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 [Diatroica virgifera Le Conte, D. longicornis (Say), and D. undecimpunctata howardi Barber]. These lines were: W133R, A239, A251, A265, A297, A417, A556, A632, M107, Oh13, R168, and S10. Collectively, these inbred lines possessed root characteristics believed required in a population for good tolerance to corn rootworm larval damage. Recurrent selection was used on the evaluation of S lines in replicated experiments was used for two cycles, resulting in the C2 population. Traits evaluated were resistance to root lodging in the second cycle, and root damage by larval feeding, root system size, and secondary root development in both cycles. In the first cycle, 234 S lines were evaluated, and 24 selected for recombination to give the C1. We evaluated 122 S lines in the second cycle and selected 20 S lines 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 AES500.

BS20 (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 (BSS5 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 BSS5 (Iowa Stiff Stalk Synthetic), and B64 derived from a backcross program in which B14 was the recurrent parent; consequently, BS20C0 obtained more than 55% of its genes from BSS5. An evaluation of BS20C0 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 and recombined to give the C2. Traits evaluated in both cycles were resistance to root lodging, root damage by larval feeding, root system size, and secondary root development. The C2 population has a vigorous plant with an extensive root system; thus, it is expected to be an excellent source from which breeders may develop inbred lines. The maturity classification is approximately AES500.

REGISTRATION OF NC PY 10 TOBACCO GERMLASM

James F. Chaplin

'NC PY 10' is a pale yellow (PY) flue-cured tobacco [Nicotiana tabacum L.; 'Florigiant' [Tobacco Research Laboratory, ARS-USDA, and the North Carolina Agric. Exp. Stn. The new breeding line, NC PY 10, was developed and released cooperatively by the ARS-USDA, and the North Carolina Agric. Exp. Stn. The breeding line was controlled by a single dominant gene and is one of the best to flue-cured tobacco producers because of its uniformity and relatively uniform ripening. The gene was first discovered in Tobacco Introduction 2326, which was obtained from the National Agric. Institute, Argentina. However, TI 1372 lacked many of the desired characteristics in flue-cured tobacco and NC PY 10 was developed by crossing TI 1372 to NC 2326 five times. The line was released in 1976 to flue-cured tobacco producers because of its early leaf maturation and ability to ripen uniformly. The PY trait is useful for extending the harvest period by 10 days and is valuable to flue-cured tobacco producers because of its early leaf maturation and ability to ripen uniformly.

NC 3033 is a small-seeded Virginia-type peanut [Arachis hypogaea L.] line developed by the North Carolina Agric. Exp. Stn. and released in April 1976. NC 3033 was selected in limited testing NC 3033 has also shown field resistance to early leaf spot (Cercospora arachidicola Hori) and to pythium pod rot (primarily Pythium myriotylum Drechsler). It is observed that NC 3033 is highly susceptible to two-spotted spider mites (Tetranychus urticae Köch). NC 3033 has a semidwarf bunch growth habit with small dark green leaves that are slightly pubescent. The pods are small (53 g/100), light pink in color, and grow in shape. Although the line appears homogeneous in habit, it is heterogenous for fruit size and pod shape. NC 3033 matures 7 to 10 days later than Florigiant and produces 85% of Florigiant on soils free of CBR disease.

Seeds for distribution are maintained by the Tobacco Research Laboratory, ARS-USDA, Oxford, NC 27565, and professor of crop science, N. C. State Univ. at Raleigh and released in April 1976. NC 3033 was selected in limited testing NC 3033 has also shown field resistance to early leaf spot (Cercospora arachidicola Hori) and to pythium pod rot (primarily Pythium myriotylum Drechsler). It is observed that NC 3033 is highly susceptible to two-spotted spider mites (Tetranychus urticae Köch). NC 3033 has a semidwarf bunch growth habit with small dark green leaves that are slightly pubescent. The pods are small (53 g/100), light pink in color, and grow in shape. Although the line appears homogeneous in habit, it is heterogenous for fruit size and pod shape. NC 3033 matures 7 to 10 days later than Florigiant and produces 85% of Florigiant on soils free of CBR disease.

Seeds for distribution are maintained by the Tobacco Research Laboratory, ARS-USDA, Oxford, NC 27565, and professor of crop science, N. C. State Univ. at Raleigh and released in April 1976. NC 3033 was selected in limited testing NC 3033 has also shown field resistance to early leaf spot (Cercospora arachidicola Hori) and to pythium pod rot (primarily Pythium myriotylum Drechsler). It is observed that NC 3033 is highly susceptible to two-spotted spider mites (Tetranychus urticae Köch). NC 3033 has a semidwarf bunch growth habit with small dark green leaves that are slightly pubescent. The pods are small (53 g/100), light pink in color, and grow in shape. Although the line appears homogeneous in habit, it is heterogenous for fruit size and pod shape. NC 3033 matures 7 to 10 days later than Florigiant and produces 85% of Florigiant on soils free of CBR disease.

Seeds for distribution are maintained by the Tobacco Research Laboratory, ARS-USDA, Oxford, NC 27565, and professor of crop science, N. C. State Univ. at Raleigh and released in April 1976. NC 3033 was selected in limited testing NC 3033 has also shown field resistance to early leaf spot (Cercospora arachidicola Hori) and to pythium pod rot (primarily Pythium myriotylum Drechsler). It is observed that NC 3033 is highly susceptible to two-spotted spider mites (Tetranychus urticae Köch). NC 3033 has a semidwarf bunch growth habit with small dark green leaves that are slightly pubescent. The pods are small (53 g/100), light pink in color, and grow in shape. Although the line appears homogeneous in habit, it is heterogenous for fruit size and pod shape. NC 3033 matures 7 to 10 days later than Florigiant and produces 85% of Florigiant on soils free of CBR disease.

Seeds for distribution are maintained by the Tobacco Research Laboratory, ARS-USDA, Oxford, NC 27565, and professor of crop science, N. C. State Univ. at Raleigh and released in April 1976. NC 3033 was selected in limited testing NC 3033 has also shown field resistance to early leaf spot (Cercospora arachidicola Hori) and to pythium pod rot (primarily Pythium myriotylum Drechsler). It is observed that NC 3033 is highly susceptible to two-spotted spider mites (Tetranychus urticae Köch). NC 3033 has a semidwarf bunch growth habit with small dark green leaves that are slightly pubescent. The pods are small (53 g/100), light pink in color, and grow in shape. Although the line appears homogeneous in habit, it is heterogenous for fruit size and pod shape. NC 3033 matures 7 to 10 days later than Florigiant and produces 85% of Florigiant on soils free of CBR disease.

Seeds for distribution are maintained by the Tobacco Research Laboratory, ARS-USDA, Oxford, NC 27565, and professor of crop science, N. C. State Univ. at Raleigh and released in April 1976. NC 3033 was selected in limited testing NC 3033 has also shown field resistance to early leaf spot (Cercospora arachidicola Hori) and to pythium pod rot (primarily Pythium myriotylum Drechsler). It is observed that NC 3033 is highly susceptible to two-spotted spider mites (Tetranychus urticae Köch). NC 3033 has a semidwarf bunch growth habit with small dark green leaves that are slightly pubescent. The pods are small (53 g/100), light pink in color, and grow in shape. Although the line appears homogeneous in habit, it is heterogenous for fruit size and pod shape. NC 3033 matures 7 to 10 days later than Florigiant and produces 85% of Florigiant on soils free of CBR disease.