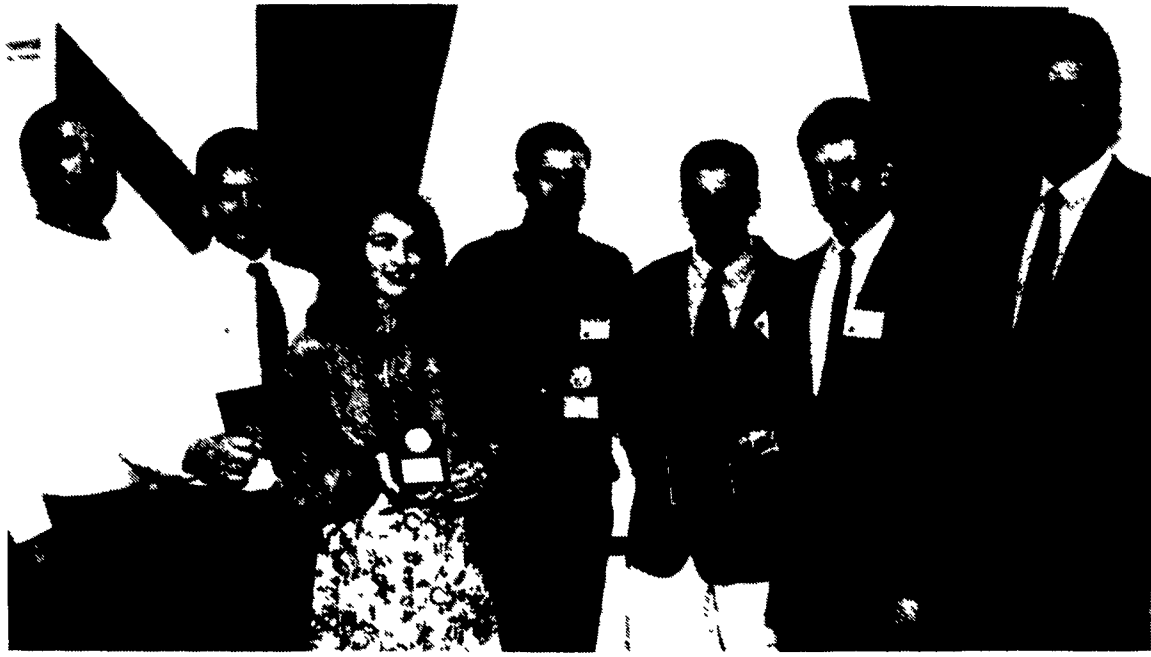


# Genetic Technology To Improve Pork Exists



For the third time in a row, Lebanon County won the Keystone Pork Bowl, 160-80, over Berks County. From left, Tom Moyer, Hatfield representative; Jason Krall; Katie Lefever; Jon Harnish; and Brian Kreider; John Risser, coach; and Dwight Woelkers, Hatfield representative.

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breeding program, producers can concentrate on the factors important to improving the marketability of hogs, including EPDs for backfat, growth, litter size, 21-day litter weights, and days to 230 pounds. By selecting the proper sows and boars, he said the "opportunity for success is tremendous."

Christian outlined the makeup of a program that assesses the genetic worth of sows and their productivity, called the Swine Testing and Genetic Evaluation System (STAGES) in use by several breed companies and organizations. STAGES helps producers select what gilt and boar to use that determines, from their EPDs and other measurements, what may directly influence the productivity and profit of a herd. The productivity index listed in STAGES provides all of the sow's records, including "aunts and sisters and relatives" with traits that are heritable.

Christian said much of the technology has existed since at least 1965, when Iowa State University was able to produce lean pigs with loin eye measurement "near seven inches," he said. But the economics "were never there," and there were problems with lean pigs, including porcine stress syndrome

and death on the way to market. "We need to have the economics to change," said Christian. According to the researcher, the technology is accurate — it's the marketing system that has to provide these incentives.

He said that, for instance, in Canada, producers are paid a premium of 14 percent for lean hogs, and receive an 18 percent deduction for the fatest measuring hogs. The U.S. offers incentives ranging only about 6 percent.

In Denmark and other European countries, technology is used to determine quantity of lean and assess the quality of it before slaughter before hogs are brought to market. In Denmark, a hog put on the production line has a part of its shoulder sliced off and measurements are taken on specific marketability items such as intramuscular fat (which determines flavor and juiciness of the pork).

"Hopefully we will develop better and better ways of assessing capabilities of live pigs so producers can get paid accordingly," he said. "We need a system to do a better job to pay for differences that already exist."

One way to affect leanness is to "bioengineer" hogs to remove the gene that bring about pale, soft and exudative (PSE) syndrome meat.

Using microminiature knives, geneticists can literally "cut away" the fault spot on the DNA on this heritable disease. Christian said that using current technology, scientists have the "potential to eliminate the gene from the pig population. Do we want to do that?"

The Danes, he said, have removed it, and can provide 4 percent more lean meat. This "quick fix" for increasing leans may have some benefit.

Also, packers can check the pH of slaughtered pigs to identify PSE meat while on the production line, as they do in Canada.

Christian went over several factors to help improve the structural soundness of a herd, but emphasized that "we can't breed hogs from the office. We have to look at them."

He also told producers to select for other factors, such as "big feet, big toes, even toes, and correct shoulder."

To make strides in obtaining a leaner seedstock, he said producers should work with nutritionists or AI suppliers to look more closely at the genetic potential of pigs. The genetic improvement of seedstock will affect future marketability of a herd.

Christian said that even smaller producers can benefit, and producers don't have to be a big corporations to make genetic selections.

## Market Outlook

To win the war against poultry, swine packers should understand that pork is reasonably priced compared to broilers and turkey products, according to H. Louis Moore, Penn State economist, who provided his market outlook at the Congress. Moore said producers and packers should "meet poultry head on to fight it out with them on a price standpoint, because they are very competitive from a price standpoint."

In 1993, poultry consumption in the U.S. may again hit a record, and will continue to take up a greater portion of total meat consumption. Poultry consumption and production "shows no abatement at all," said Moore.

The economist outlined some of the positive and negative aspects of the economy and the new administration. While Europe continues to slide into deeper recession, and the federal budget deficit grows, Moore said that it "pays to be an optimist if you're in ag."

The number of people employed

in agricultural industries continues to decrease. Only 1 percent of the entire U.S. population farms. We continue to lose 2 percent of our farms every year, and there are fewer new entries into agriculture, which is "a major concern," said Moore.

While many farmers are faced with taking off-farm work, and 56 percent of the hog farms were lost between 1981-1991, producers have reason to be optimistic because of the record U.S. corn harvest (projected at 9.48 billion bushels, but some remains in the field) in 1992. Pennsylvania did not have a record harvest, but a record per-acre yield (117 bushels per acre). There were 930,000 acres of corn in the state in 1992, and the amount of corn available will mean a great deal of carryover and cheap feed prices for producers — which will help in cost of producing pork.

Other companies, such as Tyson and Smithfield, are making a "bigger splash" in the hog industry, according to the economist. In all, 4.7 percent of the producers produce 47 percent of the total hogs in the country, with more than 1,000 head of hogs each. There has been a tremendous increase in the hog inventory for producers with more than 500 head.

Producers should know that 2.5 percent of the hog producers in Pennsylvania account for 45 percent of the total inventory.

(In North Carolina, 90 percent of the total inventory is made by producers with more than 1,000 head. Moore said that Pennsylvania may face the same situation someday — not as quickly, but fewer producers will produce more number of hogs. "I don't think you could say anything else," he said.)

Contract farming continues to grow in the state. The state ranks ninth in the country in total hog slaughter.

Using various sources (including the Pig Crop Report), Moore said that 1992 projections show that hog production should increase about 4 percent for 1993. But poultry could increase 6 percent because producers have no incentive to cut back to cover cash costs. There will be 3-4 percent more total meat consumed this year than the record amount consumed last year, according to the economist.

Hog futures show no big



Intermediate winner was Adrienne Elkin, Marlon Center, 15, daughter of Sam and Paula Elkin, who spoke about "Animal Rights, Animal Welfare."

increase in price. Feb. 11 projections for April show the price at 44.80. The June price stood at 50.25.

For 1993, the hog situation "will be better than 1992," said Moore, with feed prices lower. Better management and cheaper feed will contribute to profits for producers.

## NPPC Program

Pork producers should be aware of the strides made by the Pork Quality Assurance Program, according to Beth Lautner, director of swine health and pork safety for the National Pork Producers Council (NPPC) in Des Moines, Iowa. Checkoff dollars are contributing more to ensure the quality, safety, and wholesomeness of product to consumers — the goal of making pork the meat of choice in the 21st Century.

Lautner said that the public is receiving more "misinformation by the press" these days. "People get news now by headlines and sound bytes," and consumers often believe what they perceive is real, regardless of the facts.

She emphasized the importance of making sure herds are following the guides outlined by the assurance program — using drug products responsibly on the herd, good manufacturing practices, avoiding sulfa residues, good biosecurity, and other measures.

Nationwide, 4,000 are enrolled (Turn to Page A28)



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In his talk, "Genetic Programs That Producers Need and Consumers Demand," Dr. Lauren Christian, professor of animal science at Iowa State University, told those attending that traits can be selected to bring about better profit and loss sheets for producers, if they make use of existing technology and techniques.