

AgriLife Research scientists trumpeting possible new adaptation of tropical flower

March 3 2011

Texas AgriLife Research scientists are trying to bring more beauty to the colder regions of the state by breeding winter-hardiness into a tropical ornamental plant, the angel's trumpet flower.

Dr. Dariusz Malinowski, AgriLife Research plant physiologist and forage agronomist in Vernon, along with Dr. Bill Pinchak and Shane Martin, both with AgriLife Research, and Steve Brown, program director for Texas Foundation Seed Service, began the project three years ago.

The goal of the project is to develop new [cultivars](#) with a range of flower colors, shapes and size, Malinowski said. The project has already resulted in about 25 breeding lines being sent to the Texas A&M University System Office of Technology Commercialization. The next step is to offer the new lines commercially.

Several commercial nurseries have expressed interest in evaluating many of these lines this spring, Brown said. Evaluation will include commercial production and propagation to produce commercial quantities of angel's trumpets.

"Once successful evaluations are completed, Texas homeowners should be able to find these unusual and beautiful flowering shrubs in their local garden centers in the spring of 2013 or 2014," he said.

The flower program, which also includes hibiscus, has been added to the

research objectives at Vernon as the researchers try to breed in drought-tolerance and winter-hardiness into non-traditional or under-utilized crops that have ornamental value, he said.

Angel's trumpet is the generic name for the Brugmansia genus of flowering plants native to the subtropical regions of South America, along the Andes from Colombia to northern Chile and also in southeastern Brazil.

The plants are perennial shrubs or small trees that typically reach heights of 9-30 feet with a tan bark, Malinowski said. The leaves are alternate, generally large, 4-12 inch long and about 2-7 inches broad.

The large, pendulous flowers are very dramatic, trumpet-shaped flowers that can range from 1 foot to 2.5 feet long and 4 inches to 12 inches across at the wide end, he said. The flowers most traditionally are white, yellow and pink, with some rarer orange or red lines.

"The angel trumpets are very attractive ornamental plants grown in gardens in the southern regions of the state or as container plants further north," Malinowski said. "They will not tolerate frost or freeze."

He said they are testing breeding lines for winter survival of the roots to determine which ones will be able to survive in the Vernon-to-Dallas region. The growing region must not have temperatures that drop below 15 F. Several lines grown in the researchers' gardens have regrown from the roots in the spring and bloomed by the end of the summer.

"We hope to extend the ornamental use of angel's trumpet into this region by breeding and selecting lines with a greater ability to survive the winter," Malinowski said.

He said the height of the trees will be affected by the die-off of the

stems each year, so the winter-hardy lines might only get to about 5 feet tall.

But that is not affecting the beauty of the flowers, Malinowski said. Some of the most interesting new lines include one with flowers divided into six to eight parts, instead of the typical five parts.

"These additional parts make the flower much larger than the typical bloom," he said. "And recently, we've been able to add a trait of double flowers to this atypical flower form."

Malinowski said other lines have extremely long "whiskers," up to 5 inches long, as well as new colors such as coral or deep golden and orange tones.

"One of our goals is to create flowers with multiple colors," he said. "One of the lines has double flowers, where the outside skirt is white and the inside skirt is yellowish. Another line also has double flowers, with the outside skirt in light pink and the inside skirt in dark pink."

Provided by Texas A&M AgriLife Communications

Citation: AgriLife Research scientists trumpeting possible new adaptation of tropical flower (2011, March 3) retrieved 24 April 2024 from <https://phys.org/news/2011-03-agrilife-scientists-trumpeting-tropical.html>

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