It's Still All About Yield

How can the seed sector respond to biofuels?

By Tray Thomas

BIOFUELS DOMINATE every ag conversation these days, but it is hard to see what this really means to the seed sector. Context Network, a leading consultancy to the seed industry, has assembled some of its great minds to make some projections and provide some thoughts on the consequences for the seed sector.

It is possible that the enthusiasm is reaching irrational levels, but there is no question that demand for corn has been growing significantly – driven by ethanol production. A thorough review of over 13 major studies has revealed an average forecast for ethanol production could reach 11 billion gallons by 2012. That would more than double the 5 billion gallons estimated to have been produced in 2006.

It's Still About Yield

That's a lot of demand and, quite simply, one of the driving factors in making ethanol work is a yield increase. The seed sector can best assist by helping farmers grow more. Plant breeding has long been delivering yield increases. If the industry can keep up its average long-run rate of improvement of 1.7% per year, farmers will be able to grow another 170-180 million bushels of corn next year which could be converted to 520 million gallons of ethanol. Based on developments in the pipeline and continual improvement of varieties, Context believes that is likely conservative. All of that increase will be needed in the long term to serve increased demand.

Changing Planting Patterns

Increased corn planting means "corn is king", as they say, and the kingdom is growing. Farmers are already signaling that they will be planting more acres of corn and those extra plantings are going to push soybean acres north, in turn displacing other crops. Context also expects the demand for inoculants to increase to help successfully grow soybeans in those zones where it is a relatively new crop.

There will likely also be a decline in proper crop rotation practices. Corn-on-corn planting will inevitably increase disease and insect pressure. Strong agronomic practices and breeding programs to manage this pest risk will be needed.

It's Not All Upside for Price

Of course increased demand for product and smaller stocks is having an impact on price, but it is not a straight line to higher prices. Expected usage of corn for 2008, at 100% capacity utilization of all ethanol plants, will require approximately 83 million acres of corn, while projected corn plantings for 2007 are over 85 million acres. This is likely to put the mid-term price at risk. Longer term, Context is projecting $2-3 bushel.

Focusing on the Right Questions

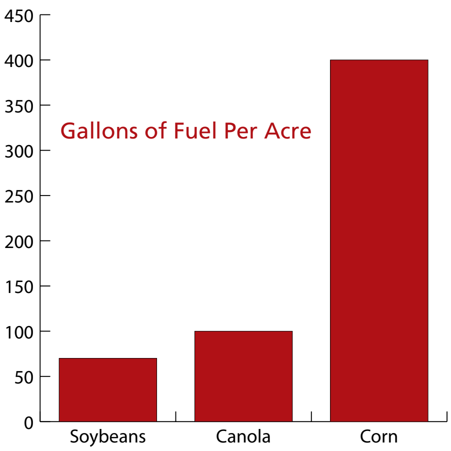
While the growth in the biofuels sector is raising a lot of speculation, many of the issues being discussed are not the most important ones. Certainly there are issues like adequate transportation infrastructure to move the product and the over

Ethanol is driving the increased demand for corn. An additional 4-6 million acres will be needed in the U.S. even with yield increases.

supply of distillers' grains. However, these will resolve themselves as the industry matures. Research is already underway to increase the amount of DDGs in feed rations and some ethanol plants have found it is more economical to burn DDGs in lieu of high cost natural gas.

It will be even more important to understand the effects of changes in the price of oil and corn on ethanol plant profitability. Context projects oil to stabilize at $50-55 a barrel and corn to level out at the $2-3 per bushel. At these ranges, combined with the strong government mandate and investment, the biofuels business will continue to grow.

These levels of oil prices have generated a lot of interest in biodiesel and even cellulosic ethanol. However, Context says that biodiesel may not drive the North American market the way it is in Europe since the demand for diesel is different and the level of government incentives is less. Cellulosic ethanol is also getting a lot of attention with several firms announcing plans to build plants. But while conditions may be right for several plants to be built, the economics are not yet to the point where cellulosic ethanol will flourish.



Given the lower energy production per acre, it is harder to make the case for biodiesel in North America. Of course, the industry should never forget that the oil and gas sector has the buying power to overwhelm the biofuels business. Thus far, they are not investing in this side of the business, but if they decide to, agriculture interests will not be able to compete.

Aligned Goals with Breeding

The good news is that seed industry goals are already well aligned with the needs of the biofuels sector. The seed sector has long been focused on improving the agronomics of corn. The biofuels industry needs more feedstock and it is really about volume. Although options like high fermentability can give a boost to processing efficiency, Context suggests it is really more corn, rather than specialty corn, that is needed to meet demand.

Plant breeders should focus on:

- yield boost
- nitrogen use efficiency
- drought resistance
- insect resistance

These traits will support the biofuels business and the traditional needs of farmers.

It is good to remember that farmers are in the production business and the seed industry can always add value by helping them be successful at producing, particularly when a sector is looking for a high volume feedstock. Yes, ethanol is exciting, but the exuberance in the market now visible may be short-lived and in the relatively near term things will adjust back to an equilibrium. As that happens, we will find that after all is said and done, it is yield that really matters. SW