Penn State reviews potato research at field day

PHILLIPSBURG, Pa. — About 250 growers from across the state attended Potato Research Field Day recently at the Penn State Black Moshannon Seed Farm adjacent to the Mid-State Airport. The farm is located in the Black Moshannon State Forest, about 30 miles west of State College.

"Our potato research farm is an excellent example of how industry, state agencies, and Penn State can work together to obtain a common goal," said Samuel H. Smith, professor of plant pathology and newly appointed dean of the college of Agriculture at Penn State.

Times are tough for Pennsylvania potato growers. Back in the 1930s growers planted about 200,000 acres of potatoes.

"In 1981 the seeding is estimated to be around 22,000 acres," says Richard cole, associate professor of horticulture at Penn State. "The Potato Seed Farm has been successful and an outstanding accomplishment, both in time and effort."

Originally planned for three successive five-year development projects, the research farm is years ahead of schedule.

Located on the Allegheny Plateau, the farm is a unique facility for potato research. The 2,000 foot elevation gives a cool growing season. The farm has nearly 100 acres of irrigated potato land ideally suited for research.

"Our five years of effort have yielded 15 years of accomplishments," said David MacKenzie, associate professor of plant pathology and organizer of the field day.

The program featured the various aspects of the research farm divided into 10 separate stations including: land clearing, breeding, irrigation, disease tests, management, crop loss, new varieties, the chip lab and foundation seed.

Participantes in the field day were escorted from station to station in groups of 15 to 20 persons, spending about 10 minutes at each station. The tour took about two and one-half hours.

The objective of the potato program, according to MacKenzie, is to develop replacement varieties for use in pennsylvania and the eastern region.

"Competition for the Eastern growers is from the West and the Northwest where production is increasing," said MacKenzie. "We in the East are working to reverse this trend."

Since Pennsylvania is the leading producer of potato chips in the country, the program focuses on developing round whites for chipping.

The Potato Chip Lab at the Potato Seed Farm allows for evaluation of new varieties for chipping characteristics, French frying, baking, boiling and other characteristics.

MacKenzie noted the success of the potato industry is vital to the state's agriuclture. "There is an isolated area on the research farm where we can grow the elite seed for a modest industry. This area will be used to provide high quality seed in coming years."

Another area on the farm has been designed for a totally new approach to breeding new potato varieties. The method, developed at Kansas State University, was known 10 years ago. A recently approved project may make the use of this new method the real hope for speeding up the quest for new varieites for Pennsylvania.

At the conclusion of the tour, Smith addressed the participants, as his last official duty as Head of Plant Pathology before becoming Dean of the College of Agriculture.

"Although years ahead of schedule, I think that many of us would agree that potato research is still a decade or so behind the needs of the industry. What we have been doing the last five years is running to catch up," Smith noted.

"Potato acreage has decreased by nearly 75 percent over the past 50 years. Today we plant 10,000 acres less than we did a decade ago."

The new dean added that having the markets here in Pennsylvania makes the potential success of the Potato Research Farm vital to the state's economy.

USDA scientists put freeze on bugs

WASHINGTON, D.C. — Scientists of the U.S. Department of Agriculture and North Dakota State University are investigating techniques of freezing and storing cells of insect pests at very cold temperatures.

Anson R. Bertrand, USDA director of science and education, said USDA is providing $86,000 for the cooperative study.

Rare or genetically unique strains of insects are research tools for developing effective and environmentally safe methods for suppressing crop, livestock and household insect pests, he said.

The problem, he said, is that rearing and maintaining laboratory colonies of these unique insects is costly, and many strains are lost each year.

If the cryogenic research is successful, scientists envision establishment of insect germplasm banks similar to those already estalished for plants, seeds and livestock sperm, said Roger A. Leopold, USDA Agricultural Research Service entomologist at the Metabolism and Radiation Research Laboratory in Fargo, N.D.

Leopold has proposed cryogenic storage of insect embryo and germ cells at temperatures approaching minus 195 degrees centigrade.

James D. Brammer of North Dakota State University will investigate methods for freezing and storing cells of insects. Barmmer and his associates in the university's zoology department are investigating methods of isolating embryo cells from the housefly, face fly and screwworm fly, and collecting mature sperm for storage.

After that, Brammer and USDA scientists at the Metabolism and Radiation Research Laboratory will determine whether cryogenic storage affects viability and ability of the embryonic cells or sperm to develop normally when transplanted into eggs.

They also will devise techniques for cell transplantation and fertilization for use in establishing laboratory colonies of insect strains when needed for research.

Cumberland District assumes more erosion control responsibility

CARLISLE — At last month's official meeting of the Cumberland County Conservation District, the directors agreed to accept additional responsibility in the Pennsylvania Department of Environmental Resources' Erosion and Sedimentation Control Program.

The Erosion and Sedimentation Control Program, under the Bureau of Soil and Water Conservation, consists of six levels. These levels involve education, permit plan reviews, complaint handling, problem assesment, and compliance. This new program was developed by the Bureau of Soil and Water Conservation of D.E.R.

In other district business, four county landowners were approved for conservation planning assistance. They included: Marlin Bloser (West Pennsboro Twp.), Donald Jones (Penn Twp.), Sam Miller (North Middleton Twp.), and Maynard Myers (Middlesex Twp.).

District directors discussed roadside erosion problems occurring throughout the county. Gerald Krall, of the county highway maintenance department, explained policies regarding grading roadsides and stockpiling soil.

Barbara Weiss, District manager, reported the District will have two fair exhibits this year: July 20-25 at the Shippensburg Fair and August 10-14 at the Carlisle Fairgrounds.

The District office may now be reached through the Cumberland County Courthouse at 249-1133 Ext. 379, as well as 249-8632. All the district meetings will be held at the new office at 313 S. Hanover St. in Carlisle, on the fourth Tuesday each month.

Livestock producers told "wheat is good buy"

COLUMBIA, Mo. — Wheat prices have dipped low enough to make wheat a good buy for livestock feed, Dick Rudel, University of Missouri-Columbia grain outlook specialist, reported this week.

Including wheat in feed cattle rations is not new to feeders, he said, "but it has been a few years since wheat has been able to compete with corn and milo in beef and swine rations."

Homer Sewell, UMC cattle feeding specialist, said wheat has 2 to 3 percent more protein than corn and is "equal or slightly greater in net energy compared to corn.

"The nutrient content of wheat differs more by variety than does corn. I'd recommend a test for protein to provide better feed formulation," Sewell said.

Kansas researchers estimate that a bushel of wheat in beef rations is worth 115 percent the price of a bushel of corn. In other words, if corn is selling for $3.30 a bushel, wheat would be worth $3.80 a bushel to replace it.

Also, the higher protein content of wheat in comparison to corn will add to the value of wheat in the ration of lightweight feeder cattle where soybean and meal supplements are used, Sewell said. Extra protein in wheat will be of lesser value in high grain finishing rations of older cattle where urea, a lower cost protein supplement, is used.

"I recommend limiting wheat to 50 percent of the grain portion of the ration for feedlot cattle to minimize digestive problems that can occur with larger amounts of wheat," Sewell said.

"Changing from corn to wheat should be gradual. A good system is to replace 20 percent of the corn and then wait 10 to 14 days before replacing the other 20-30 percent of the corn.

"Buffers, such as sodium bicarbonate, may be helpful in starting cattle on wheat rations. Monensin will suppress intake and may decrease overeating problems when cattle are started on wheat rations."

Sewell said research shows coarse rolling or grinding or steam rolling (not steam flaking) are the best ways to process wheat for beef cattle.