

Industry News

Nebraska Corn Board Reassures California Customers

At the recent Tulare Farm Show and World Ag Expo in California, Nebraska Corn Board officials stayed busy reassuring end-users that U.S. corn producers will supply enough corn to meet their needs.

At the same time, they urged California feed suppliers and dairy producers to take a closer look at ethanol co-products, such as distillers grains, as alternatives to corn in their feed rations.

“California’s dairy and poultry industries have come to rely on Nebraska corn over the years, for both its high quality and lower rail shipping costs,” said Mark Jagels of Davenport, a farmer-director of the Nebraska Corn Board. “However, some of them told us that Nebraska corn has not been easy to get in recent months. And corn prices in California are up almost two dollars per bushel from last year. So they are understandably concerned about what the future holds, as is our own Nebraska livestock industry.”

Jagels said that he and other Nebraska Corn Board representatives assured the end-users that corn acres will increase and prices should moderate. “We reassured them that the price we’re seeing today is going to bring the acres and is going to bring more corn to the market,” Jagels said. “We also spent a lot of time talking about the potential for increased utilization of distillers grains in dairy rations. Many of them expressed interest in doing some DDGS feed-

ing trials and seminars to help increase their understanding of feeding ethanol co-products.”

Concerns about urban sprawl, as well as future corn availability and price, are causing many California dairy operations to consider relocation to the Midwest, according to Randy Klein, director of market development for the Nebraska Corn Board. In response, the Nebraska Corn Board joined with several other Nebraska entities at the World Ag Expo to host a luncheon and presentation entitled “Nebraska—Dairy’s New World of Opportunity.”

“Many large dairy farms in California are searching for new locations for their operations,” Klein said. “This is especially true for the Chino and Riverside communities, which are in the Los Angeles suburban area. There is a tremendous amount of pressure on those dairies to move elsewhere. In past years, they have been protected from certain tax payments, but now that has changed. So they’re selling those properties and moving out to other locations.”

Klein said some of those dairy operations are relocating to the central valley of California, but he estimated about half of them could end up moving out of California. “Our message to those individuals is that Nebraska offers consistent supplies of high quality feedstocks in the way of corn, distillers grains, and alfalfa. And their feed prices would be lower, considering they wouldn’t have the transportation cost on top of the grain purchase,” Klein said. “We also reminded them that we have good supplies of water, a good labor force, and a great quality of life here in Nebraska.”

In addition to the Nebraska Corn Board, sponsors of the



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California dairy luncheon were the Nebraska Department of Agriculture, Nebraska Soybean Board, Nebraska Alfalfa Marketers Association, University of Nebraska—Lincoln, American Dairy Association & Dairy Council of Nebraska, Alliance for the Future of Agriculture in Nebraska (A-FAN), KAAPA Ethanol, US BioEnergy-Platte Valley Ethanol, and E3 BioFuels.

Johanns Unveils 2007 Farm Bill Proposals

U.S. Agriculture Secretary Mike Johanns has unveiled the U.S. Department of Agriculture’s 2007 farm bill proposals. The more than 65 proposals correspond to the 2002 farm bill titles with additional special focus areas, including specialty crops, beginning farmers and ranchers, and socially disad-

vantaged producers.

“We listened closely to producers and stakeholders all across the country and took a reform-minded and fiscally responsible approach to making farm policy more equitable, predictable, and protected from challenge,” said Johanns. “We started with the 2002 farm bill and propose to improve it by bolstering support for emerging priorities and focusing on a market-oriented approach.”

USDA began preparations for the 2007 farm bill in 2005 by conducting 52 Farm Bill Forums across the country. More than 4,000 comments were recorded or collected during forums and via electronic and standard mail. These comments are summarized in 41 theme papers. USDA economists, led by Keith Collins, studied the comments and

authored five analysis papers.

The proposals unveiled represent the final phase of a nearly two-year process. Each detailed proposal provides information about why a change is needed, the recommended solution, and relevant background information about the impacted program or policy.

Highlights of the proposals include (funding reflects ten-year totals):

- Increase conservation funding by \$7.8 billion, simplify and consolidate conservation programs, create a new Environmental Quality Incentives Program and a Regional Water Enhancement Program.

- Provide \$1.6 billion in new funding for renewable energy research, development and production, targeted for cellulosic ethanol, which will support \$2.1 billion in guaranteed loans for cellulosic projects and includes \$500 million



for a bio-energy and bio-based product research initiative.

- Target nearly \$5 billion in funding to support specialty crop producers by increasing nutrition in food assistance programs, including school meals, through the purchase of fruits and vegetables, funding specialty crop research, fighting trade barriers, and expanding export markets.

- Provide \$250 million to increase direct payments for beginning farmers and ranchers, reserve a percentage of conservation funds and provide more flexibility for down payment, land purchasing, and farm operating loans.

- Support socially disadvantaged farmers and ranchers by reserving a percentage of conservation assistance funds and providing more access to loans for down payments, land purchasing and farm operating.

- Strengthen disaster relief by establishing a revenue-based counter-cyclical program, providing gap coverage in crop insurance, linking crop insurance participation to farm program participation, and creating a new emergency landscape restoration program.

- Simplify and consolidate rural development programs while providing \$1.6 billion in loans to rehabilitate all current Rural Critical Access Hospitals and \$500 million in grants and loans for rural communities to decrease the backlog of rural infrastructure projects.

- Dedicate nearly \$400 million to trade efforts to expand exports, fight trade barriers, and increase involvement in world trade standard-setting bodies.

- Simplify, modernize, and rename the Food Stamp Program to improve access for the working poor, better meet the needs of recipients and States, and strengthen program integrity.

The Administration's 2007 farm bill proposals would spend approximately \$10 billion less than the 2002 farm bill spent over the past five years (excluding ad-hoc disaster assistance), upholding the president's plan to eliminate the deficit in five years. These proposals would provide approximately \$5 billion more than the projected spending if the 2002 farm bill were extended.

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Mark Kessler • 8711 Taunton Drive, Huntersville, NC 28078 • Phone: 704-904-9672 • Fax: 704-947-0370 • e-mail: markkessler@laidig.com



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Samir Khanal, foreground, and Bishnu Karki work with an ultrasonic machine in an Iowa State University laboratory. They're applying ultrasonic technology to the soy processing industry. Photo by Bob Elbert.

The proposals are available at www.usda.gov/farmbill. Also posted on USDA's website are the Farm Bill Forum transcripts, farm bill comments submitted by the public, theme papers summarizing the comments, and USDA analysis papers.

Iowa State Researchers Improve Soy Processing by Boosting Protein and Sugar Yields

Graduate student Bishnu Karki turned on an ultrasonic machine in an Iowa State University laboratory. With a loud screech, the machine's high-frequency sound waves churned a mixture of soy flakes and cold water. And that churning could be a major boost to soy processors and the food industry.

Adding ultrasonic pretreatment to soy processing boosts and improves the yield of protein that can be added to foods, said Samir Khanal, an Iowa State research assistant professor of civil, construction and environmental engineering. In Iowa State laboratory tests, exposing ground and defatted soy flakes to ultrasonics has increased the release of soy proteins by 46 percent.

Khanal said the ultrasonic treatment also breaks some of the bonds that tie sugars to the soy proteins. Separating the sugars from the proteins improves the quality of the proteins. It also boosts the sugar content of the soy whey that's left after processing. Ultrasonic treatment boosted sugar yields by 50 percent.

The low-cost, sugar-enriched whey can replace an expensive compound used to grow lactic acid bacteria, Khanal said. The bacteria produce nisin, a valuable natural food preservative that's also used in cosmetic and health care products such as mouthwash and toothpaste.

"Our preliminary economic analysis showed that the proposed technology could generate revenue up to \$230 million per year from a typical plant producing 400 million pounds of soy protein isolate," says a summary of the research project. "This is a major breakthrough in the soy processing industry."

Khanal leads a research team that includes Hans van

Leeuwen, an Iowa State professor of civil, construction and environmental engineering; David Grewell, an Iowa State assistant professor of agricultural and biosystems engineering; Stephanie Jung, an Iowa State assistant professor of food science and human nutrition; and Buddhi Lamsal, a senior scientist at Kansas State University in Manhattan. Larry Johnson, the director of Iowa State's Center for Crops Utilization Research, and Tony Pometto, an Iowa State professor of food science and human nutrition, are assisting the project. Iowa State graduate students Bishnu Karki, who's studying environmental science, and Debjani Mitra, who's studying biorenewable resources and technology, are also working on the research project.

The research is supported by a grant of \$81,977 from the Grow Iowa Values Fund, a state economic development program. Cargill and other major food processors are supporting the research project with materials and supplies. And the Iowa Biotechnology Byproducts Consortium is supporting the nisin portion of the project with a grant of \$155,711.

Khanal said the technology has boosted protein and sugar release in batch-by-batch lab tests. The researchers will now try lab tests to see how it works in the same kind of continuously flowing stream that would be used in a soy processing plant.

The researchers are optimistic the technology can be effective and efficient in a full-size soy processing plant. Van Leeuwen said the ultrasonic treatments only require a few seconds and can be done in a pipeline connecting a plant's soy processing units. He also said the capital costs and power requirements for ultrasonics are small.

Yes, Khanal said, "I think this is commercially viable."

The Powers of Peanut Flours

New Agricultural Research Service (ARS) findings about the thickening capacity of various forms of peanut flour will help scientists improve food textures.

Peanut flour is a dry powder formed after the partial extraction of oil from the roasted peanut seed. It is used to add flavor and protein to processed baked goods, nutrition bars and snacks, as well as to marinades, sauces, and dressings. Worldwide, peanut flours have been limited to use by industrial food processors as a major food ingredient.

The study was conducted by food technologist Jack P.

Davis and colleagues in the ARS Market Quality and Handling Research Unit, Raleigh, North Carolina. ARS is the U.S. Department of Agriculture's chief scientific research agency.

To gauge how effectively different commercial peanut flours thicken during heat processing, Davis used different types of rheological tests. Rheological measurements involve testing the flow behavior and form changes of a material and have been shown to relate to the human perception of texture.

Generally, peanut flours are offered at fat levels of 12 or 28 percent, and either as light, medium, or dark roasts. Davis found that regardless of roast color, lower-fat peanut flours thicken more effectively than higher-fat ones.

While peanuts are about 25 percent protein, peanut flour is about 50 percent protein. That's because the process of mechanically removing fatty oil from roasted peanuts enriches the levels of the remaining peanut components. The resulting flour is naturally low in fat, high in protein, and relatively low in carbohydrates.

Ounce-per-ounce, low-fat, light-roasted peanut flours were found to promote more viscosity—or to thicken more effectively—than other peanut flours when dispersed in water and heated under controlled conditions.

Davis and ARS research leader Timothy Sanders will report the findings in an upcoming issue of *The Journal of Texture Studies*. That data and those from future studies will help food processors choose the best heat treatments, based on a particular peanut flour's thickening properties.

By Rosalie Marion Bliss, ARS Public Affairs Specialist.

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APC Recommends Industry Proceed with Bioengineered Peanut Varieties

On December 8, 2006, the Board of Directors of the American Peanut Council (APC) recommended that the U.S. peanut industry proceed with “due diligence” in the development of bioengineered peanut varieties. The Peanut Foundation is the coordinating body for the project.

Bioengineering may lead to peanuts that yield more oil for biofuel production, are more drought-resistant, grow more efficiently and have built-in herbicide and pest resistance—thus reducing the need for plant protection chemicals. Many of these traits have already been engineered into major crops such as soybeans, cotton, corn, and canola.

For consumers, the research may lead to peanuts with enhanced flavor and nutritional benefits, and possibly even nuts that are less likely to trigger allergic reactions.

Currently, bioengineered peanut varieties are not available commercially in the United States, though laboratory research into this is underway. It is estimated that it will be approximately five years before commercial bioengineered varieties are available.

Before any commercial production of bioengineered peanut varieties begins, the U.S. peanut industry will work closely with regulators and leading scientists to ensure all regulatory requirements and appropriate safety and environmental issues are addressed.

Brazil’s Soybean Crop Expected to Help Farmers

This year’s good-looking soybean crop in Brazil, in tandem with soybean prices that are on the upswing, are expected to help bail farmers out of the debt that they have accumulated over the past three seasons of drought and low prices. In drastic comparison with previous years, yields will be boosted this year by a near-perfect combination of sun and precipitation so far. Due to the wetter conditions, soybean rust has posed more of a threat this year, but remains well managed, and losses due to the disease so far are minimal. Production remains forecast at 55.5 MMT on an area of 20.6 million hectares (50.5 million acres).

Production

Brazil’s soybean production estimate remains at 55.5 MMT with an expected yield of 2.7 tons per hectare (1.2 tons per acre). The soybean harvest is 10% complete, with the first soybeans being harvested in the center-west of Brazil. Post paid a recent visit to areas being harvested in Paraná, and found the condition of the crop to be very good, with expected average yields of 2.9 tons per hectare (1.3 tons per acre) in that state. Under this year’s ideal weather conditions, early yields are short of outstanding only because less fertilizer was used this year due to poor credit availability.

The two remaining factors that could threaten the Brazilian soybean crop are excessive humidity and rust. In Mato Grosso, where the harvest is currently taking place, there have been reports of losses due to the wet weather. Five days of rain occurred in the center-north of the state, where a good part of the state’s soybeans are concentrated (Sinop/Sorriso region).

The other potential problem is soybean rust. The number of registered rust cases this year (1020) has nearly doubled over last year’s at this time (613). This increase is due to the fact that last year’s drought hindered the spread of rust, while this year’s humidity has allowed it to spread more easily. However, farmers seem to be doing either preventative spraying, or using the alert system (in the case of the south), and major losses due to rust are yet to be reported.

Biotech Beans

As corn prices began to rise in 2006, Brazilian farmers developed a strategy: plant and harvest GMO early variety soybeans, then plant winter corn as soon as possible in order to harvest it before frosts hit in July and August. This has contributed to the largest percentage of biotech soybeans ever planted in Brazil. Twenty-five to thirty percent of Mato Grosso's soybeans are biotech, compared to 5 percent last season. According to the International Service for Application of Agro-biotechnology (ISAAA in Portuguese), Brazil's overall soybean area is 54% GMO. The same group expects Brazil's soybean area to reach 80% in the next ten years.

The increase in biotech beans also created problems for some grain terminals, that are being challenged to keep conventional and biotech beans separate. However, premiums for those who grow conventional beans are increasing in value, as much as \$10 per ton. The more difficult to source, the higher the premium, such as in the south, where biotech has become the majority of the crop. In the center-west, where conventional beans are still prevalent, the premium offered for transgenic soybeans was reportedly in the neighborhood of \$6 per ton.

ABIOVE (Brazil's vegetable oil association) claims that Brazil should exploit its non-GMO market niche, granted that the U.S. and Argentina have gone nearly 100 percent biotech in soybeans. The main barrier to managing this

opportunity, however, is Brazil's difficulty in segregating GMO beans from conventional ones. ABIOVE has expressed concern that Brazil should improve the management and control of separate transport and storage for, as well as traceability of, conventional soybeans.

Area

This year's soybean area dropped about 7 percent due to the poor financial situation of farmers. This was in good part due to the lack of financing available to farmers in conjunction with their compounding debt. Some shifting from soy to sugarcane occurred. In the south, area was basically maintained, while the center-west lost area to sugarcane, cotton, and pasture. Soy expansion in frontier areas was put on hold this year.

However, the expectation of a considerable decrease in the U.S. soybean area in 2007 and possibly in future years in order to expand corn production has made a big impact on Brazilian farmers. It will very likely encourage expansion in soy area next season, which will mean that the clearing of new land will resume in the expansion areas of center-west and northern Brazil.

USDA Foreign Agricultural Service GAIN (Global Agriculture Information Network) Report. Approved by Alan D. Hrapsky, Agricultural Counselor, U.S. Embassy, and prepared by Elizabeth Mello, Agricultural Attaché. ■