Biotechnology Addressed At PPFPES Conference

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UNIVERSITY PARK (Centre Co.) — The Pennsylvania Plant Food and Protectant Educational Society held its 40th annual winter meeting recently at the Nittany Lion Inn, State College. The organization formed in 1958 specifically to "promote the discrimination of useful and practical information regarding all forms of plant food, plant protectants, plant genetics, biotechnology, soil conservation, economics, new technology and their application to crop production of all kinds; to foster and promote strong and positive relationships among ag industries, academia and ag public sector."

The organization did all this and more at its recent conference, and, as a result of a bylaw change, hopes to soon change its name to the Pennsylvania Agronomic Education Society, Inc.

Program committee coordinators Greg Roth, Department of Agronomy at Penn State, and Don Hartzler, Union Mill Division of Chemgro, welcomed everyone to the three-day event. The conference schedule was packed with interesting speakers on a wide variety of subjects — seed technology, milk prices, using precision ag effectively, nutrient management planning, biotechnology, software demonstrations, lime, pest, and crop management — even how NOT to be exhausted at the end of the day.

Society president Jeff Stine complimented Roth and Hartzler for putting together such an in-depth program, then introduced Dr. Steve Fales, head of the Agronomy Department at Penn State. Fales' talk centered on the tremendous advances in ag technology in the past half century.

"The Green Revolution increased productivity, but now that's played out. The population is increasing geometrically, and there are limits for response to fertilizer. Some of our tools have been taken away from us, starting with a 1962 alarm on the negative effects of ag chemicals. In effect, we've learned to farm smarter. Information, in areas such as integrated Pest Management, nutrient management and biotechnology, is our most imprtant tool."

Fales belileves agriculture is on the verge of a second green revolution, but agriculture still needs to deal with public perception, citing the public's skepticism about biotechnology.

"Agriculture is going to be attacked, and our industry must respond and must be prepared to counter. We haven't been able to speak with one voice. But an event such as this (convention), makes me optimistic about our future."

Dr. John Goette, director of Research, Seed Technology Division, at Monsanto, took to the microphone to address the question, "Where is seed technology taking the crop protection industry?" In his talk, Goette covered the science behind biotechnology, biotechnological crops, retail business surveys, the future of biotechnology and its implications to the crop protectant industry. He began with a global perspective.

"In 1997, world population stood at 6 billion people. There are 88 million people born every year. That equals the population of Germany and the population growth rate of New York City every month. It takes 5.8 million square miles to feed people. Without continuing yield increases, 15 million acres will be needed by 2050. It's predicted that there will be double the number people on earth in the next 40 years.

"In 1776, there were approximately 800 million people on earth. It took 124 years for the population to double. It doubled again in 80 years and is expected to double again in the next 40."

Goette cited the same revolution Stine mentioned earlier in the conference, specifically mentioning site specific ag (GSP), the biotechnology explosion, a decrease in government subsidies, sustainability, and increased food demands. Goette said the shift is toward more value added seeds, larger, more sophisticated growers and increased yields.

The Science Behind Biotech

Traditionally, plant breeders would identify desirable traits and try to breed these traits into a commercial variety. This process takes time. According to Goette, biotechnology allows plant scientists to reduce the time. They "simply" single out the gene and insert it into the commercial variety. The first generation of biotechnical crops included Roundup Ready soybeans and corn.

"Corn yields have tripled over the last 40 years. In 1900, farmers produced 25 to 30 bushel per acre. Now, we're seeing 130 to 140," Goette explained. "In the next five years, we're looking at high oil corn, starch modification, improved amino acids, and improved insect, herbicide and disease resistance."

Goette believes another huge area could be in biopolymers, such as in biodegradable plastics, and mentioned Monsanto's current and unlikely alliance with Greenpeace.

"Biotechnology is having a significant impact on agriculture. We need to get integrated solutions to the farmer. Biotechnology cannot control weeds. Farmers will always need fertilizer, herbicides, application service, and technical recommendations."

Goette told crop protectant business representatives at the conference that technological training of their people is critical.

Sustainability

Beth Carroll from the Novartis Crop Protection Division addressed, "Moving toward sustainability from an industry perspective." She began by dispelling some of the misconceptions about what the term sustainability means.

"It does not mean to return to old, basic technology. That's not a reality. It does mean adding new technology, such as in seeds. Another misconceptions is that sustainability is incompatible with existing farming techniques."

Carroll said Novartis is looking at new, more selective solutions; human and environmentally safe products; lower rate products; IPM compatible products; biologically-based products; and seed treatment.

"We're paying particular attention to the needs of growers, focusing on changes in large farm business practices; computerized information systems; consolidated customer databases; technology development; and the development of precision farming techniques. We're payiong attention to the needs of the food producers such as the food chain systems on an international basis; we're members of the National Food Processors Association; we cooperate with the food processing industry to ensure that the food supply is safe and of high quality at an affordable cost."

Milk Price Reform

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To support that statement, he showed that Lancaster County has the highest number of producers in Federal Order 2, while at the same time having the highest number of producers in Federal Order 4.

That one county's dairy farmers can be the most influential in two federal milk marketing orders is evidence that, for milk pricing, location of the farm is not as important as the location of the processor.

However, the costs of producing milk have fluctuated along with the dairy prices.

Yonkers said that, as it seems in his own household, "Expenses seem to rise to meet income," suggesting that dairy producers can and do adjust their production costs to reflect changes in prices received for milk.

From some data collected from actual farm tax returns, he showed that total farm income and expenses have adjusted on dairy operations to provide about the same amount of net income during the past three years.

From the data he got from the Pennsylvania Farm Bureau, he showed that in 1994 with a $13.75 per hundredweight milk price, that farm income was $14.91 per cwt., while total expenses were $12.53, resulting in a total farm net profit of $2.38 per cwt.

In 1995, with the milk price at $13.26, the average total dairy farm income from the PFB data was $14.51, while total expenses dropped to $12.24 and net profit was $2.27.

Then in 1996, with $15.26 per cwt. milk, total farm income was $16.56 per cwt. and total expenses were $14.01, resulting in a net profit of $2.55 per cwt.

Yonkers also showed the production cost disparity among dairy producers in Pennsylvania.

Using a graph that compared cost of production to income per cow, using a constant milk price.

The graph showed, that while not in the majority, Pennsylvania has dairy producers whose cost to produce 100 pounds of milk is between $8 to under $10. They received $500 to $1,000 per cow, in the comparison.

Those whose cost of production ranged from $10 to under $14 per hundredweight, representing the majority, made from $250 to $500 per cow.

Those whose cost of production was $14 or higher, lost money. They did not represent the majority of producers.

The proposed consolidation of federal orders would basically merge the region of eastern Pennsylvania with that of New York, New Jersey, Mid Atlantic region and New England states.

The western region of Pennsylvania would be merged with Ohio and the nearby region.

Again, maps detailing the proposal are available on the USDA homepage.

The proposal is to receive a 60-day comment and review period, and this fall release decisions made upon those comments, followed by a referendum vote.

The referendum question is be set so that those in the proposed federal orders regions would be asked to decide all-or-nothing for the proposal — either "yes" or "no federal order."

He said that, as with other USDA producer voting, cooperatives can block vote, which means that as long as an individual cooperative member doesn't specifically reject a cooperative's representation, that the cooperative's representation will make the decision on behalf of its membership.

Members of cooperatives should discuss the proposal with their leadership.

Yonkers said that the proposal also includes new definitions for the different classes of milk. The actual prices paid would differ from subzone to subzone within the federal order.

In general, the Class I price would probably fall in most areas, while the other, normally lower-valued class prices would increase.

The overall effect, while not certain, is expected to raise the milk price overall.

He said that the USDA projects that if the proposed pricing changes would have been in effect from 1994 through 1997, the average price would have been 77 cents higher.

Yonkers said the new Class I differential would go down in 28 markets, up in three and stay the same in the upper Mid West.

The new Class I price "mover," instead of using the BFP, would be to use an average of the Class III or IV price, whichever is higher. That is expected to increase stability of price.

The new Class II price, which has been to use the BFP as a foundation, is to be now based upon component pricing.

Again, USDA analysis shows that it would have increased the average Class II price up 54 cents from 1994 through 1997.

The new Class III price is to be a "cheese only" price, based on computations from cheese yield, which relates directly to the protein composition of milk.

If it had been in place during those years, the average price would have been 55 cents higher.

A new Class IV price would be for butter and dry milk, using component pricein for non-fat dry milk.

The analysis projected a 96-cent higher price if the proposed system would have been in place.

According to Yonkers, the Class I price is projected to drop by as much as $1 per cwt., but the farmer receives a blend price, blending all of the handler's uses of the milk and their subsequent values.

In order to phase-in the new orders and pricing structure, there are three proposals for slowly reducing the Class I differential.

Other proposed changes include an elimination of the marketwide service charge to cooperatives within a federal order, which has been charged in F.O.2 to pay for mandatory education services cooperatives are required to perform.

Furthermore, seasonal adjustments are to be eliminated completely.

He said a rough estimate of the net impact on mailbox prices the new proposal would have is a 1 cent decline for New England states; a .06-cent increase for New York/New Jersey; and a 33-cent decline in the current F.O.4 region.

The new unregulated areas — those areas not included in any proposed restructured federal order — would receive an estimated 96-cent decline in mailbox price.

If producers vote against the proposal, that would result in an unregulated area. According to a map Yonkers displayed, a strip of central Pennsylvania would be in an unregulated area, since the federal orders are to be more concerned with where milk is processed, not produced.

Overall for the coming year, he said he expects milk prices to increase by 20 cents to 30 cents.

Of course, he said that there is much talk about possible effects from the El Nino on weather across the nation. California has been inundated, and he said that rain has controlled growth of dairy production in California.

He said that carryover stocks of feed grains and forages are not high and poor growing conditions could also decrease production and increase price.

Overall, however, he said that farmers should not expect to find the new milk pricing proposals any easier to understand than the existing system.

He said that in fact, if anything, it is more complex than before.

Grazing School

NORTH CORNWALL (Lebanon Co.) — Dairy or livestock producers considering or developing a grazing system should consider enrolling in a six-part grazing school being offered during March and April by the Penn State extension offices in Lebanon and Berks counties.

The school is set to be held every Thursday evening from 7:30 p.m. to 9 p.m., March 5 through April 9, in the Vo-Ag Department of the Northern Lebanon High School.

The cost of the school is $20 per person, and includes refreshments and course materials. Checks should be made payable to the "Lebanon County Extension Service," and mailed to the attention of Galen Kopp, 2120 Cornwall Rd., Lebanon, PA 17042.

The deadline for registration is Feb. 27.

There is no homework for the last three classes.

The April 2 class is to feature a discussion with Dr. Lisa Holden on nutritional considerations for cows on pasture.

The final class is to consist of a visit to a farm, for on-site evaluations and discussion.

For more information, contact Kopp at (717) 270-4391.