

Ethanol Revolution

America has recognized that ethanol is a desirable oxygenate for emission standards, cost-effective and a valid way to significantly stretch U.S. gasoline inventories. What will the resultant demand for corn mean for elevators?



The hurricanes of 2005 may have devastated much of the central Gulf area, but they also blew away much of the remaining resistance to ethanol. Gasoline prices soared, ethanol prices looked more attractive, and the rest will be history. Suddenly America recognized that not only is ethanol a desirable oxygenate for emission standards, but that it is cost-effective and a valid way to significantly stretch U.S. gasoline inventories.

Scores of new plants broke ground just as conversion margins soared, further increasing confidence in ethanol as a business investment. Now serious investment money is also flocking to the ethanol sector and the wire services can hardly keep up with announcements of proposed plants. There are enough plants under construction right now to consume an additional 500 million bushels of corn! And the United States will exceed the Energy Bill mandate of 4 billion gallons of production in 2006, a major step toward reaching the final mandate of 7.5 billion gallons by 2012 — enough to consume over 2.5 billion bushels of corn annually. This is all important for agribusiness — for grain elevators as well as producers. Some elevators will benefit; others will find ethanol plants tough competition that cuts them out over time. But no one can deny the impact will be sizable.

U.S. corn exports have been flat since the mid '90s after peaking at 2.4 billion bushels in 1989 (Chart 1). But corn disappearance via ethanol has been rising steadily and U.S.D.A. now forecasts 1.575 billion bushels for the '05 crop year.

Chart 2 illustrates the potential impact of ethanol on corn merchandising; look at South Dakota and Iowa. South Dakota's ethanol production will already consume 42% of their corn production as soon as the two plants currently under construction are up and running (based on second-highest production of 485 million bushels in '05).

The second greatest intrastate consumption rate will be in Iowa, where

Data Source: State ethanol production figures are from the Renewable Fuels Association (11/05); conversion to bushels assumes a rising trend from 2.5 to 2.7 gallons/bushel due to improved plant efficiencies. Corn for ethanol is based on a calendar year. Exports use USDA numbers, based on a crop year. Crop year vs. calendar year results in a slight variance, but it does not change the trend or significance.

Chart 1 U.S. Corn Disappearance

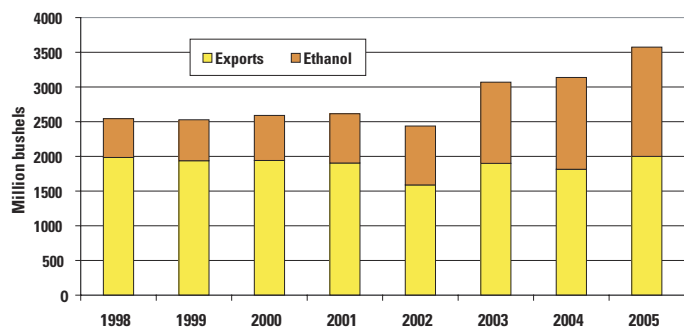
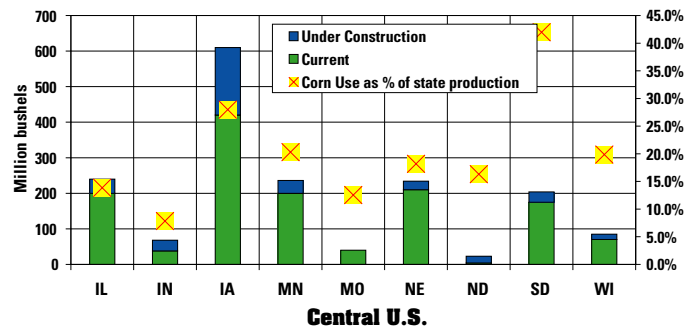


Chart 2
Ethanol Corn Consumption



Data Source: Ethanol production from Renewable Fuels Association (11/05); conversion to bushels assumes 2.7 gallons/bushel. "Under construction" reflects only those plants that have broken ground. "Corn use as % of state production" is based on current and under construction ethanol capacity and uses USDA 2005 crop production.

19% of the state's '05 corn crop will be converted locally to ethanol. This will rise to 30% of Iowa's corn crop as soon as the additional capacity currently under construction is up and running.

Chart 2 doesn't include the myriad plants that are on the drawing board but haven't broken ground yet. And these percentages are based on this year's 11-billion-bushel bumper crop. Imagine the logistics problems in the northern U.S. to meet the demand from ethanol if/when the U.S. corn crop falls short!

South Dakota's current ethanol needs would have consumed two-thirds of the state's corn crop in 2002; and Iowa would have used up 42% (in 2002). But does a high percentage of usage in ethanol really impact the state's corn stocks? What's the difference whether corn is exported or converted to ethanol? Both are "disappearance": Use more corn locally and just export less.

Actually, it can be easy to find alternate sources to meet export demand. Ports can pull grain from many directions in its logical flow. The high basis at the Gulf traditionally pulls corn from Ohio as well as western Iowa, from Minnesota and Texas or points in between. The Gulf or Pacific Northwest will pull sufficient corn to meet export demand, then basis weakens to allow remaining corn to divert to other uses or to remain warehoused at interior points (such as Iowa). Shortfalls in production in any one region can generally be offset by corn from elsewhere when the corn is

going for export.

But the logistics change dramatically when feeding Northern ethanol plants. If Northern corn production falls short, it's costly to pull corn back upstream from Southern areas with higher basis values into upper reaches of the Midwest.

Drawdown of stocks

South Dakota and Iowa September 1 corn stocks declined steadily since 2001 as ethanol demand rose, for example, and only 'replenished' in 2005 after the 11.8 billion bushel bin-buster 2004 crop.

Despite the two largest corn crops in South Dakota history in 2004 and 2005, South Dakota's ending stocks again appear headed lower; demand is still rising faster than production! When South Dakota has a crop problem — and they will at some point — originating sufficient corn to meet that Northern demand could pose an expensive challenge.

Iowa's ending corn stocks may rise slightly in '06 due to back-to-back crops of 2.2 billion bushels, but just three years ago Iowa raised only 1.9 billion bushels. Assuming another crop of that size, and at Iowa's current disappearance rate, Iowa's ending stocks would fall to half of current levels or the basis would have to stay high enough to bring corn in or price other demand away from Iowa.

Chart 3
Ending corn stocks as of September 1

	2001	2002	2003	2004	2005	06
IA	477	361	288	222	494	530E
SD	86	69	51	41	84	50E

Million bushels, U.S.DA/NASS. 06 = GSC estimate

Clearly there will be times when plants aren't running at capacity or ethanol margins slide; oil prices may falter, for example, or the price of corn might soar. But under the Energy Bill, the mandates are there that will drive steady growth for ethanol, primarily produced from corn.

Basis impact

Increased ethanol (or other domestic) demand raises the potential returns for carrying hedged ownership of corn. Ethanol plants may buffer the low end of the

basis slightly at harvesttime, but the greatest impact will appear in winter, spring and summer as these plants compete to prevent bushels from "escaping" to remote markets.

It's simplistic to say that the presence of ethanol plants will prevent cheap basis when corn is moving. Freight and the level of farm selling are bigger influences. But it's fair to say that the Northern ethanol plants will likely increase the basis high/low range over each crop year. And therein lies opportunity for warehouse owners and seasoned merchandisers! It's not the basis level that drives profitability; it's the

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degree of change over time. The challenge is capitalizing on that because historical basis patterns will mean much less in the years to come.

Strategic decisions

It seemed logical for investors to locate ethanol plants near the source of corn and farmers, of course, wanted to raise their local prices. Grain facility owners in the North Central U.S. — especially in the nine states shown on Chart 2 — need to think about the strategic impact of ethanol on their business as well as thinking about day-to-day trading opportunities.

• From A to B: Owners should look closely at their regional grain flow prospects for the next five years. Short-haul rail and/or increased truck shipping capacity may be areas for investment. Potential returns from a 100+ car unit train investment may look shaky in some Northern/Central areas where ethanol plants are

springing up like kudzu, and there may be little corn left to ship to remote markets.

• Consider the potential returns from bins and warehouse space, higher-speed legs, or blending capacity. Ethanol plants need a dependable, steady flow of corn of appropriate quality, just as feedlots do. Is your facility up to the challenge?

• Ethanol plants typically set a moisture maximum on inbound wet corn and few have drying capacity. Farmers often need to move much higher moisture corn at harvest; efficient grain elevators can easily perform that function.

• People — Consider the value and return of expanding origination capacity to effectively coordinate buying farm-stored corn. Producers have many needs (e.g., pricing strategies, cash flow, LDPs, warehouse receipts). Selling corn through an elevator for eventual delivery to an ethanol plant may give producers the best of both worlds: flexibility as well as price.

• Trading — There will be significant value for middle-man merchants that can buy FOB farm, sell delivered ethanol plant(s) and other destinations, and to arbitrage freight, the logistics of who needs what and when, and handle quality "issues." Farmers who sell direct to an ethanol plant won't like dealing with rejected loads.

Ethanol plants are good for the business of producing or trading local truck corn, but bad for the business of moving corn to distant markets. The game is still raising and marketing corn, but ethanol changes how and where the game is played. ■



Diana Klemme is a long-time contributor to FEED & GRAIN. Contact her at Grain Service Corporation, Atlanta, GA, by calling (800) 845-7103 or e-mail at diana@grainservice.com