of relatively low feed costs. Once PEDV was out of the way, 2015's production surged as the industry returned to highly productive pigs-saved-per-litter levels. As production surged, prices fell significantly, dropping producers into the red during part of early 2015, despite low feed costs and the improved production. 2015's price drop was dramatic from the previous year, but unlike beef and poultry, pork exports remained strong, helping to salvage industry profitability for most of the year. 2016 will likely bring more of the same for the industry. Price and profitability risks will revolve around export uncertainty, the return of PEDV and large and growing competing meat supplies.

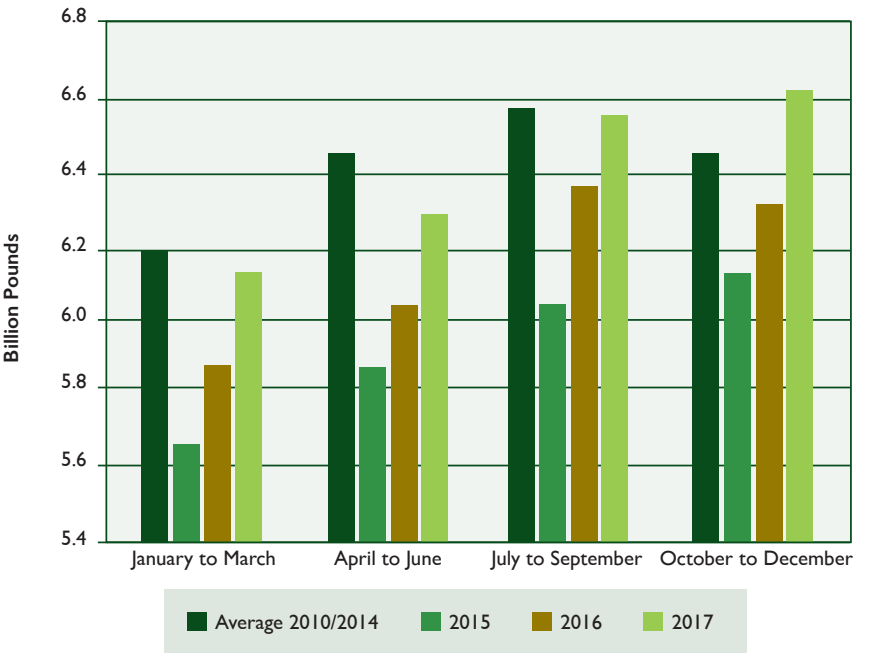
Pork Supplies

The U.S. Department of Agriculture's September 2015 Hogs and Pigs Report revealed record large inventories of both market hogs and of all hogs. The report also revealed producer desires to farrow more sows during the last months of 2015 and early 2016. The report suggests that at least a few more pigs will be coming to market in 2016 than in 2015. PEDV is in the rearview mirror, as the last three inventory reports indicated the number of pigs saved per litter setting new quarterly records. A return of PEDV for the 2015-2016 winter could be a major negative pig production factor for 2016. There had been industry concerns that pork processing capacity could be stretched thin by the additional late 2015 and 2016 pigs coming to market, a factor that would weigh heavily on producer prices. However, the estimated 2.45 million head per day U.S. capacity seems adequate for the levels estimated from the latest pig production reports. Producers have also been taking advantage of adding more weight to each pig in 2015, although trending toward more normal market weights per animal. Market weights seem to be settling in two to five pounds less per animal than in 2014. With more pigs coming to market and with weights per animal moderating, pork production through 2016 will be slightly higher than in 2015, provided PEDV does not return.

Pork Demand

Pork exports were a real bright spot for the industry in 2015. For the first half of 2015, exports were up 7 percent over the previous year's levels, despite the strong dollar relative to other world currencies. Major gains in exports were made with Mexico, our largest importer, and Japan, South Korea and China. Apparently, pork has been better positioned than other meats to withstand the global economic volatility, despite increased competition from European Union pork displaced by trade bans from the Russian market. A repeat 2016 export performance is expected, with some good reasons to believe exports may be even stronger. For instance, China, the world's largest pork producer, has liquidated most noncommercial and small pig herds in the last year.

Figure 1. Commercial Pork Production



Source: University of Georgia and Livestock Marketing Information Center

While some of the reduction has been replaced by productivity gains, the implications are still uncertain.

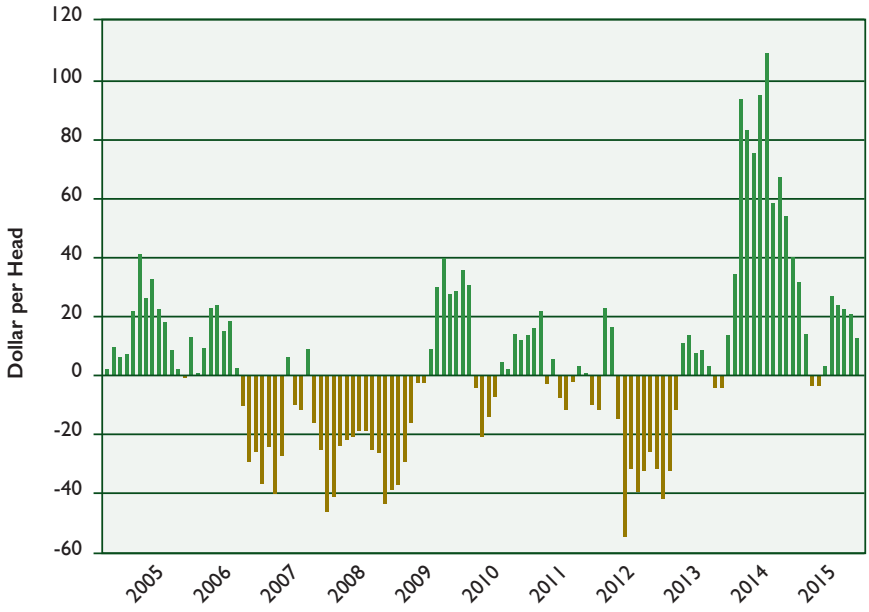
Competing meat supplies and prices will be a negative demand factor in 2016 as broiler producers continue expansion, although at a more moderate rate in 2016. 2016 broiler production will be up again 2 to 3 percent after a 5.5 percent year-over-year 2015 gain. Needless to say, broiler meat prices will be lower and even more competitive in the meat case. Unlike in 2014, beef producers began expanding herds and significantly increased production per animal in 2015. By the final quarter of 2015, beef production was up over 2 percent. Beef producers were providing cover for expansion in the remainder of the meat complex, as production was constrained by herd liquidation. From 2016 forward, beef will present more competition in the meat case, as beef producers turn their sights toward expansion. Next year, beef prices will show the first retreat from record retail prices in many years.

Even with the barrage of competing meats, U.S. pork demand has held at respectable levels. Demand for some products has been remarkable. For instance, bacon-producing pork bellies have continued strong and continue to support wholesale values. Most other pork products have only reflected declines in value in line with those expected from increased production. A steady 2016 domestic pork demand will be key for pork producers to continue industry profitability.

Pork Prices and Profitability

2015's prices were off 2014's record levels by over 20 percent as the industry recovered mightily from PEDV. Forecast production and demand should result in 2016's producer prices only slightly lower than in 2015. If pig production is not hampered, and if producers reach intended farrowing levels, prices could be a few percent lower in all but the first quarter of 2015. The best chance for better-than-expected prices would seem to come from further improved export possibilities and/or lower pig production. Even with slightly lower prices, producers should expect most of 2016 to be profitable, provided no major feed cost price shocks occur. ■

Figure 2. Iowa Market Hog Profit (Farrow/Finish, Monthly)



Source: Iowa State University

Table 1. Pork Outlook Summary

	2014	% Change	2015	% Change	2016	% Change
Pork Production (Million lbs.)						
I	5,785	+0.17	6,161	+6.5	6,150	-0.2
II	5,504	-0.22	5,925	+7.6	5,945	+0.3
III	5,423	-3.54	5,950	+9.7	6,175	-3.8
IV	6,140	-2.14	6,545	+6.6	6,655	+1.7
Year	22,852	-1.44	24,581	+7.6	24,925	+1.4
Pork Exports (Million lbs.)						
Yearly	4,857	-2.7	5,225	+7.6	5,225	0.0
Price (Dollar per cwt. national base 51% to 52% lean, live equivalent)						
I	$68.69	+16.36	$48.47	-29.4	$49.00	+1.1
II	$85.40	+30.46	$53.20	-37.7	$52.00	-2.3
III	$83.30	+18.01	$54.59	-34.5	$52.00	-4.7
IV	$77.74	+27.21	$48.00	-38.3	$47.00	-2.1
Year	$78.78	+23.00	$50.82	-35.5	$50.00	-1.6

Poultry

By John McKissick

The story of the 2015 poultry industry was shaped by the highly pathogenic avian influenza (HPAI) outbreak as well as broiler producers' return to overly aggressive expansion following industry profitability. Going into the year, continued profit prospects were well founded, based on previous industry production restraint and a return to a "new normal" of relatively low feed cost. The second quarter's HPAI onset, which broke out in the upper Midwest, significantly impacted egg and turkey production. All poultry exports were negatively impacted as importing countries used HPAI concerns to restrict imports. The broiler industry was much impacted by the export restraints, but was little impacted on the production side. Thus did the perfect storm of accelerated broiler production expansion and significantly reduced exports produce a sinking broiler price ship in 2015's second half. By year's end, it was a tale of two worlds: turkey and egg producers with product were smiling while broiler producers were trying to stay ahead of the price spiral. With the industry continuing to face uncertainty on all fronts, 2016 should be another challenging management year.

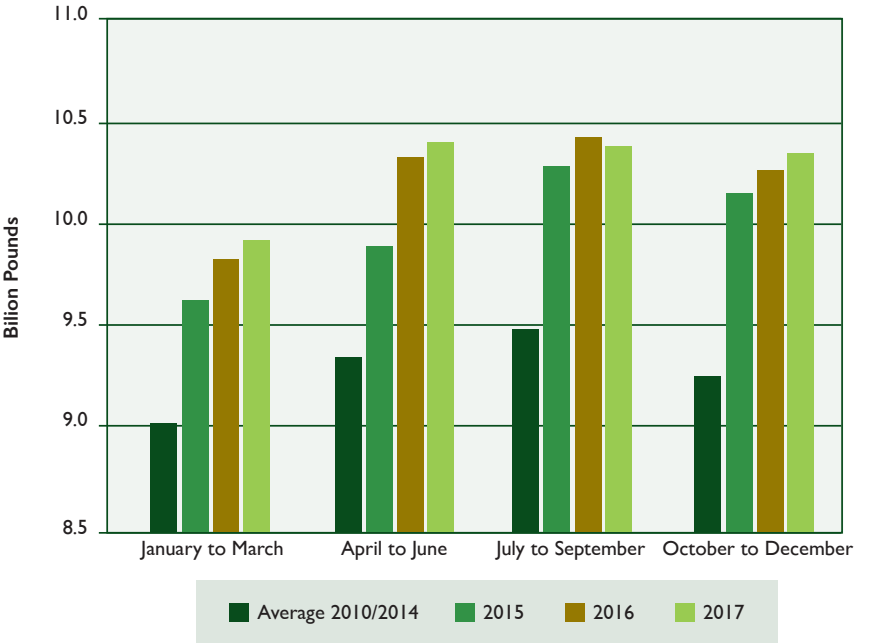
Broiler Profit Outlook

While broiler producers were unexpectedly restrained from responding to profitability through the first half of 2014, the restraint was short-lived and boosted by very favorable cost/price margins during the first half of 2015. Producers returned to a pattern of excessive expansion by doubling the industry's prior year production forecast, producing about 4.5 percent more broiler meat during the first three quarters of 2015. The production increase came as a result of more birds being produced and of added weight to the birds. By the final quarter of 2015, producers moderated the rate of expansion, but were still producing 2 percent more broiler meat. As a partial result of the 2015 first-half expansion, broiler prices spiraled downward, registering declines of 20 percent or more from the previous year's record prices. For the year, 2015's broiler price will come in some 15 cents per pound lower than 2014's record, and the lowest since 2013.

By the last few months of 2015, producer confidence in sustaining attractive profits was waning, and production moderation was beginning to become apparent. It is likely that producers have simply exhausted the capacity in their production complexes and will gradually move to lengthen time between growers' broiler flock placements to more normal levels. 2016's production is expected to come in somewhere around 2 percent above 2015's production, with slightly more birds harvested as well as more production per bird.

The percentage of U.S. production that broiler exports represent will be the lowest since 2007 at slightly over 16 percent. The absence of export business with Russia and China due to announced HPAI concerns once again shows the vulnerability of producers of broilers, the U.S.'s largest meat export item, to political squabbles and restrictions stemming from avian influenza outbreaks. Also, all U.S. exports are made more expensive to overseas customers with the stronger U.S. dollar relative to other world currencies. The prospects for some moderate 2016 broiler export gains appear to be positive. However, risk remains high that exports can once

Figure 1. Ready-to-Cook Broiler Production (U.S. Quarterly)



Source: U.S. Department of Agriculture National Agricultural Statistics Service, compiled and analyzed by the Livestock Marketing Information Center

again be jolted by unforeseen world and domestic events and avian disease events, such as HPAI.

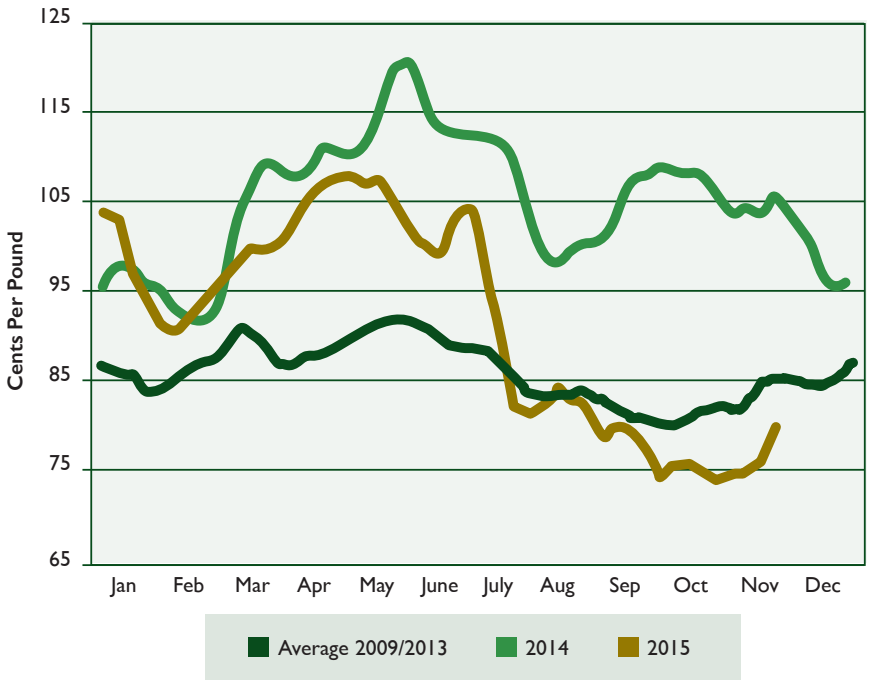
The loss of exports has particularly impacted dark meat demand, especially legs, resulting in significant price declines and swollen cold storage supplies. Frozen storage supplies of thighs, legs and thigh quarters in the third quarter of 2015 ranged from 40 percent to 66 percent above the year earlier. In the face of increased production, prices for these products will continue well below average levels to encourage consumption. Breast meat prices and storage stocks have reflected the increase in production, as these products are not heavily demanded in the export market.

2015's per capita domestic broiler meat supplies (production net of exports) increased by about 6 percent, about 2 percent more than the growth in production, as exports declined. The size of the increase, measured by the size of the population, explains most of the rapid slide in the broiler market price. 2015's per capita supply growth rate was more than double any year in the last decade! With some improvement in 2016 export rates, per capita supplies will increase slightly less than the percentage change in year-over-year production. Still, 2016 per capita broiler supplies are forecast to increase by 1 percent, or about a pound per person, over 2015's record amount to more than 89 pounds.

The forecast levels of production combined with demand should result in 2016's implied whole bird values being about 2 to 3 percent lower than 2015's price if the rate of expansion moderates as the year progresses. Prices are likely to run 15 to 20 percent behind 2015's first-half price before showing double digit year-over-year gains the last half of 2016. If the forecast levels hold, price for the year would remain in the upper 80s for most of the year, with the lowest prices occurring at the beginning of 2016.

After several years of "banked" profits, broiler producers will continue to dip into reserves throughout 2016. Any further deterioration in either broiler price or feed cost will put the broiler producer one step closer to the profitability cliff. Uncertain world stability and economic fears, particularly abroad, could also bury the industry in the red. The history of the broiler industry has been one of aggressive growth when faced with exceptional cost and return margins. Last year, it seemed the industry had learned its lesson, moving at a slower, but steady, pace. 2015 proved this forecast premature. ▪

Figure 2. Broiler Prices (National Composite, Weekly)



Source: USDA Agricultural Marketing Service Livestock Marketing Information Center

Table 1. Broiler Outlook Summary

Year	2012	2013	2014	2015*	2016*
Broiler Production (Million Pounds)	37,039 -0.4%	37,830 +2.1%	38,550 +1.9%	40,037 +3.9%	40,925 +2.2%
Exports (Million Pounds)	7,274 +4.3%	7,345 +1.0%	7,301 -0.6%	6,593 -9.7%	7,100 +4.3%
Per Capita Supplies (Pounds)	80.4 -3.0%	81.9 +1.9%	83.3 +1.7%	88.3 +6.0%	89.1 +0.9%
12-City Price (Cents per Pound)	$86.60 +9.6%	$99.70 +15.1%	$104.90 +5.2%	$90.00 -14.2%	$87.50 -2.78%

Source: USDA and the University of Georgia

*Forecast

Dairy

By Tommie Shepherd

The Big Picture: Global Markets Will Impact the U.S. Dairy Industry

The most consistent thing about the dairy industry over the past decade has been change. Change in the areas of domestic supply and demand, global markets and government support programs has resulted in unprecedented price volatility for U.S. dairy farmers at a time when they are increasingly exposed to risks posed by changes in global markets. In general, the U.S. dairy industry continues to follow two- to three-year cycles of record high milk prices, which encourage increased milk production. This, in turn, leads to a collapse in prices and declining production, which completes the cycle by pushing prices to new record highs. It is, therefore, difficult to discuss the dairy outlook for a single year without considering the preceding years of that production cycle.

During 2013 and 2014, U.S. dairy markets were subject to a series of milk and dairy ingredient price increases that were driven by international demand from countries like Russia and China. At the same time, production in major dairy exporting regions, such as Australia and New Zealand, declined significantly due to severe drought conditions. By 2015, the situation reversed as China's purchases slowed and Russia embargoed many food imports, including dairy; meanwhile, production rebounded in Australia, New Zealand and parts of the European Union. This global increase in supply, coupled with a decrease in demand and a strengthening U.S. dollar, which made exports more expensive and thus less competitive, resulted in growing stocks of U.S. dairy products and a severe decline in farm milk prices as U.S. prices moved in step with declining world prices.

At the end of 2015, the outlook for 2016 largely appears to be a continuation of those forces that shaped the industry in 2015, reinforcing the two- to three-year price cycles that have characterized the industry for the past decade. There are, as always, a number of unknown factors that could alter the length and depth of the current downward price cycle. Reduced profitability during 2015 is likely to be taken into account in the form of reduced production in 2016, slowing the rate of increase in milk production and thus preventing further price erosion. Also, many international buyers who were priced out of the market in 2013 and 2014 due to high prices may return. Major importers like China may also begin to work off accumulated stocks of manufactured dairy products and return to the marketplace to rebuild those stocks at prevailing lower prices. Weather patterns, which affect milk production both directly and indirectly through feed and forage production, are, as always, the great unknown in the milk production equation.

How Will the U.S. Fare in 2016?

As previously noted, U.S. milk prices are increasingly influenced by global market conditions as the industry becomes more and more reliant on export markets to absorb increasing domestic production. U.S. exports of manufactured dairy products declined nearly 25 percent from 2014 to 2015. Milk price volatility is somewhat one-sided, with prices tending to fall much faster than they rise. The result is that production response chases price changes with a significant lag. Producers ramp up to produce more milk when prices are high, as in 2013 to 2014, but are slower to cut back when prices fall, as in 2015. In the U.S., milk production finally began to respond to lower prices during the second half of 2015. Cow numbers, which increased rapidly throughout 2014 and early 2015, though not yet declining, were at least growing at a slower pace during the second half of 2015, and productivity per cow was nearly flat. These are trends that are expected to continue through at least the first half of 2016, as low milk prices persist.

U.S. consumption of fluid milk has been flat for more than a decade. Milk that is not consumed in fluid form must be processed into manufactured dairy products that can be stored and sold at some future date. When exports decline, as noted above, stocks of such products build and place downward pressure on farm milk prices. Fortunately, domestic demand for cheese, butter and, more recently, yogurt has increased over the past decade, helping to reduce stock buildup and support farm level prices, a trend that shows no signs of abating. A continued strong domestic demand for these products, along with slowing milk production, will offset some of the shock of reduced exports and the high exchange rate that is currently reducing U.S. competitiveness in world markets.

Going into 2016, the U.S. Department of Agriculture expects milk production for the year to be about 213 billion pounds, based on 9.305 million milking cows and an annual average production of 22,880 pounds per cow. The U.S. all-milk price, an industry benchmark, is projected to be $15.95 to $16.85 per

hundred pounds (cwt.) during 2016, compared to about $17 for 2015. Butter inventories going into 2016 are about 23 percent higher than year-earlier levels and cheese inventories are 13 percent higher. Consequently, the milk price outlook will remain bearish for at least the first half of the year as current inventories are drawn down and a surge of springtime production adds to existing stocks. Milk production increases, which slowed to around 0.5 percent in late 2015 compared to a long-run average annual growth rate of around 2 percent, will continue to be very modest going into 2016.

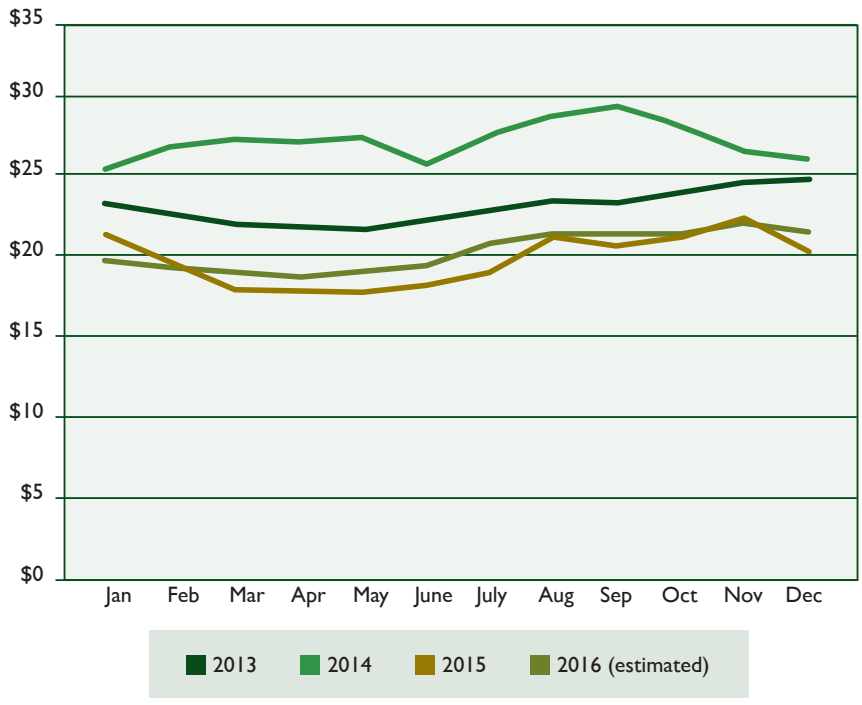
First-quarter price declines may be a bit more severe than futures market prices for Class III milk (cheese) and Class IV milk (butter) suggested at the end of 2015, given the quantities of cheese and butter stocks available to the market. First-quarter Class III prices may well drop below $15 for at least a short time before rising to the high $16 range by the third quarter and eventually breaking the $17 barrier by the fourth quarter of 2016. Dairy producers' bottom-line profitability in 2016 should benefit from continued favorable feed prices based on good forage availability and expected bumper crops of corn and soybeans in 2015.

What is in Store for Georgia Producers in 2016?

Georgia continues to be one of the strongest milk-producing states in the Southeast, given its unique geographic access to the Florida dairy market. Georgia dairy farms generated approximately $450 million in farm gate value in 2014 due to a combination of record high milk prices and production increases of around 7 percent over the prior year. Total farm gate value fell by about 18 percent to around $368 million in 2015 due to the nationwide collapse in milk prices. State production remained strong in spite of this price decline, continuing to expand, although at a more modest rate of around 4 percent. Georgia production will likely continue to grow in 2016, albeit at a rate of less than 4 percent as 2015 market conditions will persist well into 2016. The state will begin 2016 with approximately 220 dairies, which are collectively expected to produce about 1.7 billion pounds of milk during the year. The number of dairies in the state has declined substantially over the past decade, from 394 at the beginning of 2001 to 220 by the end of 2015. Losses have been primarily among smaller dairies milking 200 or fewer cows, while the number of dairies milking 750 or more cows has increased as the remaining farms grow larger. Following a period of steadily declining milk production between 2000 and 2010, production rebounded to 1.44 billion pounds in 2011 and increased to 1.69 billion pounds by 2015 as producers responded to a surge in milk prices. Georgia's dairy herd declined from 97,000 cows in 1996 to 77,000 cows in 2010, but recovered to 81,000 cows by 2015. Milk production has also received a boost through efficiency gains, with milk per cow increasing by nearly 20 percent since 2010, from 17,500 pounds per cow per year to around 21,000 pounds per cow per year today.

Georgia is located in the Southeast Federal Milk Marketing Order. As a part of the Federal Milk Marketing Order system, milk prices in Georgia are tied to national prices for manufactured dairy products and adjusted upward to account for the fact that the state is "milk deficit," or consumes more milk than it produces. Milk prices in Georgia, like prices nationwide, are expected to decline slightly from 2015 levels during the first half of the year before showing some recovery during the second half. Georgia dairy farmers received an average of about $20 per cwt. in 2015 and can expect about $20 to $21 per hundred pounds in 2016. ▪

Figure 1. Georgia Mailbox Milk Price (2013-2016 Total Per Hundred Pounds (Cwt.))



Agritourism

By Kent Wolfe

Agritourism is a commercial enterprise that takes place at working farms or agribusinesses that is conducted for the enjoyment or education of visitors and generates additional on-farm income for the owner. It represents a number of ventures, including farm stands, U-pick farms, farm stays, tours, on-farm classes, on-farm fairs and festivals, pumpkin patches, Christmas tree farms, winery weddings, orchard dinners, youth camps, barn dances, hunting or fishing, guest ranches, horseback riding, hunting and more.

Agritourism operators indicate that the added revenue received for inviting others to their farming operations helps them keep their farms viable, but they also feel it's about sharing the farming lifestyle with others. The desire of people to connect with their food and with nature will continue to drive the demand for agritourism in 2016. Tourists are traveling by car more often, taking shorter, last-minute trips and seeking to spend quality time with loved ones. All of these factors contribute to the success of agritourism destinations as they are ideal for speedy, local day trips during which visitors can enjoy new experiences together. Many of Georgia's agritourism operators reported increased numbers in 2015 and this is expected to continue into 2016.

The 2014 Georgia Farm Gate Value Report estimates that agritourism and nature-based tourism generated approximately $156 million, up from an estimated $142 million in 2013. The continued fall in unemployment and the improving economy should help to increase the demand for agritourism activities in 2016.

Married respondents with children are one of the most likely of any demographic to participate in agritourism opportunities. This group enjoys venturing out for an afternoon or daylong activity and tends to have children and be married. Women/mothers between 25 and 35 years of age are a key target market for the agritourism industry. The Travel Industry Association of America conducted a study and found that 87 million Americans visited a rural destination within the past three years, most often for leisure purposes (Brown and Reeder, 2007). The continued interest in how food is produced has increased the public's desire to meet farmers and processors and talk with them about their operations and food production. A working farm visit for many people, especially children, may be their first exposure to how food is grown, whether visiting a working dairy, corn maze or even a pick-your-own blackberry farm.

THREE PRIMARY ECONOMIC FACTORS THAT WILL IMPACT AGRITOURISM AND NATURE-BASED TOURISM IN GEORGIA IN 2016:

(1) Fuel Prices

Fuel prices have the potential to positively impact agritourism. Fuel prices have fallen significantly in the second half of 2015 and this trend is expected to continue into 2016. Given that school field trips are important to agritourism operations, anticipated lower on-road diesel costs in 2016 may benefit Georgia's agritourism. The U.S. Energy Information Administration projects on-road diesel prices will be lower in 2016 due to weaker global demand, increased global oil production and corresponding declines in crude oil prices. Consumers are benefiting from falling fuel prices and, given that car fuel efficiency has been steadily increasing, it will be less expensive for consumers to travel to agritourism destinations than it has been over the past couple of years. zLower fuel prices should have a positive effect on travel plans.

(2) Tax Revenue

According to the Georgia Budget and Policy Institute, the $21.8 billion budget proposed for Georgia's 2016 fiscal year projects general fund revenue growth of 4.8 percent, or $991 million. State revenues are back to pre-recession levels, there is a projected $280 million in additional K-12 funding and austerity cuts experienced in past years are being restored. This increase in funding may relieve some financial pressure on schools, allowing them to take field trips, which benefits agritourism.

(3) Unemployment

Georgia's economy continues to grow and is expected to grow by 3.3 percent in 2016, up from 3.2 percent in 2015. Anticipated strong job growth in 2015, continued rising home prices and continued stock market appreciation indicates that Georgia's economy will continue to expand. Unemployment was positive, but incremental. Georgia's unemployment level is expected to decrease to 5.4 percent in 2016. Importantly, the number of quality jobs will increase and a larger share of these jobs will be full-time, rather than part-time. As more people find jobs and more full-time employment, they will be more likely to visit agritourism operations.

Emerging Travel Trends

A new trend is emerging as people are trying to balance their work and nonwork lives. As a result of this trend, more business travelers are combining business with leisure in their trips, resulting in what's been termed "bleisure" travel. Bleisure travel involves people extending their trips over the weekend and often bringing spouses, significant others or the whole family along to enjoy their travel destination.

People are always connected to some type of electronic device and escaping work's demands can be difficult. Another emerging trend, called "silence tourism," involves getaways that prevent travelers from connecting to the outside world. There's a growing demand for vacation destinations where people can get away, walk in nature and not necessarily have access to Wi-Fi and cell service. Many travelers are now looking for peace and quiet on vacation, and agritourism operations can take advantage of this new opportunity.

Overall, domestic leisure travelers are still looking for escapes and places where they can spend time with family and friends. Agritourism offers a great means of generating new experiences. The improving economy and increased income, a fall in unemployment and strong tourism growth projects point to an increase in agritourism patronage in 2016. ■

Timber

By Nick Forsburg and Bob Izlar

Total demand for pine pulpwood[1] and grade timber[2] in Georgia increased through the first three quarters of 2015 relative to the same period in 2014. This follows the broader trend of higher observed demand for pine roundwood products across the South in 2015. In the third quarter of 2015, quarterly demand for pine grade in the South reached its highest level since the same period in 2008.

The overall macroeconomic outlook for next year is positive as a result of higher expectations for consumer spending and increased domestic demand for goods and services, in addition to lower unemployment. The strength of the U.S. economy is expected to be the driving force behind global economic expansion in the near term. Housing starts are a strong driver of Georgia's economy and are especially tied to the production of southern yellow pine lumber. U.S. housing starts in 2016 are projected to improve slightly over this year, which should benefit lumber producers and continue to increase demand for pine roundwood. While housing starts in 2015 will likely fall short of the 1.5 million units needed annually to support population growth and replacement of older homes, many economists believe that housing starts may approach this benchmark in 2016. The key factors influencing single-family home construction include employment levels, real wage growth and household formations. With the current unemployment rate declining below pre-recession levels and increasing competitiveness in the labor market, it is expected that household formations will soon grow at a higher rate. Issues such as growing levels of student loan debt and strict mortgage underwriting restrictions are believed to have limited household formations over the past few years. Other important economic indicators that drive demand for timber in the South, such as real gross domestic product (GDP) growth and energy prices, have been fair and should continue, with moderate growth in 2016.

Commodity Prices

Commodity prices were relatively disappointing throughout the summer and early fall of 2015, but are expected to moderate in 2016.

The Random Lengths softwood framing lumber composite price declined 1.9 percent in the third quarter to $320.33 per thousand board feet, following declines recorded in the previous three quarters. A strong U.S. dollar and declining overseas demand, primarily from China, has lowered both U.S. and Canadian lumber export shipments. With the expiration of the U.S.-Canadian Softwood Lumber Agreement (SLA) in October, there was a great deal of concern that increased lumber shipments from Canada would greatly outpace U.S. domestic demand and would further impact pricing going forward. Whether or not the expiration of the SLA will place further downward pressure on the composite price remains to be seen. Growth in U.S. housing starts in 2016 will be the most important factor in influencing pricing gains.

Pulp prices (Northern bleached softwood kraft pulp) averaged $967 over the third quarter of 2015, decreasing by 6.8 percent from a year ago. Although we have entered the traditionally strong fall season, the pulp market has seen little improvement in North American or international demand. The strength of the U.S. dollar also continues to affect global pulp market dynamics. Our outlook has pulp prices stabilizing at current levels due to lower-than-expected demand and surplus supply though year's end. Higher global economic growth in 2016 would increase demand for paper and packaging goods and put upward pressure on market pulp prices.

Southwide average stumpage prices for pine have been mostly flat throughout 2015 despite slowly increasing demand from Southern mills. Timber Mart-South reported a third quarter 2015 average Southern pine sawtimber price of $25.47 per ton, up modestly by 1.4 percent over the same period in 2014. The average pulpwood stumpage price was reported at $9.87 per ton, lower by 2.3 percent year-over-year. The current pine sawtimber stumpage price average is still roughly 35 percent lower than mid-2006, highlighting the slow pace of recovery in stumpage prices for Southern forestland owners. Local market conditions for stumpage vary. For up-to-date market prices, please check with local forestry consultants.

Demand Outlook

Demand for pine grade timber increased by 1.6 percent throughout the South since the end of the second quarter and is 7.1 percent higher than this time last year. Georgia has recorded increased pine grade demand each quarter of 2015. Despite improving demand for Southern yellow pine lumber in 2016, poor pricing for finished lumber pushed a number of mills to reduce production hours or take unscheduled downtime. Projections for increasing housing starts, further declining unemployment and unchanged diesel prices have our grade demand outlook

trending upward next quarter and in 2016. (See Figure 1.) Hardwood grade demand increased 0.6 percent in the third quarter and is 1.2 percent higher than this time in 2014. Tough markets for various finished hardwood products and species along with the strong dollar remain troublesome for producers.

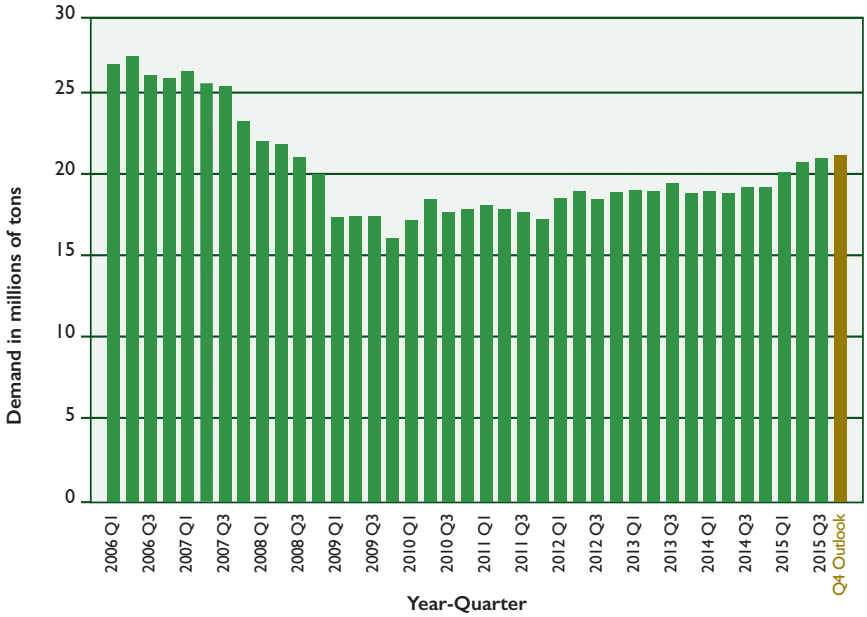
Timber inventory on the stump, especially pine grade, that was conserved and growing in the forest since late 2007 will likely dampen any significant price increases as timber demand recovers. However, timber supply may be constrained by logging availability and capacity, extreme weather events and energy price changes. These factors also may raise delivered timber prices, even with abundant timber inventory. Since 2009, major Canadian lumber-producing firms have almost doubled the number of facilities they own in the U.S. South. These long-term investments are being made because of the strong regional growth in housing as well as the quality of the forest resources available.

Pine pulpwood and woods-direct chips – delivered wood chips from in-woods chipping operations – demand increased 1 percent across the South last quarter.

Pine pulpwood consumption across the South continues to be driven higher by steady demand from pulp and paper mills in addition to rising demand from pellet producers. Demand for pulp used in newsprint and writing papers, the largest sector of pulp production, has been under pressure from the increasing popularity and use of e-books and tablets. However, this decline is expected to be offset by increasing production of paperboard and other paper products. Since worldwide population and economic growth are trending upward, demand for pulp consumer products, such as paper towels and napkins, is expected to be especially strong. Demand for oriented strand board, which is also produced from pulpwood-sized trees, is expected to rise as U.S. homebuilding activity continues to gain momentum. Existing and planned bioenergy facilities, including pellet mills, in the South may have a noticeable impact on prices and demand for pulpwood timber in wood baskets throughout the region. Global demand for U.S. pellets is expected to increase to roughly 26 million tons by the end of the decade, with a significant majority of the current and announced production capacity in the U.S. South[3]. Bioenergy projects will increase demand for wood-based raw materials and compete with the traditional forest industry at the local level, likely leading to higher timber prices. Some current operations are already starting to impact local market dynamics. Demand projections for 2016 have pine pulpwood and direct chip volumes reaching levels above those observed at the end of 2007 and beginning of 2008. At the local operating level, the aggregate impact will likely lift pulpwood prices.

Overall, the outlook for timber markets in the U.S. and, particularly, the South is positive with the potential to be driven higher by European demand for wood pellets and domestic housing construction in general. Forestland owners in the South and Georgia are well positioned to take advantage of increased demand for timber from a strong forest products manufacturing base that has benefited from significant capital investment in the past few years. Demand for primary timber products is expected to increase, and timber prices have a good chance of moderate growth. ▪

Figure 1. Pine Grade Timber Demand in the Southern U.S.



Source: Harley Langdale Jr. Center for Forest Business: Wood Demand Research Program

References
Freddie Mac, U.S. Economic Outlook.
Fannie Mae, U.S. Economic Outlook.
Wells Fargo Securities, U.S. Economic Forecast.
Random Lengths Publications Inc., Softwood Framing Lumber Composite Price Index.
Timber Mart-South, Third Quarter 2015 Price Report.
UGA Center for Forest Business, Third Quarter 2015 Wood Demand Report.
www.ugacfb.com/research/wdrp

Footnotes:
[1] "Pulpwood" is a common name for small-sized logs that, historically, have been used in primarily pulp production, but more recently have also been used for OSB and bioenergy production, particularly wood pellets.
[2] Grade timber includes large- and medium-sized logs that are primarily used in lumber production. Some portion of medium-sized logs, known as "chip-n-saw," are chipped and used in pulp production.
[3] "Effect of Policies on Pellet Production and Forests in the U.S. South." U.S. Department of Agriculture, Forest Service. General Technical Report SRS-202. December 2014. (http://www.treesearch.fs.fed.us/pubs/47281)

Honey Bees

By Jennifer Berry

This year, 2015, proved to be another unpredictable year for honey production in Georgia, even though early conditions seemed promising. Depending on location, the Piedmont region of the state experienced average to above-average spring nectar flows, with some locations seeing incoming nectar and pollen well into July. However, north and south Georgia spring flows were average to below-average, with estimates ranging from 10 to 15 percent below normal yields. Unfortunately, gallberry honey had, by far, the worst flow in years due to consecutive days of poor weather during bloom.

Prices for spring wildflower honey remained about the same, with slight increases ranging from 10 to 15 cents per pound. Early gallberry honey, on the other hand, was $2.30 to $2.50 per pound, up as much as 50 cents per pound. Gallberry is considered a good honey for packing since it is light in color and doesn't crystallize very easily. Due to the short crop, quantities of gallberry honey were difficult to find, which drove the prices up.

Higher-than-normal yields of cotton were harvested from mid to southern regions of Georgia, with honey prices remaining the same. Summer flows of sourwood honey were average to slightly above-average, with prices up $1 per pound.

Yields of tupelo honey, on the other hand, were extremely low to nonexistent. As experienced in 2014, ill-timed rainy weather was the culprit. Tupelo blooms for about two weeks, which is exactly when the rainy weather set in. The rains kept the bees in the hive as opposed to foraging in the field. Because of supply and demand, prices for tupelo honey almost doubled – $8 per pound as opposed to $4 per pound – because it was so difficult to find.

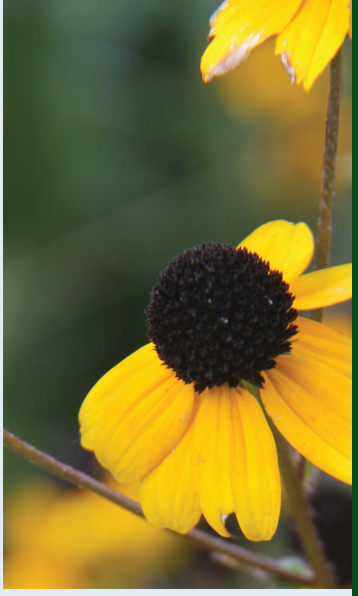
Similar to 2014, reports of colony failure have not been as pronounced as seen in previous years. Even though late spring and summer temperatures were above average, sunny weather allowed bees to forage day after day. Supplemental feeding is being reported in areas where flows were minimal to none and in colonies where too much honey was removed. It is highly recommended to feed colonies low on stores before cold weather sets in so they don't starve.

On the pest front, lower-than-normal levels of *Varroa destructor* have been reported. Also, colonies collapsing from these mites are lower than normal as well. National approval of another U.S. Environmental Protection Agency-labeled miticide, oxalic acid, will become available for purchase in Georgia hopefully early in 2016 from the sole distributor, Brushy Mountain Bee Farm.

Higher-than-normal small hive beetle (SHB) populations are being reported in the southern and northern regions of Georgia, possibly due to warm temperatures and moist soil conditions. In late summer, most beekeepers were administering mite treatments and applying other techniques to reduce pest population levels.

Public interest in beekeeping continues to increase, which has added backyard beekeepers along with sideliners and commercial operations to the state. A corollary is that the number and size of beekeeping clubs and associations have also increased. All of this is certainly due, at least in part, to all the media attention in recent years on Colony Collapse Disorder (CCD) and the importance of honey bees and pollination. This increase also results in a high demand in the market for queens, packages and nucleus colonies, which have seen steady increases in sales over the last several years. Indications are that the 2016 season will follow the same trend; some suppliers are already reporting anticipated shortages based on preorders before the end of 2015. However, prices across the board for packages, bees and nucleus colonies are not anticipated to increase too much due to the jump in price over these last few years.

The demand for pollination services looks somewhat promising for the upcoming 2016 season. Once again, truckloads of bees from Georgia will be heading west by mid-January, as fees for almond contracts will be slightly higher than last year. Beekeepers across the state and nation are still diligently trying to keep colonies healthy and strong in order to supply bees necessary for the almond-bearing trees and other pollinator-dependent crops. ▪



This valuable guide is provided as a companion to the 2016 Georgia Ag Forecast seminar series.

For more information, visit
georgiaagforecast.com

or contact

The Center for Agribusiness and Economic Development
203 Lumpkin House
University of Georgia
Athens, GA 30602-7509
706-542-2434

The College of Agricultural and Environmental Sciences Department of Agricultural and Applied Economics
301 Conner Hall
University of Georgia
Athens, GA 30602-7509

Georgia Ag Forecast is hosted and organized by

THE UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES

FARM BUREAU GEORGIA

AGRICULTURE AND COMMERCE 1776

In cooperation with the Georgia Agribusiness Council

Georgia Ag Forecast is a University of Georgia College of Agricultural and Environmental Sciences program made possible through an endowment from the Georgia Farm Bureau and support from the Georgia Department of Agriculture and the Georgia Agribusiness Council.

@UGA_CollegeofAg #AgForecast

facebook.com/UGACAES