

Chile and grass were topics at annual Plant Material Center's field day

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Los LUNAS

The cool morning air and festive red canopy covering the open wagon made the tour through the fields of the Los Lunas Plant Material Center very pleasant during the annual field day earlier this month.

Visitors ranged from local gardeners to farmers, ranchers and locals who just wanted to learn and see the cultivated acres of native plants being researched.

The wagon tours took visitors to three particular plots of plant research - the prairie coneflower, big sacaton grass and chile.

Wagons left for the fields about every half hour from 8 to 11 a.m. or so.

Attendees learned interesting facts, such as that Anaheim green chiles are a New Mexico chile grown in California. "Fabian Garcia developed the germplasm, and Gilberto Ortega took them to California," said Dr. Stephanie Walker, New Mexico State University extension vegetable specialist. "It bothers me that California gets credit for the pod type when they did not develop it," said Walker. "Anaheim chile actually has its root here in New Mexico. It's a New Mexico germplasm."

Also, while chile is originally from Central South America, the long green chile was cultivated in New Mexico.

There are basically three chile industries in New Mexico, the cayenne pepper, paprika and the long green chile industries, she said.

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The chile candidates are the New Mexico commercial cultivars, such as Joe Parker, Big Jim and Sandia. The ideal traits include a bigger, meatier and hardy chile that machine harvest won't easily break, yet also a chile that is easily destemmed. The desired plants would also grow their fruit on the outside as opposed to bunched at the top or within the foliage close to the stem.

Research is also being done to develop a chile that is naturally resistant to plant diseases and pests commonly found in New Mexico. These include curly top virus, spread by beet leafhoppers, and chile wilt, which is caused by fungal diseases. Drip irrigation can help alleviate some soil diseases.



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Blossom end rot is typically a calcium deficiency, Walker said, but usually New Mexico soils aren't calcium deficient. It's caused by drought stress when the plant is first flowering and setting fruit. Making sure the plant has plenty of water at that critical time can curb this problem, but not eliminate it altogether, because the dry heat in the state is hard for plants to bear, Walker said.

Other research being conducted includes the different characteristics of the New Mexico Landrace varieties of chile peppers, which are genetically very distinct from the southern varieties, she said.

“The Landrace chiles basically have been bred the traditional way by families in Northern New Mexico for many, many generations,” Walker said. “And of course, Chimayo is the most famous.” “It looks like a long time ago, families obtained chile seed up there, and then generation after generation, selected for attributes that they liked and for plants that were well adapted to Northern New Mexico.”

Walker fears these chile seeds will be lost by the commercial breeds being grown in the area, so NMSU and the Plant Material Center are working to preserve the Chimayo, Escondida, Cochiti, Zuni and other varieties of Landrace chiles.

Charles Havlik, a senior research assistant at the center, lived in northern New Mexico and has some associates that have saved seed in their families for generations.

He is working toward a master's degree in horticulture, and his master's project is his research in Landrace chiles. “Chuck has shown in his work that the different varieties have very distinct heat levels, distinct wall thickness, yield is certainly an issue,” Walker said “For the most part, most of these varieties tend to be smaller fruited and thinner walled than the commercial varieties I'm working with for machine harvest. They tend to be hotter, some of them are very, very hot, and some are almost mild. It's kind of based on the taste of that community and what they selected.”

The center's agronomist, Danny Goodson, gave a presentation at a plot of big sacaton bunchgrass, a native warm season, perennial grass. “We finally were able to release this as a variety back in 2010,” Goodson said. “The name is 'windbreaker,' and if you think about it, that name kind of gives it away as what we're using it for now.”

Windbreaker is an excellent wind-break to protect row crops and prevent soil erosion. “It's a good species for windstrip situations,” Goodson said.

The center began collecting this grass back in the 1980s, and made selections for the best of them. The released variety is a combination of 10 different varieties grown throughout New Mexico and Texas, he said.

Originally, their research was for a pasture grass as a niche grass when the cool season grasses quit growing. As a forage, it is tastiest to livestock before the plant matures, so it requires close management to keep it grazed low.

As a mature plant, it can be baled for a low protein hay or used as a mulch. It is also used as an ornamental plant, especially in low-water landscapes and xeriscape gardens.

The plant grows largest when the spacing between plants is five to six feet, Goodson said. He suggested using transplants, watering regularly when first getting it started, and planted at elevations below 6,800 feet. Windbreaker would also be good for alleviating dust storms across highways. The center is now looking at the species as a potential bioenergy crop, because of its huge forage production, he said.

At the plot of prairie coneflower, Gregory Fenchel, agronomist and PMC manager, explained that prairie coneflower is an inexpensive way to control roadside soil erosion. In range rehabilitation, coneflower can help attain a more diverse native plant community, because it is a pioneer

species. Pioneer species are the first to colonize previously disrupted or damaged rangelands, beginning a chain of ecological restoration. The young plants are nutritious and palatable to livestock and big game animals.

The Plant Materials Center is a division of the USDA Natural Resource Conservation Service, and has developed more than 30 improved conservation plants. Major conservation concerns include erosion and sediment control, range production and improvement, riparian restoration, and abandoned cropland revegetation.

The Plant Material Center is located at 1036 Miller Street SW off of N.M. 314. For more information, call 865-4684, and Dr. Stephanie Walker can be reached through her email at swalker@nmsu.edu.