

## **Increased Energy Costs: What is the Projected Impact on Southeastern Representative Peanut Farms?**

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### **Situation:**

In today's economy it is important for US agriculture to be as competitive as possible to assure sustainability. One component that can have a major impact on projected returns and the overall financial viability of an enterprise is energy costs. This is especially true when fuel price spikes unexpectedly occur well into the production season as was seen in 2005.

### **Response:**

Using the Texas A&M Ag and Food Policy Center's (AFPC) FLIPSIM model and considering the most recent baseline price projections, the National Center for Peanut Competitiveness carried out a preliminary study to determine the economic outlook for the Southeastern representative peanut farms. The August 2005 baseline more accurately reflects recent increases in energy costs and the resulting impact on input costs. The economic viability over the period 2005 to 2010 was considered for the eleven Southeastern representative peanut farms.

Given current indications of no relief on fuel prices in the near future, the impact of fuel prices were further analyzed for three primary row crops—peanuts, cotton, and corn. Composite average costs per acre across all farms were determined for crop production machinery fuel use, irrigation fuel use and a total of all variable fuel costs per enterprise. Fertilizer prices were also considered for these crops since they can be significantly affected by energy costs increases. The total fuel expense as compared to the total variable production costs was considered for all farms to help better understand the potential impact of unforeseen rising fuel costs on Southeastern agriculture.

### **Results:**

The overall economic viability of a farm is based on the probabilities of a farm having negative ending cash reserves and losing net worth. Viability is classified as good when these probabilities are 25% or less, moderate at 26-50%, and poor at greater than 50%.

For the eleven Southeastern representative peanut farms, two were considered to have good overall economic viability, one moderate, and eight were poor for the period 2005 to 2010. Three farms were considered to have less than a 25% probability of a negative ending cash reserve and the remaining eight were considered to have greater than 50% probability. Greater than a 50% probability of a decline in net worth was seen on eight farms, between 26-50% was seen on one farm, and less than a 25% probability on two farms.

The composite average total fuel cost across all farms for irrigated peanuts ranged from a low of \$51.69 per acre in 2002 to a high of \$83.85 per acre in 2005; non-irrigated peanuts ranged from \$13.08 to \$21.22 per acre; irrigated cotton ranged from \$53.66 per acre to \$87.05 per acre; non-irrigated cotton ranged from \$11.38 to \$18.46 per acre; irrigated corn from \$66.72 to \$108.24 per acre; and non-irrigated corn from \$6.28 to \$10.19 per acre. The increase in total fuel cost from 2002 to 2005 is roughly 63%.

Fertilizer costs also increased significantly from 2002 to 2005. Nitrogen prices increased 49%. The price of fertilizers primarily composed of phosphorus and potassium saw an average increase of 17% from 2002 to 2005.

A final point of interest in this study was the percentage of total variable production costs attributed to fuel. Variability was seen between farms and across years. The average percentage for an individual farm ranged from 5.7% to 17.9% of the total variable cost spent on fuel across all years. Individual years for individual farms showed as much as 19.7% of TVC spent on fuel. Less variability was seen between years across all farms. The highest percentage was seen in 2005 at 13.75% and the lowest in 2002 at 10.66%. The overall composite average across all farms and years showed 12.5% of the total variable production cost was spent on fuel.

This study points out the potential detriment to Southeastern agriculture brought forth in part by increased energy costs. A 63% increase in one component of input costs can significantly impact the success or failure of an enterprise and an industry as a whole.

**Acknowledgement:**

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**Table 1: Overall Economic Viability Classification of 11 Southeast Representative Peanut Farms over the period 2005-2010 given Baseline Projections**

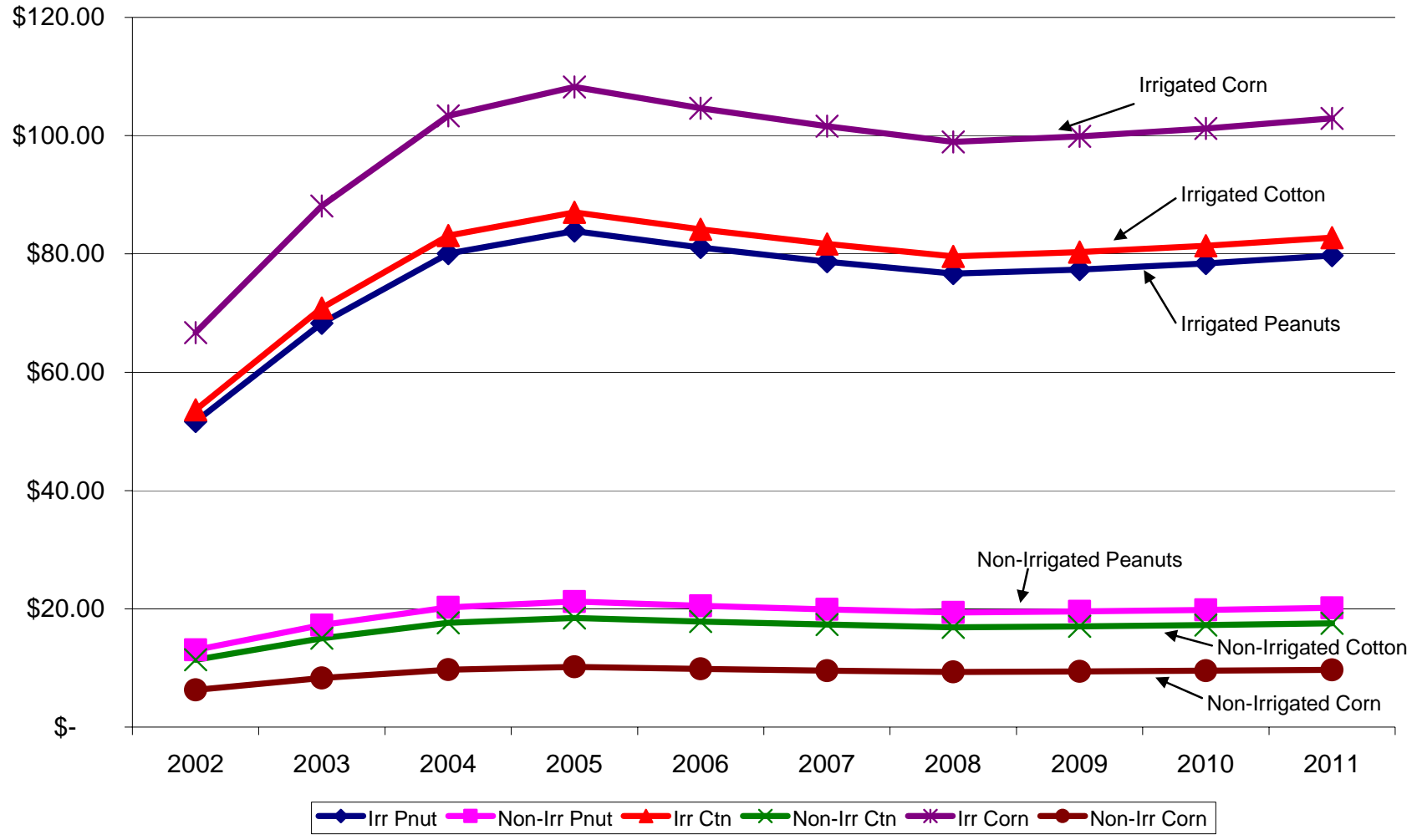
	August 2004 Baseline	January 2005 Baseline	January 2005 Baseline <sup>a</sup> —Storage & Handling Expense	August 2005 Baseline <sup>a</sup> —Storage & Handling Expense
<b>Good</b>	7	2	2	2
<b>Moderate</b>	3	3	1	1
<b>Poor</b>	1	6	8	8

*<sup>a</sup>Storage & Handling Expense of CCC Loan Peanuts is NOT covered by CCC after the 2006 Crop. See additional article by the National Center for Peanut Competitiveness (“What Impact Will the Elimination of Federal Funding...”) addressing this topic.*

**Table 2: Percent of Total Variable Production Cost Spent on Fuel for the Southeast Representative Peanut Farms**

FARM	2002	2003	2004	2005	2006	2007	2008	2009	2010	Avg. across 2002-2010
<b>A</b>	15.24%	17.88%	18.67%	19.69%	19.29%	17.86%	17.60%	17.51%	17.43%	17.91%
<b>B</b>	11.41%	12.71%	13.74%	14.11%	13.83%	12.82%	12.60%	12.54%	12.50%	12.92%
<b>C</b>	7.82%	9.26%	9.72%	10.68%	10.43%	9.63%	9.44%	9.41%	9.38%	9.53%
<b>D</b>	12.22%	13.43%	15.52%	15.41%	15.09%	14.15%	13.92%	13.87%	13.81%	14.16%
<b>E</b>	8.66%	11.65%	13.42%	13.53%	13.14%	11.23%	10.96%	10.88%	10.82%	11.59%
<b>F</b>	10.72%	10.96%	11.62%	12.63%	12.42%	11.97%	11.79%	11.74%	11.70%	11.73%
<b>G</b>	7.21%	7.72%	9.08%	9.68%	9.45%	8.48%	8.31%	8.26%	8.22%	8.49%
<b>H</b>	9.24%	11.15%	11.22%	11.75%	11.48%	10.78%	10.59%	10.56%	10.53%	10.81%
<b>I</b>	14.98%	16.67%	18.71%	18.91%	18.55%	16.90%	16.63%	16.55%	16.50%	17.16%
<b>J</b>	15.21%	16.61%	18.02%	18.31%	17.98%	16.80%	16.56%	16.50%	16.42%	16.93%
<b>K</b>	4.52%	5.88%	6.48%	6.57%	6.38%	5.53%	5.40%	5.37%	5.35%	5.72%
<b>Composite Avg. Across Farms</b>	10.66%	12.17%	13.29%	13.75%	13.46%	12.38%	12.16%	12.11%	12.06%	12.45%

**Composite Average Total Fuel Cost Per Acre**  
*August 2005 Baseline*



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