

North Dakota State University
3rd Hall
P.O. Box 5051
Fargo, North Dakota
58105-5051

Tel. 701.231.7971
Fax 701.231.8474
aschneit@plains.nodak.edu

Biotechnology
Breeding
Forestry
Genetics
Horticulture
Physiology
Production
Weed Science

February 10, 1997

TO: North Central States Agronomy Chairs, Seedstocks Personnel and Soybean Project Leaders: Charles Murphy, National Program Staff, ARS-USDA, and Thomas Army, Area Director, Northern Plains Region, ARS, USDA.

FROM: A.A. Schneiter, Chair, Dept. of Plant Sciences, North Dakota State University, Fargo, ND 58105.

RE: Release of North Dakota soybean selection 'Traill' on Feb. 7, 1997. Traill was developed by the Agricultural Experiment Station, North Dakota State University.

Descriptive and Comparative Data

TRAILL SOYBEAN

Traill was developed from a cross between M82-996 and Sigco KG20. M82-996 is an experimental line developed by the University of Minnesota with the pedigree M72-3 X Peterson 1677. The pedigree of M72-3 is Evans X Hodgson. The initial cross to develop Traill was made in the summer of 1987 at Fargo, ND. The population was advanced by single pod descent and F4:5 plant rows were selected in the fall of 1990. Traill had the experimental line designation of ND90-2624 and was tested in eastern North Dakota and western Minnesota from 1991 to 1996. ND90-2624 was tested in the Uniform Regional Tests Maturity Group 0 in 1994 and 1996 and in the Maturity Group 00 trials in 1995 and 1996.

In the Red River Valley of the North, Traill has yielded 1.5 bu/A more than Agassiz and is the same maturity as Agassiz. Averaged across sites in southern Minnesota, South Dakota and Canada, Traill has yielded 2.8 bu/A more than Agassiz. Traill is resistant to lodging and is iron efficient when grown on high pH soils. Traill has purple flowers, tawny pubescence, brown pod color, intermediate coat luster, yellow hila and indeterminate growth habit. Traill is mid-way between a Maturity Group 0 and Maturity Group 00 cultivar with a relative maturity of 0.0. Traill has no major genes for resistance to phytophthora root rot. Seed protein and oil content has been similar to Agassiz.

Breeder seed of Traill will be maintained by the North Dakota Agricultural Experiment Station. Foundation seed can be obtained from the North Dakota Foundation Seedstocks Project, Department of Plant Sciences, Box 5051, North Dakota State University, Fargo, ND 58105-5051. The seed classes will be breeder, foundation, registered and certified. Traill will be protected under the U.S. Plant Variety Protection Act, Title V and seed will be sold only as a class of certified seed.

AAS/eb



1996 Soybean Experimental Line Data

Table 1. ND90-2624 in Red River Valley tests 1992-1996.

| Strain | Yield bu/A | Maturity date | LDG scale | Plant height inches | Iron chlorosis scale | WHIM % |
|-----------|---------------|------------------|--------------|---------------------------|----------------------------|-----------|
| no. tests | 26 | 26 | 26 | 15 | 4 | 2 |
| Agassiz | 39.6 | Sept. 16 | 1.3 | 34 | 1.2 | 17 |
| ND90-2624 | 41.1 | Sept. 16 | 1.4 | 34 | 1.3 | 10 |

LDG-lodging, 1-best 5-worst; iron chlorosis 1-best, 5-worst

WHIM- whitemold, percent infected plants.

Table 2. ND90-2624 in Southern Minnesota, South Dakota, and Canadian Tests 1994-1996.

| Strain | Yield bu/A | Maturity date | LDG scale | Plant height inches | Iron chlorosis scale | Seed size seeds/lb |
|-----------|---------------|------------------|--------------|---------------------------|----------------------------|--------------------------|
| no. tests | 13 | 13 | 13 | 13 | 4 | 13 |
| Agassiz | 40.6 | Sept. 11 | 1.4 | 30 | 2.6 | 3110 |
| ND90-2624 | 43.4 | Sept. 11 | 1.6 | 30 | 1.8 | 2650 |

Table 3. ND90-2624 in Red River Valley tests 1994-1996.

| Strain | Yield bu/A | Maturity date | LDG scale | Plant height inches | Iron chlorosis scale | WHIM % |
|-----------|---------------|------------------|--------------|---------------------------|----------------------------|-----------|
| no. tests | 22 | 22 | 22 | 15 | 4 | 2 |
| Glacier | 40.1 | Sept. 13 | 2.0 | 32 | 2.0 | 10 |
| ND90-2624 | 43.3 | Sept. 16 | 1.5 | 34 | 1.3 | 10 |