Development of New Plant Varieties for N.C. Growers

The Need: Farmers have always had to contend with factors such as plant diseases and insect pests bent on destroying their crops. Then there’s the weather, the grower’s friend one day, enemy the next. And these days, farmers must also deal with a global economy, with competition from growers in South America or Africa who may enjoy vastly lower production costs. If American growers are to continue to raise crops profitably, to compete against global competition, not to mention their ancient foes, disease and insect pests, they need an edge.

Serving the Need: N.C. State University’s College of Agriculture and Life Sciences boasts a long and productive history of plant breeding, of developing new varieties of various crops that are designed to make growers in North Carolina and beyond more productive.

At a time when many public plant breeding programs are experiencing funding and personnel cuts, plant breeding in the College of Agriculture and Life Sciences has remained strong. Indeed, the N.C. State program is among the strongest in the nation. Breeders conduct research, cultivar and parental line development, and germplasm enhancement in three departments.

- In the Department of Crop Science, efforts focus on agronomic crops, including corn, small grains, soybeans, cotton, peanuts, tobacco, forage grasses and legumes and turfgrasses.
- In the Department of Horticultural Science, breeders work on horticultural crops including cucurbits, small fruit crops, tomatoes, potatoes, sweet potatoes, fruit trees and ornamental and floricultural crops.
- And in the Department of Forestry, breeders focus on breeding and conservation of numerous native tree species, including tropical and subtropical trees, and on Christmas trees.
- In addition, other departments such as Plant Pathology and Entomology have faculty who are extensively involved in breeding programs for field crops, horticultural crops and trees.

N.C. State University plant breeders have released for public use 641 cultivars, germplasms and parental lines. Our breeders have developed 458 field crops cultivars, germplasms or parental lines and 183 horticultural crop cultivars, germplasms or parental lines.

Impact beyond North Carolina: The field and horticultural crops produced in North Carolina are worth nearly $3 billion annually. New crop varieties from N.C. State plant breeders allow growers in North Carolina and beyond to deal with pests more effectively and to produce higher yields. In some cases, new varieties even stand up to bad weather more effectively. Crop breeding at N.C. State helps give growers the edge they need to stay competitive.

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