REGISTRATION OF GERMLASMS

Rootworm Synthetic. A large number of inbred lines were evaluated as inbreds per se and in hybrid combinations for corn rootworm tolerance and several root traits. Twelve inbred lines were selected as parent lines for an early synthetic to be used in further studies of resistance, particularly tolerance, to corn rootworms [Diabrotica virgifera Le Conte, D. longicornis (Say), and D. undecimpunctata howardi Barber]. These lines were: W153R, A239, A251, A265, A297, A417, A556, A632, Ms107, Oh43, R168, and SD10. Collectively, these inbred lines possessed root characteristics believed required in a population for good tolerance to corn rootworm larval damage. Recurrent selection was practiced for southern stem rot (S. sclerotiorum) resistance.

NC 3033 has a high level of resistance to Cylindrocladium black rot. Also, several of the original parent lines were widely used as parent lines in hybrid seed programs; consequently, inbred lines developed from this source are expected to have above-average general combining ability. The maturity classification is approximately AES500.

'BSS20(S)C2' (Reg. No. GP 73). This improved maize synthetic was designated originally as Iowa Late Rootworm Synthetic. A large number of inbred lines were evaluated as inbreds, per se, and in hybrid combinations for corn rootworm tolerance and several root traits. Twelve inbred lines were selected as parent lines for a late synthetic to be used in further studies of resistance or tolerance to corn rootworms. These lines were: B14A, B53, B57, B64, B67, B69, A73, N6, N28, R101, HD2286 (BSSS sel.), and 38-11. As a group, these inbred lines would contribute root characteristics believed required in a maize population for good tolerance to corn rootworm larval damage. Six of these lines originated from BSSS (Iowa Stiff Stalk Synthetic), and B64 derived from a backcross program in which B14 was the recurrent parent; consequently, BSS20C0 obtained more than 55% of its genes from BSSS. An evaluation of BSS20C0 in a synthetic diallel showed that it was superior in general combining ability for yield and resistance to root and stalk lodging. Recurrent selection based on the evaluation of S lines in replicated experiments was used for two cycles, resulting in the C2 population. The first cycle evaluation was of 234 S lines, and 24 were selected for recombination to give the C1. In the second cycle, 123 S lines were evaluated and 20 were selected for recombination to give BS19(S)C2. Predicted gains in each cycle indicate that this population will be a good source for early inbred lines that have adequate tolerance to corn rootworms. Also, several of the original parent lines were widely used as parent lines in hybrid seed programs; consequently, inbred lines developed from this source are expected to have above-average general combining ability. The maturity classification is approximately AES800.

REGISTRATION OF NC PY 10 TOBACCO GERMPLASM1

James F. Chaplin*

'NC PY 10' is a pale yellow (PY) flue-cured tobacco (Nicotiana tabacum L.) developed and released cooperatively by the USDA, and the North Carolina Agric. Exp. Stn., Raleigh, N. C. It was controlled by a single dominant gene and is of value to flue-cured tobacco producers because of its uniformity and relatively uniform ripening. The PY trait was first discovered in Tobacco Introduction (T.I.) 1372, obtained from the National Agric. Inst., Argentina. However, T.I. 1372 lacked many of the characteristics desired in flue-cured tobacco. NC PY 10 was developed by crossing T.I. 1372 to NC 2326 five times. The PY trait was recovered in the F4 generation from the last backcross at the time of its release. The line was released in 1976 to plant improvement stations, and other research organizations for breeding purposes.

The new breeding line was evaluated in recurrent selection for 2 years at Oxford, N. C. It was also evaluated in the Tobacco Regional Small Plot Test in four states. Results from these tests indicate that the new line is similar to NC 2326 in days to flower, number of leaves, plant, leaf size, and plant height. It produces more quality leaf than NC 2326. The leaf produced cigarettes with smoke that is potentially desired in flue-cured tobacco. NC PY 10 has disease resistance equal to NC 2326.

Leaves from the line mature about 10 days earlier than normal flue-cured cultivars and should be highly. The yellowing time in the barn should be about half of that for yellowing leaves of normal green flue-cured cultivars. The yellowing time in the barn should be about half of that for yellowing leaves of normal green flue-cured cultivars. The yellowing time in the barn should be about half of that for yellowing leaves of normal green flue-cured cultivars.

NC 3033 matures 7 to 10 days later than 'Florigiant' and yields 80 to 85%, of Florigiant on soils free of CBR disease. Seeds for distribution are maintained by the Tobacco Research Laboratory, ARS-USDA, and the Dep. of Crop Science, North Carolina State Univ.

REGISTRATION OF NC 3033 PEANUT GERMLASM

M. K. Beute, J. C. Wynne and D. A. Emery

NC 3033 is a small-seeded Virginia-type peanut (Arachis hypogaea L.) distributed by the Peanut Research Laboratory, ARS-USDA, and the Dep. of Crop Science, North Carolina State Univ. It is a hybrid of 'Florigiant' and T.I. 1372. These lines were: 'NC 3033' is highly susceptible to two-spotted spider mite (Tetranychus urticae Koch). Although the line appears homogenous in shape, it is heterogenous for fruit size and pod color. NC 3033 matures 7 to 10 days later than 'Florigiant' and yields 80 to 85% of 'Florigiant' on soils free of CBR disease. Seeds for distribution are maintained by the Tobacco Research Laboratory, ARS-USDA, and the Dep. of Crop Science, North Carolina State Univ.