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The Georgia Economic Issues Newsletter

OF NATURE, GASOLINE AND FARM PRICES

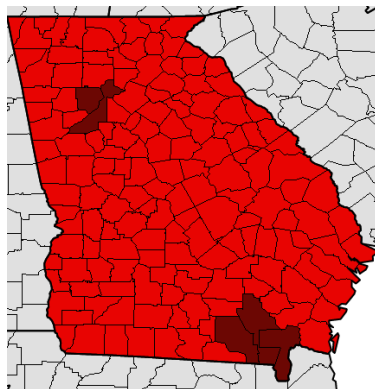
Recent weather irregularities have once again stamped the power of nature over yields, prices incomes and fates of farm businesses. Even with the slight easing of watering restrictions statewide earlier this year, overall precipitation levels still have not been enough to completely bail the state out of drought conditions. This year, Georgia farm fields continued to yearn for enough rainfall to quench some parched lands and fill up streams.

Interestingly, when those prayers were answered with some downpours lately, the farm economy was far from being completely relieved. Hurricane Ike, the last of several weather disturbances, inflicted damage on at least 10 offshore oil platforms in the Gulf of Mexico that sent gasoline prices soaring to over \$4 per gallon overnight. Such is the market's instinctive reaction to the effects of abnormal weather situations. As always, such initial fuel price reaction will naturally have an eventual trickle-down effect on commodity prices and incomes of other related farm enterprises.

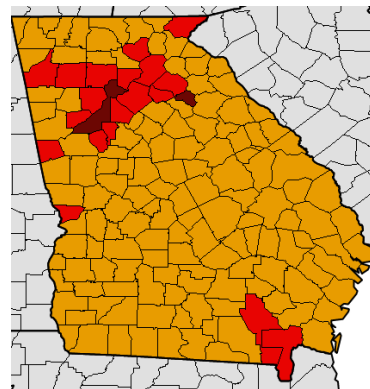
The following articles are compiled to provide an update on the drought situation, a historical perspective on the fuel market, a discussion on recent trends in agricultural input prices and an industry analysis focusing on the effect of energy market conditions on Georgia's green industry.

The Drought Status Report

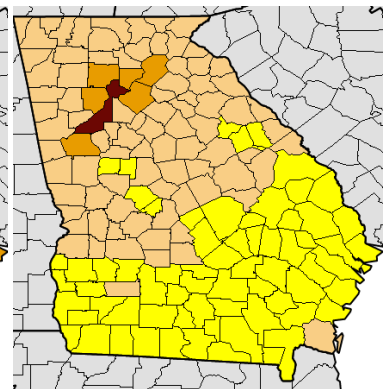
Actually, 2008 has been a relatively wetter year than 2007. Occasional thunderstorms have brought relief to some parts of the state and allowed some crops to recover from the debilitating effects of last year's exceptional drought conditions. The following maps from the *National Drought Mitigation Center* indicating drought impact situations in Georgia counties will confirm that conditions have somehow improved from 2007 to 2008:



January to September 17, 2007



January to December 2007




January to September 17, 2008

 D0: Abnormally Dry

 D2: Severe Drought

 D1: Moderate Drought

 D3: Extreme Drought

 D4: Exceptional Drought

However, as clarified by Phillip Roberts in a recent Georgia Faces issue, scattered downpours and thunderstorms experienced in Georgia this year were merely localized and not enough to provide “widespread relief” to crop farmers. In an earlier Georgia Faces edition, state climatologist David Stooksbury pointed out that the stream flows in northeast and southwest Georgia continued to drop to near record levels even with the 2008 precipitation levels.

Notwithstanding such constraint, Georgia row crop farmers still expect to realize good harvests, although not nearly approaching record-setting levels registered several years ago. The Georgia Agricultural Statistics Service reports favorable yield prospects for cotton, peanut, corn and soybean harvests this year, with prognoses of “fair” to “excellent” conditions assessed for currently planted crops.

Fuel Price Alerts

Before Hurricane Ike inflicted damages on refineries and pipelines along the Gulf of Mexico, the economy has taken a brief respite for a few weeks from the surging fuel prices as crude oil spot prices dropped from a high of about \$145 per barrel registered in mid-July to under \$115 per barrel by August 22 (Energy Information Administration). This resulted in a drop in U.S. average retail price for regular grade gasoline from over \$4.11 per gallon in early July to about \$3.74 per gallon as of August 22.

In the aftermath of Hurricane Ike’s landfall, gasoline prices have soared to an average of \$3.855 per gallon nationwide while states fed directly by the damaged Gulf Coast refineries experienced price increases to over \$4.00 per gallon. Interestingly, downward adjustments in oil prices were realized almost around the same time, which makes one wonder how gasoline prices would not instantly react in the same direction. This divergence demonstrates how distinct and separate the markets for crude oil and refined products are. While gasoline cost is primarily determined by the price of oil, the crucial factor remains having available refineries to process crude oil into gasoline. While the economy waits for the damaged refineries to recover and be fully operational, movements in crude oil prices will barely affect the prices of gas at the pump.

To understand fluctuations in crude oil and gasoline prices, let us recall how gas prices have gone up in the first place. As the basic laws of economics would suggest, it’s all about supply and demand. Rising oil prices have been caused by the inability of world oil supply to catch up with a rapidly rising world demand for energy. The major oil-producers (OPEC) have not expanded capacity (and seemed to be “holding back”) since 1979 and non-OPEC producers were already approaching their long-term production peak. Some of these non-OPEC countries which were expected to contribute to oil production growth in 2008 instead registered steady declines in production levels. Meanwhile, oil demand in the growing economies only showed little, if any, demand response to high prices

(zfacts.com at <http://zfacts.com/p/595.html>).

The recent drop in crude oil and the earlier (pre-Ike) downward trend in gasoline prices were caused by the same supply-demand mechanism where more optimistic expectations and developments in world supply and demand conditions have eased market prices for now. According to the Energy Information Administration, prospects of a supply boost from some non-OPEC producers (such as Brazil and Azerbaijan) have surfaced recently, which was supplemented by an increase in production in Saudi Arabia. However, dramatic adjustments in the supply response, primarily the changes in U.S. oil consumption patterns, have been singled out by analysts as more responsible for the recent drop in fuel prices. This drop in U.S. fuel demand is expected to elicit further declines in fuel demand elsewhere in the world. These expectations caused crude oil prices to drop during the past several weeks, along with prices for gasoline, diesel, and jet fuel.

From hereon, analysts (including the Energy Information Administration’s prognosis in its September 9 Short-Term

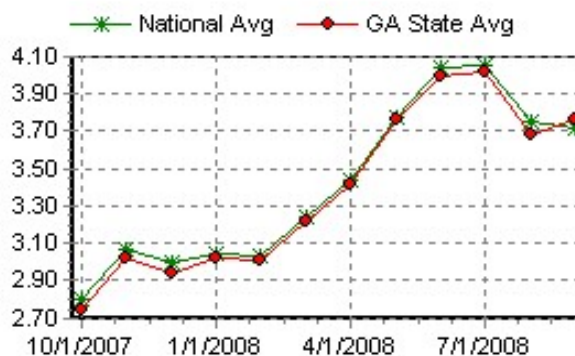


Figure 1. 12-Month Average Regular Unleaded Prices for Georgia and the United States, Source: AAA Daily Fuel Gauge Report, <http://www.fuelgauge.com/GAavg.asp>

Energy Outlook) are forecasting that crude oil prices may settle in the \$120 - \$130 per barrel range for the rest of the year, as long as no other major external supply shocks or disruptions (such as more hurricanes or intensified political conflicts such as the Georgia crisis) will be experienced.

In Georgia, the fluctuations in retail gasoline (and other fuel) prices have mirrored the volatility of national fuel prices. As of August 26 (pre-Ike conditions), the average state price for regular unleaded gasoline is \$3.565 per gallon while diesel costs \$4.212 per gallon. The highest prices during the last 12 months were recorded on July 17 when regular unleaded gasoline and diesel cost \$4.072 and \$4.858, respectively. These figures represent 12.5% and 13.3% reduction in the gasoline and diesel prices, respectively. These price drops, however, have not brought us back to the fuel prices we enjoyed a year ago. In fact, the current “reduced” prices are still about 34.9% and 48.1% of regular unleaded gasoline and diesel prices which were at \$2.642 and \$2.844, respectively, a year ago. ©

Increasing Agricultural Input Prices

By Dr. Archie Flanders

Center for Agribusiness and Economic Development

Increasing agricultural input costs are reducing benefits from higher commodity prices received by Georgia agricultural producers. Increased production costs are led by increases in seeds, fertilizer, chemicals, energy, and feed grains. Estimates indicate that most agricultural expenses are associated in some way to the price of oil. Although high oil prices are the major force causing increased agricultural production costs, other factors are involved.

Increased global demand for agricultural commodities leads to more demand for inputs and puts upward pressure on input prices. Approximately half of the nitrogen fertilizer used in the U.S. is imported. Increased global demand for nitrogen, increased transportation costs, and natural gas requirements of nitrogen manufacturing contribute to increased prices for this input. Other imported mineral fertilizers such as phosphorous are also subject to increased transportation costs, as well as increased global demand. Russia, a leading exporter of nitrogen and mineral fertilizers, has instituted a system of export tariffs on these inputs that further contributes to price increases. Russian export tariffs are intended to ensure adequate input supplies for domestic crop production. In addition, a weak dollar in international currency markets contributes to increased U.S. prices for imported inputs such as oil and fertilizers.

Figure 1 shows the aggregate price index for agricultural production inputs during 2004-2008 (April indexes for each year). Price indexes are reported in *Agricultural Prices* by the National Agricultural Statistics Service. A total period increase of 42% includes a single year increase of 17% from 2007-2008. Indexes for production items in Table 1 indicate that fertilizers, diesel, and feed grains have the greatest price increases. As a comparison to increased agricultural input prices, the implicit price deflator for the U.S. gross domestic product reported by the Bureau of Economic Analysis increased by 12% from 2004 to 2008 (Second quarter for both years).

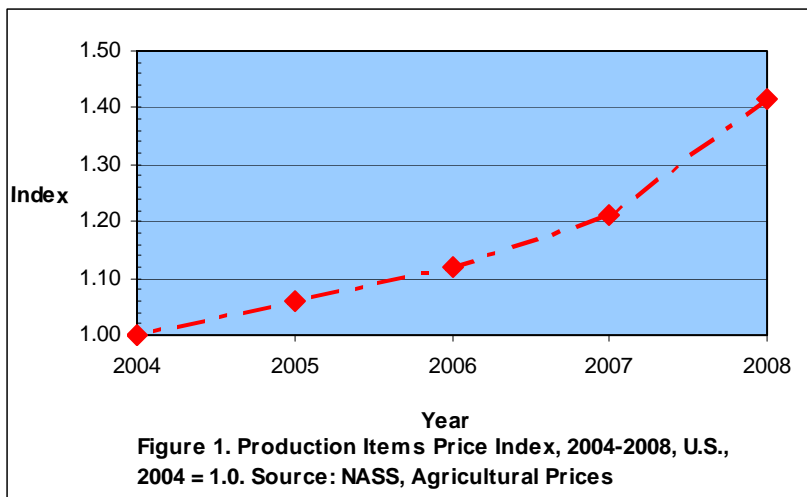


Table 1. Prices Paid Indexes, Production Inputs, 2008 Percent of 2007 and 2004, U.S.

	2008/2007	2008/2004
Services	103	119
Interest	106	167
Wages	106	117
Seeds, Field		
Crops	132	176
Nitrogen	136	205
Potash and Phosphate	196	307
Herbicides	102	111
Insecticides	105	109
Other Chemicals	109	125
Diesel	149	277
Repairs	101	112
Feed Grains	152	180
Hay and Forages	123	175
All Costs	117	142

Source: NASS, Agricultural Prices

RELATED FACT #1

The State Department of Labor has estimated in June this year a statewide inflation rate of 4.9% (relative to prices 12 months ago). When broken down into separate categories, food and beverage prices registered an inflation rate of 4.8%, housing costs grew by 3.9%, and transportation costs increased by 12.8% for the same period. The good news is that several sectors have only slightly adjusted their prices, such as apparel (0.1%) and health care (0.3%), while recreation prices went down by 1.4%.

RELATED FACT #2

Based on the recently concluded state-wide survey of custom farm machinery rates conducted by this department, the average three-year growth rate (from 2005 to 2008) for the various custom operations was 46.78%, which was the highest 3-year growth rate obtained since 2000. Notably, tasks related to tilling operations and chemical applications increased by 79.18% and 79.00%, respectively, over the three-year period.

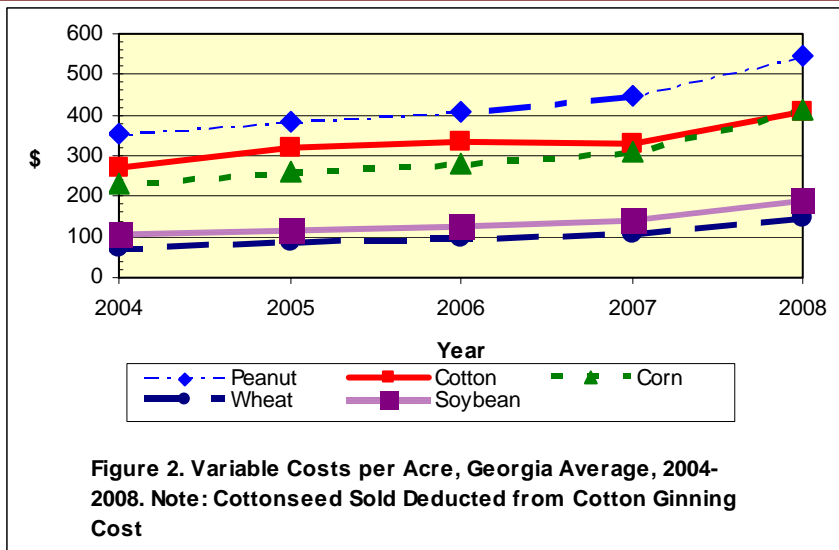


Figure 2 shows the 2004-2008 Georgia average variable costs per acre for peanuts, cotton, corn, soybeans, and wheat. Increasing costs trends have the greatest increases from 2007-2008. Increased feed costs as an input has led to increased cottonseed value, and increasing values of cottonseed sold are deducted from cotton ginning costs. Thus, total cotton production costs have not increased as rapidly as they otherwise would have.

Applying historical prices received for 2004-2007 and expected prices received for 2008, Figure 3 presents ratio indexes for prices received compared to variable costs in Figure 2. Ratios for cotton and wheat are approximately equal to 1.0, indicating that market prices received have kept pace with increased variable costs. Corn and soybean ratios are significantly greater than 1.0, and market prices received have increased relatively faster than variable costs increases. Increases in peanut prices have lagged behind increases in variable costs.

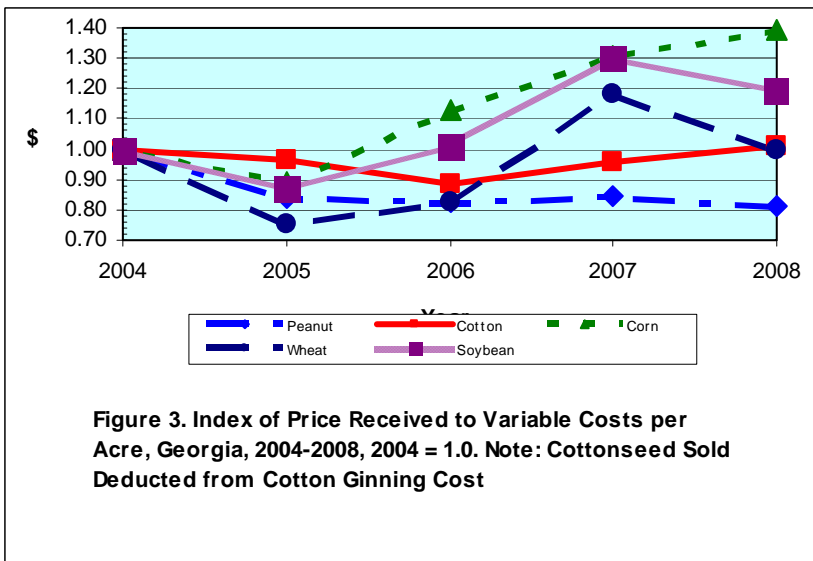
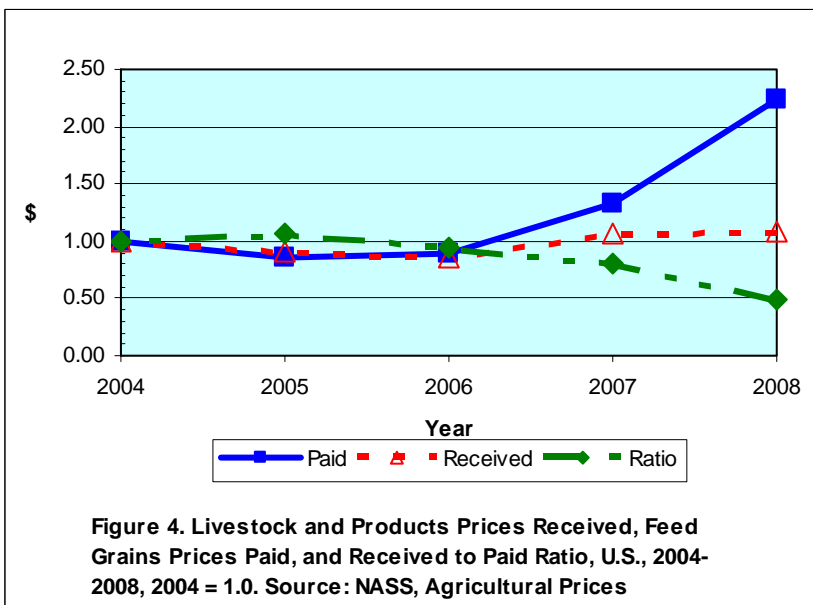


Figure 4 shows U.S. prices received for livestock and products, prices paid for feed grains, and a ratio of the two prices. Prices received increased by 8% during 2004-2008 (July for each year). Feed grain prices increased by 123%. The resulting ratio has a decrease of 17%.



Factors related to increased oil, chemical, and fertilizer prices have mostly a direct effect on crop production. The effect on livestock production occurs primarily as an indirect effect through increased grain and protein feed prices. Increased global demand for meat products has caused increased demand for animal feeds. However, increased usage of corn and soybeans for biofuels leads to proportionally greater livestock feed price increases relative to market prices for livestock products. ©

Energy Use and Georgia's Green Industry

By Dr. Forrest E. Stegelin, Associate Professor

Production expenses in the green industry for floriculture and greenhouse production, for container-nursery production, for field-grown nursery production, and for sod and turfgrass production rose 12% in 2007, and expected 20% in 2008, and a forecast 15% in 2009. The production expenditures are tracked in twelve expense categories: pesticide chemicals (herbicides, fungicides, insecticides); seeds and transplants; fertilizer; fuels and energy; repairs and maintenance; total labor; marketing; real estate; interest; transportation and distribution; miscellaneous expenses; and capital consumption. As for 2008, only real estate and interest are expense categories expected to experience declines. Unlike row-crop farming, the inputs labeled as farm origin are relatively few and minor – primarily “mother” plants from which seeds or cuttings are taken; most inputs are outsourced from industry-related or allied businesses.

In years past, labor was the single largest expense category for the green industry. However, in the past couple of years, labor has shared the expense spotlight with fuels and energy, each category representing about 30% of total expenses. Again, a difference arises between the production of the green industry crops and the agronomic small grains and feed grains or row-crops – typical farming operations rely on petroleum fuels like diesel and gasoline, while the green industry uses mostly electricity as the energy source in production. With the desire to rid themselves from the reliance on the utility grid, green industry operators are turning to alternative renewable energy sources, primarily solar and wind and mini-hydroelectric generation of electricity. Each of these energy sources is site-specific, so there is not a one-source-serves-all.

Using net savings from having made a change in electricity source, the three aforementioned energy sources were evaluated using financial analysis criteria. Relying on information provided by greenhouse and nursery operations that acquired, installed, and utilized the renewable energy sources, four financial determinants were calculated:

Renewable Energy Source	Financial Determinant			
	PBP (years)	SRR (%)	NPV (average\$@10%)	IRR (%)
Small Wind	4 – 5	20 – 25	59,000	16 – 23
Photovoltaic Solar	3 – 5	22 – 28	42,500	11 – 14
Mini-Hydroelectric	5 – 8	15 – 20	23,500	9 – 13

A range of values is reported because each operation installed a different capacity system and each had different utility needs based upon their size of operations. Not included in the evaluation is the economic return from net metering – selling excess electricity generated back to the utility company (i.e., reversing the meter) to be a true meter beater. Electricity utilities are required by federal law to acquire certain percentages of their fuel feedstock from renewable sources, such as provided by the green industry businesses. Hence, these green industry businesses are providing a service to the EMCs of Georgia.

As to how important the changeovers are to the expenses of a greenhouse, the average annual electricity bill for lighting, irrigation, heating and ventilation in 2007 for the average-sized Georgia floriculture production business exceeded \$600,000. So any savings potential by adopting renewable energy sources looks favorable, even when considering the investment (purchase and installation and operation, including battery storage) of the alternative energy source.

Although the discussion has focused on energy use and expenditures in the Georgia green industry, this is not to suggest that other inputs have not drawn the attention of the growers and marketers. Mixed fertilizer prices have soared 165% since 2006 (potash and phosphate more so than nitrogen); seeds, cuttings, and transplants (whips and liners) are up 30% in the past year alone (even higher for products having specific biotech traits or are branded/patented plants); while pesticide chemical prices have only risen about 10% in 2008 – in part because of the shifts toward the biotech traits and even organic production, as well as decreased production (the drought severely curtailed the marketing efforts of plant wholesalers and retailers). ©

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Edited by: Cesar L. Escalante, Extension Agricultural Economist

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