Will ethanol production make or break corn prices

LITITZ — Using corn for fuel instead of food or feed is bound to have some economic effect on production of the nation's top grain crop.

If no more acreage is brought under cultivation the price of corn would shoot through the roof because of competition between food and fuel. Yields can be increased, but most of any added production will have to come from puting new land into corn.

Martin Abel, senior vice president of the Washington, D.C. firm of John Schnittker Associates, looked into the impact on corn acreage in the U.S. from alternative levels of grain production.

He points out there are several ways in which corn acreage can be increased, especially if corn and other grain prices remain relatively favorable in relation to production costs.

Total area in major crops, including corn, could continue to increase as a result of expanded irrigation and conversion of grasslands to row corps.

Noting that total acreage planted to major crops increased by nearly three million acres in the 70s, he said he expects a further increase of three to four million acres in the current decade.

Crop acreage also would be increased in government programs to idle acreage in order to reduce crop production were abandoned.

An increase in corn prices relative to other crops also would cause corn acreage to expand.

Ethanol production would increase the supply of high protein distillers grain by-products which substitute for soybean meal in animal feeding.

Thus, Abel says, increased production of ethanol based on corn reduces the demand for soybeans and releases acreage from soybean production that can be used to produce corn.

As a rough rule of thumb, Abel figures, production from one acre of corn used to make ethanol will free up one half acre from soybean production.

The domestic scene, though, is only a small corner of the total world grain picture.

World consumption and production of total grains is expected to increase by 26 percent over the next decade. World grain trade likely will increase by 32 percent in the 80s.

U.S. exports of wheat and feedgrains are expected to increase by 48 percent and 36 percent respectively. All of that adds to a strong worldwide demand for food and feed.

Increasing world population, continued growth in real per capita income in most nations, and universally rising demand for animal and poultry products will generate that rapid increase.

If the expected increases are not achieved, supplies of grain for non-food use would probably be substantial during the 80s.

Of course, all of the predictions hinge on the continuation of the current crisis situation in the petroleum industry, including a limited supply, spot shortages, increasing demand, and increasing prices.

Abel looked at a few different potential ethanol production situations, projecting results for the year 1990. The first was for output of one billion gallons ethanol fuel per year from corn.

Present indications are there will be 500 million gallons of ethanol produced in this country by 1982. Although the Department of Energy had projected only 300 million gallons by 1983, it seems this estimate will be surpassed. So a billion gallons by 1990 is not at all unreal.

To produce a billion gallons of ethanol from corn would require 400 million bushels of corn would be needed.

That would require plantings of 90 million acres to corn, compared to an average 80 million acres planted during the base period years 1978-80.

Corn yields would have to average about 120 bushels per acre in 1990 compared to a yield of 105 bushels during the base period. That would allow corn production to meet fully the projected growth in domestic and export demand.

Abel sees no increase in the real price of corn over the decade of the 80s if a one billion gallon production level were reached nor does he see any market stress.

Of course, corn prices would rise at the same rate as the general inflation rate.

If the nation were to produce two billion gallons of ethanol by 1990 there would be demand for 785 million bushels corn for fuel.

That would mean an eight percent increase in the real price of corn by 1990 compared to the base period. Since this jump would be on top of inflation increase there would be some competition for the grain

About 92.5 million acres, each yielding 120 bushels, would be necessary.

There would be continued growth in domestic and export uses of corn but the growth would be at slightly lower levels than in the one billion gallon case.

Major changes would be seen if the nation were to produce four billion gallons of ethanol. Output of four billion gallons would represent about five percent of the total gas we use.

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