

Potato trials and research provide grower information

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Whether it is a purple potato to fit a niche market or finding varieties resistant or at least tolerant to psyllid infestations, Dr. Creighton Miller has a potato plant in Texas aimed at meeting a grower's need.

Miller, a potato breeder with Texas AgriLife Research and the Texas A&M University department of horticultural sciences in College Station, has breeding trials near Springlake and Dalhart.

Selections are made from seedlings grown in breeding plots each year, he said. The children of these "families," as the parent plants are known in potato breeding, are grown in the test plots.

"About 100,000 children were raised this year from about 660 families in the Springlake and Dalhart trials," Miller said.

"Over the years, we've had a number of challenges," Miller said. "Most recently, the potato industry has been concerned about a disease called zebra chip, which causes the potato to turn dark in a striped pattern when fried.

"It's a major problem with the chip industry, so we have been screening different varieties looking for tolerance and/or resistance to the vector that carries this disease – the potato psyllid."

Miller said they have developed some very successful varieties over the years to meet growers' needs.

"When our program started, the average yields of the Texas summer crop were about 200 hundred-pound sacks per acre," he said. "Now they've reached an average yield of 460 hundred-pound sacks per acre – the highest in the nation among the 11 summer-crop states. So we feel this reflects the success of our program with improved varieties and cultural practices as well."

Bruce Barrett, who has cooperated with Miller for more than 25 years and allows 11 acres of his farm south of Springlake to be used in the Texas Potato Variety Development Program, agreed that Miller's work has been helpful.

"Several selections that they've made out of these trials are now the standard for us in the russet potatoes," Barrett said. "We grow Texas strains of Norkotah that Creighton developed, so obviously it was a huge thing. They have a more vigorous vine and, without them, we wouldn't be in the russet business."

Barrett said he's counting on future help from these trials also.

"Now we are facing the psyllid problem, and so hopefully with Creighton's help and the rest of the researchers and their efforts, we can take care of that problem too," he said.

Barrett said 2011 has been one of the hardest years to grow potatoes as far as environmental conditions – early cold to late freeze to heat and wind with no moisture, and low humidity – and noted "the plants didn't like it."

He said the potato crop started with very low yields as harvest began and is now about average, but there have been problems with heat sprouting and more misshaped tubers than normal.

"But I think we'll have a crop," Barrett said. "As always with a vegetable crop, weather makes it tough. It's always a compromise on decisions. It's not perfect, but we will get through it."

In Miller's trials, growers can see potatoes of different sizes and different colors, such as russet, red and yellow skinned, purple flesh, yellow flesh and selections for the potato chip market.

A booklet published from the trials tells the name, size, parenthood, maturing timing, vine size and what market a particular [potato](#) is grown for, such as specialty, fresh or chipping, he said. It also outlines the strengths and weaknesses of each selection.

"We are developing a variety with red skin and yellow flesh that looks good this year," Miller said. "The yellow flesh potatoes are more popular now – Yukon Gold has made them more popular and we are developing many different types of potatoes to reach that market."

Provided by Texas A&M AgriLife Communications

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