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Georgia Farms and the 2007 DROUGHT

The showers on the week of Thanksgiving have provided only some temporary relief, but not complete deliverance, from the perils of the once-in-a-century drought being experienced in most of Southeastern United States. This year, water levels in Georgia's lakes and rivers (especially in North Georgia), have fallen to record low levels as precipitation during the past several months have been below (average) normal levels. These conditions have prompted several counties to impose water use restrictions to conserve water in the hopes that there will be enough water supply to last till nature re-fills our lakes and rivers.

This issue presents discussions of the effects of the current drought conditions on a number of Georgia farm enterprises. In July this year, the Center for Agribusiness and Economic Development (CAED) issued a publication that provided estimates of economic losses of the state's farm economy attributed to the drought from regional (geographical) and enterprise standpoints. This issue substantiates those CAED estimates with a detailed, updated discussion of production decisions and economic repercussions on a number of Georgia farm enterprises provided by our extension economists Don Shurley, Nathan Smith, Greg Fonsah and Curt Lacy in their respective commodity specialization areas. A separate article by Jeff Mullen discusses the increased irrigation needs and costs incurred by the drought-stricken farms.

COTTON

By Don Shurley

Georgia's cotton crop is estimated at 784 lbs per acre (USDA, November 2007). This compares to 818 lbs per acre last year. Despite the drought, the estimated 2007 yield is 25 lbs per acre above the 5-year "olympic average yield" of 759 lbs per acre (2002-06 throwing out the high year (2005) and low year (2002)). The estimated 2007 yield, however, is 40 lbs per acre below the 10-year trend yield of 824 lbs per acre.

Georgia farmers are expected to harvest 1.01 million acres of cotton. Based on November 2007 cash prices, the yield loss (estimated as the difference between the trend yield and current USDA estimated actual yield) would be equivalent to approximately $24.5 million in lint income and $3.2 million in cottonseed income.

Yield loss is also felt at the cotton gin. Yield loss means less cotton ginned and fewer bales. Losses in ginning and warehouse fees are estimated at $4.3 million.

Yield losses due to the drought, on average across the state, will be much less than anticipated. However, in addition to any yield impacts, effects of the drought were also felt through higher production costs—most notably increased number of irrigation applications and increased weed control costs. It is estimated that 35 to 40% of Georgia's cotton acres are irrigated. The exact amount of increased irrigation application is unknown. At minimum, many farmers had to apply additional irrigation to provide moisture for planting or to assist the crop to emerge after planting. Assuming on average an additional 3 to 4 applications, the added cost of irrigation on the 2007 cotton crop is estimated at a minimum of $10.5 million based on UGA crop enterprise budget estimates.

The major planting time for cotton is early to late May with the crop typically being 50% planted by mid-May. In 2007, due to the drought, the crop was only 22%

planted on May 13th. The crop is typically over 90% planted by June 1. In 2007, the crop was only 74% planted on June 3rd. Despite the dry conditions and being behind schedule, many farmers still attempted to plant due to uncertainties in prevented planting coverage from crop insurance.

Although the crop was delayed in planting due to dry soil conditions, timely rains in June and again late-season in August allowed the crop to progress. The crop, because it was late, also benefited from near perfect harvest conditions, which allowed late bolls to mature and pick without yield and quality losses.

Drought often results in lower fiber quality in addition to yield loss. 2007 is no exception. Although harvest conditions have been good, the drought has resulted in fiber quality losses in addition to yield loss. Income lost due to price reductions for fiber quality is estimated at $8.5 million.

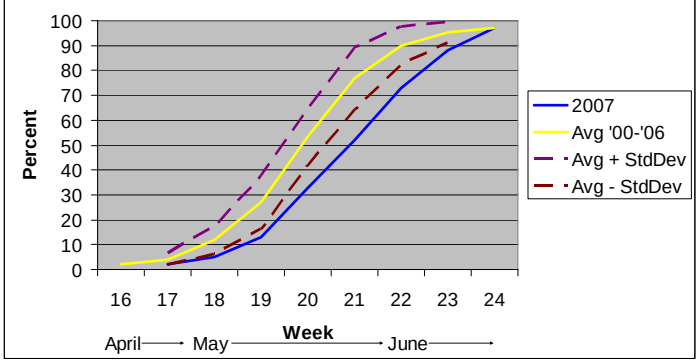
Due to higher prices and competition from corn and soybeans, US cotton acreage declined in 2007. Georgia acreage declined 360,000 acres (26%) in 2007. Cotton prices for 2008 are expected to be higher to compete for acreage. Corn did not fair well on non-irrigated acres in 2007. Because cotton preformed much better than expected despite the drought, some non-irrigated acres may shift back to cotton and/or peanuts in 2008. Also, because wheat prices are also high, farmers may consider double-cropping after wheat harvest. Because late-planted cotton performed well in 2007, in farmers' minds this again could favor cotton as the second crop rather than soybeans.©

PEANUTS, CORN, SOYBEANS AND WHEAT

By Nathan Smith

Georgia's grain and oilseed crops were planted during a persistent drought in 2007. After March 2nd, much of the state went two months without much rain before tropical storm Barry brought a significant amount of rain. The Okefenokee Swamp and adjacent forestland caught fire in mid-April, started by lighting. Drought conditions led to 441,705 acres burned in Georgia and another 122,745 acres burned in Florida. The Georgia Forestry Commission estimated over $60 million of privately-owned timber

Figure 1. Peanut Planting Progress 2000-2007



was lost. Farmers who farmed in the 1950's commented that the Spring of 2007 was the driest they had seen since 1954 when the previous largest recorded fire in Georgia took place in the Okefenokee. Rainfall in the first five months of 2007 ranged from 8 to 16 inches below normal for South Georgia locations. One North Georgia location was more than 18 inches below normal. Farmers faced these conditions during planting of their crops and by June, expectations of a crop disaster were prominent.

Flanders, McKissick and Shepherd reported preliminary estimates of production losses due to persistent drought in July, 2007 (CAED CR-07-10). Significant peanut and corn losses were projected to be significant with the peanut crop loss given as $92.5 million and the corn crop loss given as $63.1 million. These losses were reported by counties assuming yield potential in early June. Several thousand acres of cotton and peanuts were "dusted in" in hopes of rain while several thousand more acres were prevented from planting by the May 31 crop insurance deadline. Figure 1 shows the planting progress of peanuts for 2007 compared to a 7-year average. Plantings were well below normal for the entire season and were only 75% completed by the end of May. If not for tropical storm Barry bringing rain to much of the South Georgia on June 2 and 3, several thousand acres of peanuts would not have been planted at all. A total of 530,000 acres of peanuts were planted in Georgia this year and at least 100,000 were planted after June 1 according to crop progress. Any acreage planted to cotton or peanuts after May 31 is discounted in crop insurance coverage for each day past the deadline. Crop insurance companies, the Risk Management Agency and UGA Extension agents and specialists dealt with prevented planting questions and claims that were unprecedented in the South since prevented planting provisions were made available for crop insurance policies.©

FRUITS AND VEGETABLES

By Esendugue Greg Fonsah

The fruit and vegetable industry ranks 2nd in the Georgia's 2006 Top Ten Commodities, generating over $1.1 billion in farm gate value (GFVG News, 2007; 2006 Farm Gate Report). The extended drought condition in 2007 has been a cause for concern. Some counties are more affected than others. This also applies to the fruit and vegetable industry. The protracted drought has affected some industries more than others and some crops more than others.

In general drought can have both positive and potentially negative impact for the fruit and vegetable industry. Dry conditions are generally good for fruit production, but severe drought like the one we experienced in Georgia may have serious repercussions. For instance with fruits such as peach, blueberries, wine grapes, strawberries, apples and blackberry, there will be less fungal and bacterial diseases on the one hand and smaller fruit and tree stress which could lead to increased gummosis (for peach) and potential tree death. There will be heavy loss in terms of smaller fruits/quality and cost of replanting dead tress.

Some peach tree diseases have increased in other drought years, thus, the same trend is expected this time as well. Fungal gummosis and bacterial spot appear more pathogenic to the peach tree under the stress to the tree imposed by drought. The total yield of peach production tends to decrease when drought occurs especially during fruit development. There is also the potential that crop set can trend downward with an extended drought. About 40% of Georgia's peach acres have micro sprinklers or drip irrigation. If irrigated, the effect of drought will be minimal, otherwise, the impact will result to significant loss. On the other hand, the remainder 60% non-irrigated farms will be hard hit by the present drought condition in Georgia with significant loss now and in subsequent years.

Blueberries will benefit from less fungal disease but additional irrigation is required for bark bed plantings which will increase production cost significantly. Furthermore, yields will be affected and plants could die from lack of water thus incurring additional production cost for replanting and loss of income while waiting for the replanted plants to mature. Wine grapes and muscadines will benefit from less fungal diseases and increased grape quality (higher sugars which develops better wine), but vine stress can help promote trunk diseases such as Petri disease, and this can kill the plants over time. Generally grapes are drought tolerant but in extreme cases, the plants can die outright.

In southeast Georgia where onions are grown, the drought has had little impact. Onions as well as all other vegetables grown in this region are irrigated from deep wells. In fact, you cannot produce sweet onions without irrigation. There has been an increase in the construction of surface impoundments (ponds) in the last few years, which have shown changing levels with the amount of rainfall and has equally increased production cost. There is no chance that the wells will go dry in the South Georgia aquifers in the near future, but some well owners may have to lower their pumps or drill deeper to have secured supplies for irrigation. The situation is more precarious for North Georgia vegetable growers, but highly variable. Few have large capacity wells, but because these are in unconfined superficial aquifers, there is the possibility that shallower wells there will run dry if the drought conditions persist. The biggest impact of less recharge is pumping from deeper depths. Pumping fuel consumption increases as you have to lift the water further, so cost for electricity or diesel pumping increases. With already high fuel prices, the added consumption is being felt in the pocketbook.

Despite the drought, the fruit and vegetable industry is up and strong in terms of production, quality and yields. Vegetable production in Georgia is concentrated in the South. The use of irrigation in almost all the vegetable farms downplayed the impact of drought in the south. However, cost of production increased by about 20% as a result of the effect of drought that forced the growers to irrigate more than usual. Some growers experienced increase in cost of production as additional 4-5 spray were needed to control whitefly. The impact was more visible in northern Georgia where some growers of vegetable experienced about 50% loss in production for crops like cabbage, collards and pumpkins. The real effect will be seen in the next production year especially if the irrigation wells' water level remains low after the winter.©

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BEEF AND DAIRY

By Curt Lacy

The persistent drought has likely impacted the beef and dairy sectors more than other agricultural goods this year. The beef sector has been hit the hardest with higher input costs due to reduced forage production and lower production due to the environmental and nutritional stresses placed on the cattle. Finally, the drought in North Georgia has resulted in some cattlemen running out of water in the past few weeks. The combination of these factors has resulted in partial or total liquidations for many herds.

As of November 9, total cattle receipts from Georgia auction markets were 549,518 head, up 6.5% compared to the same period last year. However, these numbers do not tell the whole story. Beef cow marketings (slaughter and replacements) for the year are up 28,687 head, an increase of 28% compared to YTD 2006.

These marketings will have extended impacts as many herds that totally liquidated will not restock even after the drought is broken. UGA estimates that there will be an overall net reduction in beef cows held for breeding of 5-10% come January 1, 2008. In addition to herd reductions, it is almost certain that the 2008 calf crop will be smaller due to reproductive failures caused by the 2007 drought. Finally, as the drought persists, some pastures will suffer considerable damage and once rainfall does begin occurring, it will take several years for pastures return to their previous state.

The Georgia dairy industry has also felt the impacts of the drought. Higher hay prices and reduced forage production have increased feed costs considerably this year. However, these cost adjustments have been somewhat mitigated by record-high milk prices for much of the year. Otherwise, there would have likely been dairy cow liquidation similar to what we have seen in the beef sector.

Input prices, specifically hay and other forages are projected to set new record-high prices in 2007-2008. Hay stocks in Georgia and the Southeast were at all-time lows beginning 2007, with the reduced production and increased demand in 2007 have created a severe shortage of hay stocks. If the current weather pattern persists, it is quite likely that many areas of Georgia and the Southeast will run out of hay in January or March.©

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USDA DESIGNATES 10 GEORGIA COUNTIES AS PRIMARY NATURAL DISASTER AREAS

Decision Allows Farmers and Ranchers to Apply for USDA Assistance

WASHINGTON, Oct. 26, 2007 - The U.S. Department of Agriculture designated 10 counties in Georgia as primary natural disaster areas because of losses caused by drought that occurred on Jan. 1, 2007, and continuing. Those counties are:

Baldwin	Dooly	Jones	Muscogee	Talbot
Chattahoochee	Harris	Marion	Putnam	Washington

Farm operators in the counties listed below also qualify for natural disaster benefits because their counties are contiguous.

Bibb	Houston	Meriwether	Stewart	Upson
Crisp	Jasper	Monroe	Sumter	Webster
Glascock	Jefferson	Morgan	Taylor	Wilcox
Greene	Johnson	Pulaski	Troup	Wilkinson
Hancock	Macon	Schley	Twiggs	

In addition, farm operators in Chambers, Lee and Russell counties in the adjacent state of **Alabama** also qualify for natural disaster benefits because their counties are contiguous.

All counties listed above were designated natural disaster areas on Oct. 18, 2007, making all qualified farm operators in the designated areas eligible for low interest emergency (EM) loans from USDA's Farm Service Agency (FSA), provided eligibility requirements are met. Farmers in eligible counties have eight months from the date of the declaration to apply for loans to help cover part of their actual losses. FSA will consider each loan application on its own merits, taking into account the extent of losses, security available and repayment ability. FSA has a variety of programs, in addition to the EM loan program, to help eligible farmers recover from adversity.

USDA has also made other programs available to assist farmers and ranchers, including the Emergency Conservation Program, Federal Crop Insurance and the Noninsured Crop Disaster Assistance Program.

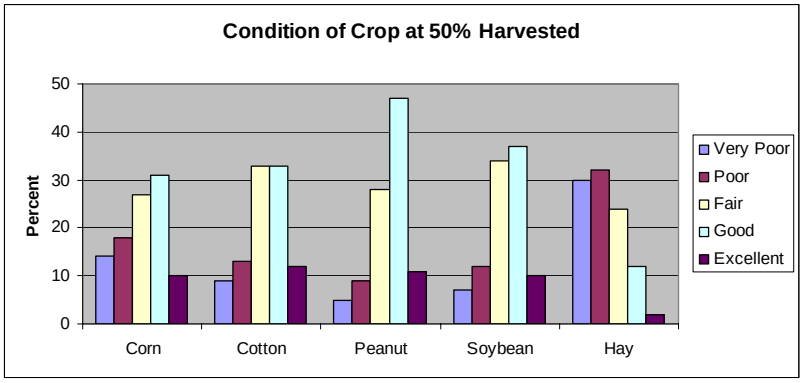
Interested farmers may contact their local USDA Service Centers for further information on eligibility requirements and application procedures for these and other programs. Additional information is also available online at: **http://disaster.fsa.usda.gov**.©

Preliminary Assessment of the 2007 Drought's Impact on Irrigation in Georgia

Jeffrey D. Mullen

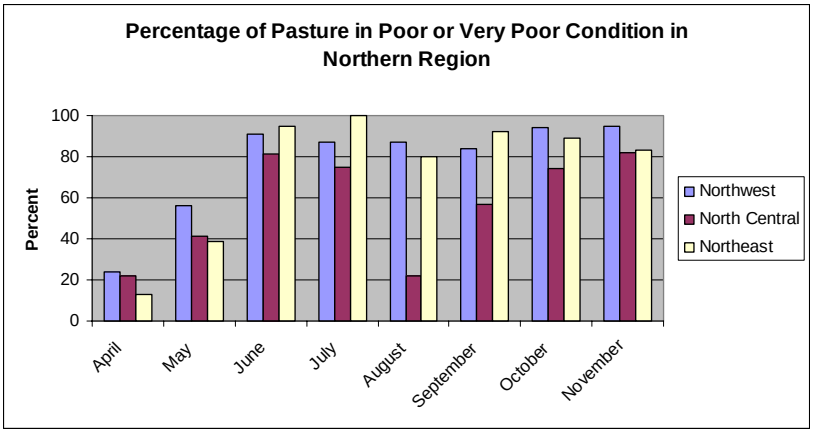
The current drought in the Southeast has affected us all. Municipalities are running short of water, residential users have lost valuable landscaping, and industrial and commercial interests have had to reduce their water use, with some going out of business as a result. Irrigated agriculture has also been hit hard by the lack of rain.

Figure 1.



The potential impact on those growing irrigated row crops is two-fold: drought conditions increase plant stress, thereby reducing the quantity and quality of yields which leads to reduced crop revenues; and irrigation costs increase as farmers apply more water in an attempt to offset the effects of drought. Fortunately, the drought has not had a significant impact on the major irrigated row crops – corn, cotton, peanuts, and soybeans. Less than 20% of those crops were reported to be in poor or very poor condition when half of the crop had been harvested (see figure 1). However, annual rainfall throughout the southern part of the state is down on average more than 12 inches to date. Irrigators have had to make up for the lack of rain by increasing water applications.

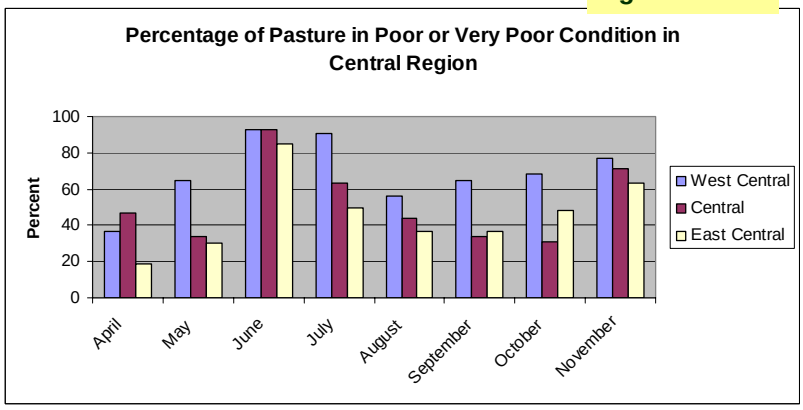
Figure 2.



The increase in production costs from increased water applications has been compounded by the recent rise in energy costs. In 2003, about 56% of irrigated acres in Georgia used electric pumps, 29% used diesel pumps, and 11% used natural gas. Since then, electricity, diesel, and natural gas prices have risen approximately 16%, 80%, and 30%, respectively. The average cost for Georgia farmers of pumping an acre-foot of water in 2007 ran around $48, $45, and $195 for electric, diesel, and natural gas pumps, respectively. To make up for the 12 inch shortage in rainfall, Georgia row crop producers would have to spend that amount per acre.

The big yield impact has been on hay and pasture, especially in the northern and central parts of the state (see figures 2 and 3). Many of these fields are not irrigated, which accounts for their poor condition. With rainfall down about 22 inches to date in the northern part of the state, even those with irrigated pasture and hay fields are facing considerable cost increases for water applications.

Figure 3.



On the revenue side, peanut prices are currently up over last year, while corn is enjoying historic highs and soybean prices are the second highest they have been in the last 10 years. These prices, together with the good yields being reported, should more than offset the rise in irrigation costs. Cotton prices are also higher than last year and currently around 60 cents per pound, which will help mitigate the effects of extra water costs on the bottom line. ©

For more information, contact your local county extension agent.

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- FR-07-03: "Economic Analysis of Biodiesel Production in Georgia" by G. Shumaker, A. Luke-Morgan, J. McKissick and A. Flanders

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