

## NC524, NC526, NC528, and NC530

The Department of Crop & Soil Sciences of NC State University announces release of four new inbred corn lines. NC524 and NC526 are derivatives of NC320, both resulting from backcrossing NC320 to Pioneer hybrid 3737, a non-Stiff Stalk hybrid widely used in ex-PVP studies. The F<sub>2</sub> of P3737 x NC320 was backcrossed twice to NC320, followed by ear-to-row selfing. Both lines have yellow, semi-dent kernels on white cobs. Both have good stay-green and are quite vigorous. NC524 and NC526 (and their predecessor, NC320) were survivors of multiple-disease inoculations. Southern leaf blight, anthracnose stock rot, and fusarium kernel rot are quite effective; several other diseases are used, but are less effective under our (Clayton, NC) nursery conditions: northern leaf blight, gray leaf spot, anthracnose leaf blight, eyespot, and gibberella ear rot. (We do run separate gray leaf spot tests in western North Carolina as it has had a major impact on farmers in that area). Syngenta supplied most of the inocula for these studies. We do not seek immunity from any of these diseases, but select for stay-green and clean kernels at harvest. Both NC524 and NC526 contain substantial amounts of unusual germplasm. They trace back to SC76, itself derived from southern open-pollinated material that has been little-used in public or private breeding, but has been an excellent source of yield and general disease resistance for us. Both NC524 and NC526 are 87% southern. Thus, they differ substantially from midwestern lines currently in use. NC528 was derived from NC320 x (105.155/TZ70) by ear-to-row selection. 105.155 was derived from (Pioneer X105A x Agroceres 155), both all-tropical, commercial hybrids), first by sib-mating, followed by ear-to-row selection. TZ70 was a parent of several widely-used NC lines including NC258, NC262, and NC290. NC530, first coded as 2664-1/06, was derived from P3737xNC492<sup>2</sup>. NC492 was derived by ear-to-row selection from NC258 [southern] x NC296 [tropical]. NC530 has good stay-green and is quite vigorous. All four of these lines are good sources of yield and general disease resistance. All should be excellent male or female parents for yellow food-grade quality hybrids. All four lines are well-adapted to North Carolina, but may be late for the Midwest (where most hybrid seed corn is produced). Seeds are available in lots of 100 kernels at a cost of \$300 per line. Public programs, both state and USDA, including inter-institutional programs, such as GEM, Genomes to Fields, and Cooperative Extension Programs are not charged, but seed supplies may be limited if there are unforeseen demands. While NC corn line releases will be maintained in Raleigh for 20 years, whenever possible; they will be sent to the North Central Plant Introduction Station at Ames, IA, for free, public release after 20 years, and will be freely available then with no restrictions. Until then, international seed requests may be filled with fewer kernels, or may have delays (or even complete blockages) due to phytosanitary inspections, restrictions, and requirements. In such cases, there may be additional charges and delays at the time of seed shipment. Checks should be drawn on a U.S. bank, and made payable to the Department of Crop and Soil Sciences, NCSU. Box 7620, Raleigh, NC 27695