

# Rare hibiscus color is achieved after four years

September 3 2010

---



Dr. Dariusz Malinowski, Texas AgriLife Research plant physiologist in Vernon, has bred a unique blue shade of hibiscus. Credit: Texas AgriLife Research photo by Dr. Dariusz Malinowski

Dr. Dariusz Malinowski is seeing blue, and he is very excited.

For four years, Malinowski, an AgriLife Research plant physiologist and forage agronomist in Vernon, has been working with collaborators Steve Brown of the Texas Foundation Seed and Dr. William Pinchak and Shane Martin with AgriLife Research on a winter-hardy [hibiscus](#) breeding project.

The project was first a private hobby of the inventors and became a part of the strategic plan of the Texas AgriLife Research and Extension Center at Vernon in 2009. The flower commercialization is a part of the

research on non-traditional or under-utilized crops that have value because of [drought tolerance](#).

Malinowski's breeding goal has been to create a blue-flowering winter-hardy hibiscus.

"A blue pigment does not exist in this species, thus hybridizers have not been successful so far in creating a plant with blue [flowers](#)," he said.

"There are a couple of recently introduced cultivars with plum and lavender flower color."

But now Malinowski has managed to breed a flower with the illusive color.

He and his collaborators have created a number of lines with unique flower and foliage shape and color. The new hibiscus hybrids range in color from white through different shades of pink, lavender, bluish, red and magenta tones, and some of them have combinations of two or even three colors.

One line has dark maroon foliage with moderately big, white flowers that blend into a pink center with darker veins, Malinowski said. Flower size of these hybrids varies from miniature blooms 2 inches in diameter to the size of dinner plates, about 12 inches in diameter.

Malinowski has been using these cultivars in his breeding project for several generations. This year, they finally had one plant bloom with almost blue flowers, a significant breakthrough in efforts to create a blue hibiscus cultivar.

"It took four years of work and more than 1,000 crosses among three winter-hardy hibiscus species to achieve this goal of creating an almost-blue flowering hibiscus hybrid," he said.

The new hybrid is not perfect yet, Malinowski said.

"The flowers get a fantastic blue hue in shade, but in full sunlight they are still plum-lavender-bluish," he said.

Brown said it is important to note that in the world of ornamentals, "blue" is interpreted to have a wide range of hues. Most ornamental blues have a more purple or lavender cast.

"There are very few true blue flowers in any ornamental cultivar," he said. "Although I would call this flower 'almost blue' as Dariusz has, there is no question that this development is unique in known hardy hibiscus color ranges.

"My expectation is that we will see more vibrant colors in next year's F1s (cultivars) using this line as a parent," Brown said.

Malinowski said he will use this plant as a parent in his breeding project this summer, with the goal to stabilize the blue color in full sunlight and increase flower size from the current 7 inches to the "magic" 12-inch diameter.

Breeding of ornamental plants is not the major research area of Malinowski, but he said he enjoys new challenges and the benefits of combining his private hobby with business.

"I never thought I would be an expert in breeding winter-hardy hibiscus," he said. "The knowledge I have gained during the past few years of intensive work on hardy hibiscus helps me reach most of the breeding objectives in a relatively short time."

What is next? Malinowski and his collaborators have a new challenge - to create an orange flowering hardy hibiscus.

This goal seems to be even more difficult, but not impossible, Malinowski said. It will require hybridization with a distantly related hibiscus species, which has shades of orange flowers. The researchers hope that with the help of molecular genetic tools they will be able to meet this objective.

Provided by Texas A&M AgriLife Communications

Citation: Rare hibiscus color is achieved after four years (2010, September 3) retrieved 9 April 2024 from <https://phys.org/news/2010-09-rare-hibiscus-years.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--