



## I.D.E.A. Industry Update - July 16, 2004

### **\*\*\*Fill 'er Up -- With Straw and Yeast**

In the fairy tale, Rumpel-stiltskin could spin straw into gold. Now, a Canadian biotech company is using genetically modified yeast to improve the transformation of straw into ethanol. Yeast has long been used to break down glucose in corn and ferment it into ethyl alcohol, which is then added to gasoline and sold as a motor fuel. But straw, corn stalks, and other crop leftovers contain xylose as well as glucose -- and natural yeast can break down only one sugar at a time. Nancy Ho, a molecular biologist at the Purdue University Laboratory of Renewable Resources Engineering, found that by adding three genes to yeast, the organism can convert both sugars simultaneously into ethanol. The new process boosts ethanol yields by 30% to 40%. Purdue has licensed the yeast to Iogen in Ottawa. *(Source: AGNET)*

### **\*\*\*Developed Hybrid Vegetables**

Oved Shifriss, a plant breeder and geneticist whose development of hybrid vegetables in the 1940s, particularly for W. Atlee Burpee & Co., helped ignite the national boom in hobby gardening, died, according to this story, June 25 in Bloomington, Ind. He was 89. The cause was congestive heart failure, his son, Jordan Uzi Shifriss, said. The story says that from 1942 to 1950, Shifriss was the director of vegetable research for Burpee, in Warminster, Pa., where he developed 12 varieties, including early hybrids of cucumber, eggplant, muskmelon and watermelon. But it was his creation of the Big Boy tomato in 1949 that revolutionized home gardening, particularly the arduous art of growing tomatoes, said George Ball, the chief executive of Burpee. *(Source: AGNET)*

### **\*\*\*Soybean Rust**

From his soybean fields in Perry, Iowa, Ron Heck can, according to this story, see trouble growing in a host of tiny specks in Brazil. Brazilian farms are infested with soybean rust, a fungus that creates reddish-brown blotches on growing leaves, weakening the plant and reducing yields. The story says it has not reached North America, but experts say its arrival is a matter of time. Heck, president of the American Soybean Association, was quoted as saying, "It is definitely 100 percent a problem we have to solve. The difference between being prepared in advance and letting it sneak up on you is a factor of many billions of dollars." Agriculture Department analysts say U.S. producers, processors and consumers could be saddled with the costs. In the first year, soybean rust could create losses from \$640 million to \$1.3 billion, these analysts report. Average losses in following years could range from \$240 million to \$2 billion, depending on the severity and extent of the outbreaks, and how well U.S farmers learn to fight them. *(Source: AGNET)*

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### **\*\*\*GM Plants Will be Used to Create AIDS Vaccine**

Scientists were cited as announcing that genetically modified plants are to be used to grow vaccines against rabies and AIDS.

The stories note that Europe's first field trial, announced July 12, is likely to be carried out in South Africa because of fears over crop vandalism in Britain.

The GM crop could dramatically reduce the cost of producing vaccines and scientists estimate they can be made at between a tenth and a hundredth of the price of conventional immunisations.

Professor Julian Ma of St George's Hospital Medical School in London, the scientific co-ordinator of the project, was cited as saying that it will take about two years to develop the technique before the first crop is scheduled to be grown in 2006, and that clinical trials of the first vaccine derived from GM plants are planned to take place in 2009, adding, "Plants are inexpensive to grow and if we were to engineer them to contain a gene for a pharmaceutical product they could produce large quantities of drugs or vaccine at low cost. The current methods used to generate these types of treatments are labour intensive, expensive and often only produce relatively small amounts of pharmaceuticals."

Professor Ma was further cited as saying that 3.3 million people a year die from preventable diseases such as tuberculosis and diphtheria, yet there is not the industrial capacity or funds to produce enough vaccines for everyone, adding, "The cost of doing nothing is measured in millions of people who will die from preventable diseases." (Source: AGNET)

### **\*\*\*Coming Events**

- Informa Economics, Inc. (formerly Sparks Companies Inc.) 8th Annual Canadian Fall Outlook Conference, November 18 & 19, 2004, Sheraton Cavalier Hotel, Calgary, Alberta For more information, please contact Pam Brasier, Sparks Companies, Inc., Winnipeg, MB, Tel: 204-925-7070, Email: pam.brasier@informaecon.com.
- IDEA 6th Annual General Meeting and Conference, February 7-8, 2005, Winnipeg, SK, in conjunction with the CAAR Convention.

### **\*\*\*Low-Carb Corn**

Could corn chips be moving over to the list of foods fit for a low-carb diet? As this ScienCentral News video reports, one biochemist thinks his new low-carb corn can do that, and more. Low-carb, high-protein diets are so popular that 32 million Americans said they were on a low-carb diet last year, according to a Harris Interactive poll. Now, genetic engineers are finding ways to make low-carb, high-protein foods.

Daniel Gallie, a biochemist at the University of California Riverside has done that with corn. It started when Gallie experimented with the pairs of tiny flowers that turn into corn kernels. Normally, one of the flowers in a pair dies, and one kernel develops. But Gallie inserted a gene into the corn that saved the second flower from dying. Both flowers produced a kernel, which then fused into a single kernel. The result is corn with more protein and reduced carbohydrate.

Gallie's corn could mean more than just supermarket shelves filled with low-carb corn chips; its double dose of protein could have repercussions throughout the world. According to the World Health Organization, protein-energy malnutrition (PEM), the most lethal form of malnutrition, affects every fourth child worldwide. It's estimated that 800 million people worldwide suffer from malnutrition, of which insufficient protein in the diet is a significant contributing factor. Gallie's corn also had twice as much corn oil, which would be a boon to the food industry. (Source: AGNET)

### **\*\*\*Shortage of Affordable Grain Storage**

Grain bins are expensive and in many areas they're in short supply.

There has been unprecedented Chinese demand for steel products and that has caused steel prices to rise dramatically. It has also created shortages.

Cal Strinholm builds hopper bottoms grain bins at Melfort, Saskatchewan. He says some types of steel have doubled in price since last year. Strinholm is having trouble getting galvanized steel and will be unable to build all the bins he could be selling.

Grain bin prices vary widely depending on whether it's old stock or new stock, but on some 4,000 bushel hopper bottom bins, prices of over \$11,000 are being quoted once freight and set-up costs are included. In many cases, suppliers are sold out and unable to get steel to make more bins in time for this year's harvest.

After a number of years with below average crops, most of Saskatchewan has good crop potential. That's fuelling a strong demand for extra storage. *(By Kevin Hursh; Reprinted in part from the AgExpert Express newsletter by permission of AgExpert Management Software and Farm Credit Canada.)*

### **\*\*\*Low Participation in CAIS**

It appears that more than 30 per cent of farmers eligible to participate in CAIS, the Canadian Agricultural Income Stabilization program, have decided to pass on the program.

In the six provinces where CAIS is federally administered (British Columbia, Saskatchewan, Manitoba, Newfoundland and Labrador, New Brunswick and Nova Scotia), the deadline to enroll in CAIS for both the 2003 and 2004 program years was June 30.

In the six provinces, a total of nearly 85,000 options notices were sent to farmers for 2003, with nearly 87,000 sent for 2004. About 64 per cent of those options notices have been received back for 2003 with about 66 per cent received back for 2004.

Despite the enrollment deadline being extended, tens of thousands of producers are not participating.

In Ontario, the program is provincially administered and the deadline for enrollment was also June 30. However, Russell Rogan with the Ontario CAIS program says unlike other provinces June 30 was also the deadline for making CAIS deposits in Ontario.

Rogan says tens of thousands of applications were received near the deadline and it will be some time before participation numbers can be calculated.

Alberta has extended its sign-up deadline to July 31. In Quebec, the deadline for 2003 and 2004 is October 31. In P.E.I., the deadline for 2003 sign-up has passed, while the deadline for 2004 sign-up has been extended to July 31. *(By Kevin Hursh; Reprinted in part from the AgExpert Express newsletter by permission of AgExpert Management Software and Farm Credit Canada.)*