

D. L. LINSOTT

ARS-USDA, Department of Agronomy, Cornell University, Ithaca,

New York 14853

NOTICE OF GERMPLASM RELEASE OF A BIRDSFOOT TREFOIL POPULATION (T-68 WITH TOLERANCE TO THE HERBICIDE 2,4-D [2,4-DICHLOROPHENOXY ACETIC ACID])

The Agricultural Research Service, U.S. Department of Agriculture, and the Cornell Agricultural Experiment Station at Ithaca, N.Y., announce the release of a birdsfoot trefoil population (T-68) with tolerance to the herbicide 2,4-D (2,4-dichlorophenoxy acetic acid). T-68 is suitable for use in studies of the mechanisms of herbicide selectivity and for use in variety synthesis. The usefulness of this population for a specific environment may be increased by imposing field selection to isolate adapted germplasm.

T-68 was initiated by selecting 75 clones with desirable agronomic characteristics from a broad range of plant introductions in a field nursery at Ithaca, N.Y. The 75 clones were progeny tested for tolerance for 2,4-D and 34 clones were selected for intercrossing. In four subsequent cycles of recurrent selection plants were selected on the basis of recovery from field treatment with 2,4-D. In each cycle 34 or more plant were intercrossed to initiate the next cycle. This procedure was designed to provide genetic recombination and preserve variability for characters not under selection while developing tolerance to 2,4-D.

Based on early growth tests in the laboratory and greenhouse and preliminary observations in the field, T-68 is 2 to 5 times as tolerant of 2,4-D as the cultivar 'Viking'. Foliage of T-68 is damaged by 2,4-D to some extent. However, this selection recovers rapidly by regrowth from basal buds whereas 'Viking' does not. Further evaluation is needed under field conditions to determine the degree of resistance to 2,4-D at various stages of growth and under the environments common to regions producing birdsfoot trefoil.

About 1 gram of seed of T-68 will be provided each researcher and seedsman upon written request and agreement to make appropriate recognition of its source as a matter of open record when this germplasm contributes to the development of a new variety or hybrid.