REGISTRATION OF GERMLASMS

This new cultivar was selected by the modified pedigree method. Allen originated from a single F4 plant following the final cross, made in 1961. One hundred plant selections made in the F6 generation were grown as head rows and reselected for crown rust resistance and conformity to a single phenotype. Breeder seed distributed for planting in the spring of 1975 was in the F15 generation. Allen has been tested in replicated yield trials in Indiana since 1968 and in the Regional Uniform Midseason Oat Performance Nursery during 1971-1974.

Allen yields similar to ‘Stout,’ is very resistant to lodging, heads 1 day earlier than Stout or Clintford, has a moderately high test weight and high groat protein percentage (18.0 to 18.5%), and has a high groat percentage relative to other commercially grown varieties.

Allen is resistant to crown rust (Puccinia coronata Cda. f. sp. avenae Eriks. and E. Henn.) races 216, 239, and 290, and stem rust (Puccinia graminis Pers. f. sp. avenae Eriks. and E. Henn.) races U572 and U819. Allen has developed up to 3% smutted panicles when inoculated with smut (Ustilago spp.) races prevalent in Indiana. Smut in Allen was more severe in states in 1974. Allen is moderately susceptible to yellow dwarf virus disease, similar to Stout.

Allen coleoptiles are white (lack pigment), generally erect, although they bow somewhat at the rachis node. Flag leaf blades are green. First leaf blades below the flag leaf are generally drooping. Leaf margins and culm internodes are glabrous. Ligules are present and wrap tightly around the culm. Average width and length of the first leaves are 15.8 mm and 18.4 cm, respectively. Leaves are lateral, branches are short and ascending and arise from the rachis node. The rachis is flexuous. Awns are absent. Awns are glabrous and average 14 mm long. Allen has slightly darker lemma than Clintford at maturity.

Breeder seed will be maintained by the Purdue Univ. Agric. Exp. Stn., West Lafayette, Ind.

Variety protection has been applied for under AGI 91-577, in accordance with the certified seed option.

Registration of Germplasms

REGISTRATION OF T-68 BIRDSFOOT TREFOIL GERMPLASM
(Reg. No. GP 5)

R. R. Seaney, T. E. Devine, and D. L. Linscott

'T-68' is a population of birdsfoot trefoil (Lotus corniculatus L.) developed cooperatively by the ARS-USDA, and the Cornell Agric. Exp. Stn., Ithaca, New York, and released because of its tolerance to (2,4-dichlorophenoxy) acetic acid (2,4-D).

Seventy-five clones, selected for desirable agronomic characteristics from a broad range of plant introductions in a field nursery at Ithaca, N.Y., were progeny tested for tolerance to 2,4-D. Thirty-four clones selected on the basis of progeny tolerance were intercrossed, and the resulting population was used for four additional cycles of phenotypic recurrent selection for 2,4-D tolerance. Field-grown plants were sprayed with 2,4-D and selected for vigor of regrowth. Plants of the fifth cycle were intercrossed, and the resulting seed was used for the propagation of T-68.

Laboratory and greenhouse studies indicated that T-68 was significantly more tolerant than the cultivars 'Granger,' 'Empire,' 'Mansfield,' 'Tana' and 'Viking' to 2,4-D and its homologs and analogs 4-(2,4-dichlorophenoxy) butyric acid (2,4-D), 2,4-trichlorophenoxy) acetic acid (2,4,5-T), and 4-(2,4-dichlorophenoxy)-β-hydroxybutyric acid (2,4-D-β-OH-B). Seedlings and established plants of susceptible cultivars and T-68, grown in the greenhouse and field and sprayed with 1.7 or 2.2 kg/ha of 2,4-D, developed typical injury symptoms such as stem and terminal leaf curvature, stunting of growth, and browning of leaves. Plants of susceptible cultivars were severely stunted or killed. However, T-68 plants initiated new growth from crown and were not killed by 2,4-D.

REGISTRATION OF SIX MAIZE GERMPLASM POPULATIONS
(Reg. No. GP 64 to 69)

R. H. Peterson, J. L. Geadelmann, E. H. Rinke

Six maize (Zea mays L.) populations were released in 1972 because of their potential commercial and breeding programs. Breeder seed of these populations were developed by the Minnesota Agric. Exp. Stn. and can be obtained through the Dep. of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN 55108.

AS-A (Reg. No. GP 64) was developed from eight-way crosses among 13 inbred lines (A90, A498, A509, A509, A513, CMD5, MS1334, ND203, W33, W59M, and W103). These crosses were randomly mated for six generations to produce the population. AS-A was used in current selection methods conducted by Carangan et al. (1980) of AES300 maturity and has yellow dent kernel strength.

AS-B (Reg. No. GP 65) was developed from eight-way crosses among 13 inbred lines (A90, A498, A509, A509, A513, CMD5, MS1334, ND203, R5, V3, and W103). Emphasis was placed on earliness in that W103 made up 5/16 of the base population. Controlled crossing among the 12 inbred lines produced eight-way crosses, which were randomly mated for six generations. AS-B is of AES300 maturity and has yellow dent kernels and good kernel strength.

AS-D (Reg. No. GP 66) was developed from eight inbred lines (A78, B14, CO106, ND255, A513, CMDS, MS1334, and W9). Selections from these crosses were utilized for six generations. The population was the result of selected inbred lines produced by the Minnesota Agric. Exp. Stn., West Lafayette, Ind.

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