

Ag Decision Maker

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Energy agriculture - food versus fuel

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Eighth in a series

Agriculture has traditionally had a single focus of providing food for U.S. consumers and others internationally. However, with the emergence of the bio-fuels industry, production agriculture needs to serve two masters, food and fuel.

Handbook updates

For those of you subscribing to the handbook, the following updates are included.

Corn Price Basis – A2-41
(11 pages)

Soybean Price Basis
– A2-42 (11 pages)

**Farmland Values Survey
(Realtors Land Institute)**
– C2-75 (2 pages)

Please add these files to your handbook and remove the out-of-date material.

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Much controversy has centered around the “food versus fuel” issue. Proponents of the new dual focus believe that production agriculture can meet the needs of both masters. Opponents disagree. They assert that channeling a portion of agriculture’s production capacity to energy production will result in substantially higher food prices and possibly food shortages.

While there is little doubt that agriculture commodity prices are rising due to the bio-fuels industry, the magnitude of the impact on food prices and the consumer’s pocketbook may differ from what you expect. Here are some perspectives to keep in mind.

Share of disposable income that goes to food purchases

The United States is very blessed that only a small portion of the consumer’s disposable income goes for food and beverage pur-

chases. As shown in Figure 1, the portion of disposable income that goes for food and beverages declined from 18 percent in 1961 to 10 percent in 2006.

At 2006 levels, the impact of a ten percent increase in food expenditures due to high food prices will require only one percent of disposable income.

Share of the food dollar that goes to production agriculture

The share of the food dollar that goes to farmers has decreased from 37 percent to 20 percent in the last 50 years as shown in

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Figure 2. The large increase in ready-to-eat food is an indication of the increase in the non-farm share of the food dollar. However, even with these increased costs, the portion of consumer's disposable income that goes for food purchases continues to decline as shown in Figure 1.

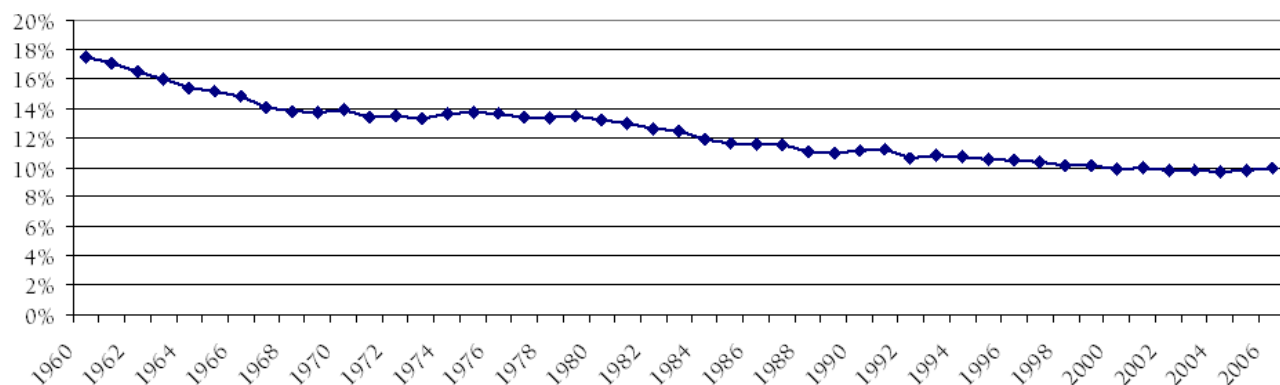
If 10 percent of consumer's disposable income goes for food purchases, and 20 percent of the money for the purchases go to farmers, then farmers receive only two percent of consumer's disposable income. So, as an example, a 50 percent increase in farm commodity prices will only increase food prices by 10 percent, and will only require an additional one percent of consumer's disposable income.

The farmer's portion of the food dollar varies greatly depending on the food item. As shown in Table 1, only two percent of the sale price of potato chips and cereal goes to farmers while 45 percent of the sale price of milk goes to farmers. Bacon and eggs are 16 and 30 percent respectively, if you prepare them at home. If you eat at a restaurant, it will cost you more and the percentages will be lower.

Food waste

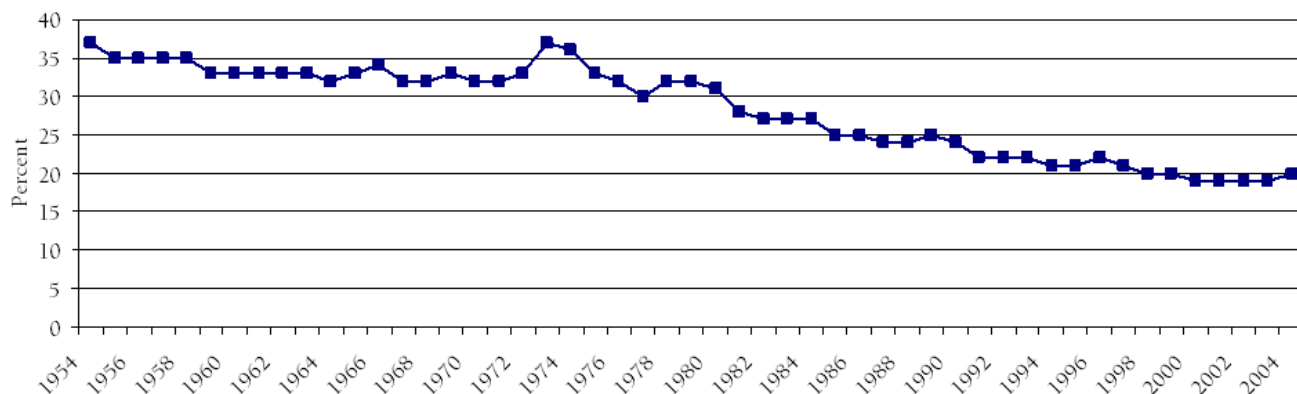
The amount of food that is produced but never consumed is surprisingly high. Some research indicates that slightly over 25 percent of our food supply is not consumed and disposed of somewhere along the food supply chain. Other estimates are higher. Table 2 shows the estimated

Figure 1. Share of Disposable Income Spent on Food



Source: USDA

Figure 2. Percent Farm Value Share of Consumer Expenditures for Domestically Produced Farm Foods, 1954-2004



Source: USDA

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food loss at the retail, food service and consumer levels for different food categories. Several of them are over 30 percent.

Food waste examples can easily be observed in the typical home and at restaurants and buffets. Because food is so cheap for the typical consumer, it is often easier to dispose of excess food than keep it for later. Also, food portion sizes in restaurants have increased substantially over recent decades. Because food is cheap, increasing portion sizes is an inexpensive way to attract customers, but causes greater food loss.

Not a zero-sum game

Agricultural production used for energy does not necessarily result in an equal loss of agricultural production for food. Agriculture has a long history of surplus production capacity. Government programs have been used to restrict production capacity and prop up prices. More recently, programs have focused on supporting farm prices while letting surplus production clear the market at depressed prices. This environment has not been conducive to stimulating investment in research and technology to expand production capacity.

With the emerging energy demand, agriculture enters a period which taxes its production capacity. Higher commodity prices are providing the incentive for making investments to expand

Table 1. Farmers Share of Food Dollar for Specific Food Products, 2006

	Price	Farm Share	Percent
Bread (1 lb. loaf)	\$2.49	\$.11	4%
Bacon (lb)	3.29	.53	16
Potato Chips (13.5 oz.)	3.49	.08	2
Milk (gallon)	3.99	1.79	45
Cereal (18 oz. box)	5.05	.08	2
Top Sirloin Steak	7.99	.90	11
Fresh Carrots (2 lb.)	1.89	.43	23
Eggs (dozen)	3.19	.95	30
Lettuce (head)	1.74	.33	19

Source: USDA, NASS, Agricultural Prices, 2006

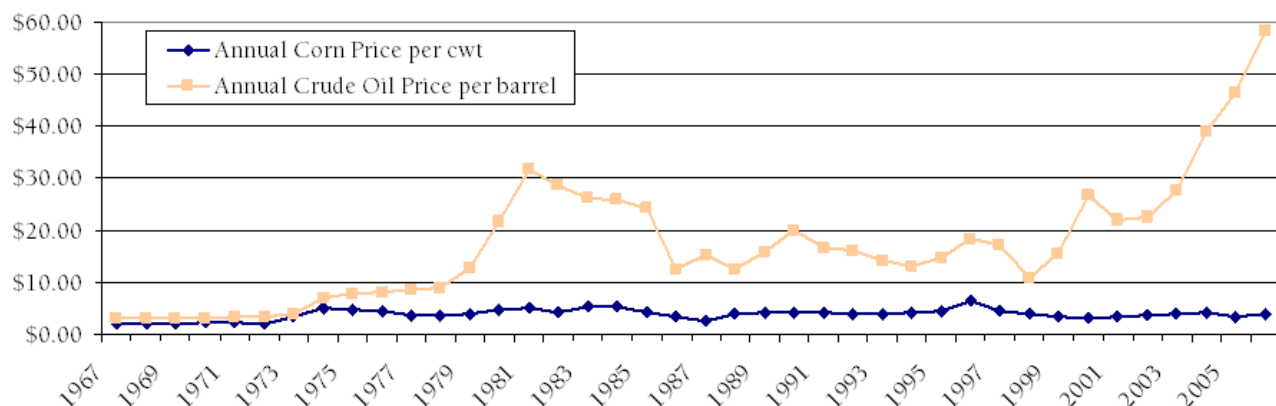
Table 2. Food Losses at the Retail, Foodservice and Consumer Levels, 1995

Commodity	Edible Food Supply* (million pounds)	Percent Loss
Grain Products	45,606	32%
Fruit	48,338	23
Vegetables	63,077	25
Dairy Products	76,276	32
Meat, poultry & fish	51,466	16
Eggs	7,918	31
Caloric Sweeteners	38,827	31
Other	24,374	30
Total	355,883	27%

* Excludes non-edible food parts.

Source: Economic Research Service, USDA

Figure 3. Annual Crude Oil Price and Iowa Corn Price



Source: US DOE, USDA

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agriculture's production capacity. This will include:

- Technologies to increase yields,
- Technologies to reclaim degraded farmland,
- Conversion of pastureland into cropland,
- Tile drainage to remove excess moisture, and
- Technologies and investments of which we are not yet aware.

The expansion of agriculture's production capacity is difficult to estimate, but I suspect it will be greater than many people expect.

Whom do you want to support?

Crude oil and corn prices over the last 40 years are shown in Figure 3. During this period, the price of 100 pounds of corn (about two bushels) went from \$2.02 to \$3.96, an increase of 90 percent. During the same period, the price of a barrel of oil

went from \$2.92 to \$58.30, an increase of 1,900 percent. This stark comparison explains why the energy sector has made much more money than the agriculture sector in recent decades.

Some say that agriculture should stick to making food and leave the energy business to the oil companies. But we live in a free-market, capitalistic society. The basic premise of this society is that businesses are free to deploy their resources where they will generate the greatest return. Through competition the consumer is better-off by having the highest quality products at the lowest price. So let the marketplace determine where agriculture's bounty should be deployed. The marketplace has an excellent track record in serving the best interests of the consumer.



Livestock risk protection now available for lambs

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Lamb producers and feeders in Iowa and 26 other states can now manage the risk of declining prices for fed lambs with an insurance product known as Livestock Risk Protection (LRP).

LRP has been available for cattle and hog producers for several years. Lamb-LRP is very similar to the cattle and hog programs. An application can be filed with any crop insurance agent authorized to sell LRP coverage. This allows lamb feeders to purchase a "specific coverage endorsement" any time they have a group of lambs that will go to market. Coverage can be purchased for projected marketing dates 13, 26 or 39 weeks in the future.

Each Friday a projected market price, called the "expected ending value" is posted on the Risk Management Agency (RMA) Website (<http://www.rma.usda.gov/livestock/> under Coverage Prices, Rates and Actual Ending Values) for each feeding period. Coverage can be purchased for a price equal to 80, 85, 90 or 95 percent of the expected

ending value, for any number of lambs (up to 7,000 head) and target selling weight. Premiums are listed on the RMA Website, and are subsidized 13 percent by the USDA. Coverage can be purchased Monday mornings from 10 a.m. to 7 p.m. Central time.

At the end of the coverage period the actual ending value of the lambs is calculated based on the insured number and weight, and the current price of slaughter lambs as reported by the Agricultural Marketing Service (AMS) of the USDA. If the ending value of the lambs is less than the revenue guarantee that was purchased, the policy holder will be paid an indemnity equal to the difference.

More detailed explanations of Lamb-LRP, with examples, are available in Briefing Paper No. 83 from the Agricultural Marketing Center at Montana State University, can be found at: <http://www.ampc.montana.edu/briefings/briefing83.pdf>, or Ag Decision Maker File B1-52, Risk Management Tool for Sheep Producers available at <http://www.extension.iastate.edu/agdm/livestock/html/b1-52.html>.