FARM BUSINESS MANAGEMENT

FARM ECONOMICS Facts & Opinions

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March 19, 2003 **FEFO 03-05**

INCREASES IN FUEL RELATED COSTS LEAD TO HIGHER PRODUCTION COSTS

Fuel prices have increased substantially primarily due to concerns over supply disruptions that may occur in the Middle East. These price increases have lead to higher projected production costs for corn and soybeans in 2003. This paper discusses increases in fuel, nitrogen, and drying costs that may occur.

Diesel Fuel Prices

Diesel fuel prices are currently hovering around $1.50 per gallon, an increase of about $.50 per gallon over 2002 prices. Diesel fuel use for tillage, planting and harvesting operations vary from farm to farm with most farms using between 5 to 6 gallons per acre. Fuel use of 5.5 gallons per acre and a $1.00 fuel prices causes diesel fuel costs to be $5.50 per acre. An increase to a $1.50 per gallon price means fuel costs are $8.25 per acre, an increase of $2.75 per acre. This $2.75 increase only covers fuel for field operations. Other fuel is needed for general use and grain hauling, causing overall fuel costs to increase more than $2.75. Average increases in fuel costs likely are to be around $3.50 per acre, given that fuel prices do not decrease before the fall harvest period.

Table 1 shows the impacts of an increase in fuel prices from $1.00 to $1.50 per gallon on individual field operations. Costs of total field operations range from a 2.2 percent increase for rotary hoeing up to an 8 percent increase for field cultivating. The projected cost increases in Table 1 suggest that custom charges for machinery operations should increase by similar percentages.

It is likely that the increases in petroleum prices reflect the possibilities of Middle East supply disruptions in the event of a long conflict in Iraq. Petroleum prices could decrease substantially if the Iraqi situation is resolved.

Nitrogen and LP Gas Prices

Nitrogen price have increased dramatically since spring of last year. In 2002, anhydrous ammonia prices were around $250 per ton. Currently, ammonia prices are in the $350 to $375 per ton range, an increase of over 40 percent. Many farmers applied anhydrous ammonia in the fall prior to most of the increase in price. For these farmers, per acre nitrogen costs will increase less than the 40 percent increase in prices.

LP gas prices have increased dramatically. Between February 2002 and February 2003, LP gas prices increased over 100 percent. This could indicate that drying costs will increase dramatically if LP gas prices do not decrease between now and summer.

LP prices are impacted by uncertainties surrounding the Middle East. Analysts, however, believe that price increases are due to long-term increases in demand. If this is the case, there is less chance that nitrogen and LP prices will decline dramatically with an Iraqi resolution.

Table 1. Impacts of a Fuel Price Increase on Per Acre Machinery Costs.

Field Operation	Diesel Fuel Price = $1.00 per gallon		Diesel Fuel Price = $1.50 per gallon		Percent Increase[1]
	Total Costs	Fuel Costs	Total Costs	Fuel Costs	
Tillage	--- $ per acre ---		--- $ per acre ---		Percent
Combination tool	9.50	1.30	10.10	1.90	6.3
Coulter chisel plow	10.80	1.40	11.40	2.00	5.6
Disk subsoiler	15.60	1.90	16.60	2.90	6.4
Field cultivator	5.00	0.60	5.40	1.00	8.0
Moldboard plow	20.70	2.70	22.10	4.10	6.8
Tandem disk	6.70	0.60	7.10	1.00	6.0
Planting and row-crop cultivation					
Conventional planter	7.90	0.60	8.30	1.00	5.1
No-till planter	8.80	0.70	9.20	1.10	4.5
Grain drill	10.00	0.80	10.40	1.20	4.0
No-till drill	14.90	1.00	15.40	1.50	3.4
Rotary hoe	4.60	0.30	4.70	0.40	2.2
Row-crop cultivator	8.20	0.70	8.60	1.10	4.9
Additional operations					
Field sprayer	2.40	0.20	2.50	0.30	4.2
Self-propelled sprayer	3.00	0.20	3.10	0.30	3.3
Rotary mower	8.60	0.90	9.10	1.40	5.8
Flail shredder	8.90	0.80	9.30	1.20	4.5
N appl. (anhydrous)	7.60	0.70	8.00	1.10	5.3

[1] Total cost increase given a diesel fuel price increase from $1.00 per gallon to $1.50 per gallon.

Source: University of Illinois, Machinery Cost Estimates, available on *farmdoc* .

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