

Achievement

College of Agriculture and Life Sciences

A World-Class Tobacco Breeding Program

Dr. Earl Wernsman, William Neal Reynolds professor emeritus of crop science, retired in 1999, but he continues to lead a flue-cured and burley tobacco breeding program that is arguably the most productive in the world. Consider: The tobacco breeding program in the College of Agriculture and Life Sciences at North Carolina State University, which Wernsman continues to run in retirement, developed and released 10 new tobacco varieties in the 1990s. These new varieties have contributed to increased production efficiency by providing higher yields, superior quality and improved resistance to viral diseases and diseases such as black shank as well as pests such as nematodes. For example, breeding work designed to confer resistance to the main race of black shank has essentially eliminated or at least minimized the threat of this disease to those growers who plant new tobacco varieties developed at NC State. In many instances, multipurpose fumigant soil treatments used in the past to control this disease are no longer needed.

The availability of flue-cured tobacco varieties NC 55, NC 71, NC 72, NC 297 and NC 291, all developed by Wernsman, has had a significant impact on flue-cured production in the United States and internationally. NC 71, first available to growers in 1997, occupied 29 percent of the tobacco acreage in the Southeast in 2002. NC 71 is resistant to black shank, and the economic benefit to growers of minimizing black shank losses and reducing multipurpose chemical usage, while difficult to quantify, has been highly significant. Flue-cured tobacco varieties developed at NC State University are planted on 50 percent of the tobacco acreage in the Southeast. Burley tobacco varieties developed at NC State, such as NC 2000, which has some resistance to the blue mold tobacco disease, and NCBH 129, NC 3 and NC 5, are grown on 25 percent of the U.S. burley acreage.



Dr. Earl Wernsman leads a tobacco breeding program that may be the most productive in the world.

achieve! NC STATE

For information about the impact of programs across North Carolina State University, please visit:
<http://achieve.ncsu.edu/>