

MICHIGAN AGRICULTURAL EXPERIMENT STATION
MICHIGAN STATE UNIVERSITY

and

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

NOTICE OF NAMING AND RELEASE OF ALPINE, A NEW UPRIGHT
GREAT NORTHERN BEAN FOR MICHIGAN AND THE GREAT LAKES REGION

Michigan Agricultural Experiment Station and the United States Department of Agriculture, Agricultural Research Service, announce the joint release of Alpine, a new erect, short vine great northern bean with resistance to all Michigan isolates and many U. S. races of Uromyces phaseoli, the fungal pathogen inciting bean rust.

Alpine was tested as MSU No. G89003, and was derived from a cross of Starlight/MSU No. P86297. Starlight is a type III vine great northern variety from Nebraska. MSU No. P86297 is an upright type II short vine breeding line and a full-sib of Sierra pinto bean. The cross, Starlight/P86297, was designed to transfer the upright plant habit of the MSU pintos into the great northern seed class. The cross was coded 86G109 and subsequently, eleven single plants were selected from a rust inoculated F₂ nursery in 1987. Plant No. 6 was selected for upright plant habit, type II architecture, early maturity, rust resistance, and great northern seed type. Progeny were advanced to the F₆ generation where breeding line coded 86G109-06-01 entered yield trials in 1989 and was coded with the permanent accession number G89003.

Alpine was developed by the dry bean cultivar team at East Lansing, Michigan, consisting of Dr. J. D. Kelly, Dr. P. Miklas, and J. Taylor of Michigan State University, Department of Crop and Soil Sciences; Dr. G. L. Hosfield of ARS, U. S. Department of Agriculture, Sugarbeet, Bean and Cereal Research Unit; Dr. M. A. Uebersax of Michigan State University, Department of Food Science and Human Nutrition; and G. V. Varner of the Michigan Dry Bean Production Research and Advisory Board.

Alpine was tested for three seasons (1989 - 1991) over 26 locations in Michigan, Nebraska, North Dakota, and Colorado, and yielded an average of 25.6 cwt/acre. The new cultivar possesses an erect, type II plant habit with a short vine; it is taller in stature and exhibits more lodging resistance than presently grown commercial cultivars. Alpine has increased pod placement height and this feature, coupled with its architecture and lodging resistance, makes this new cultivar superiorly adapted to Michigan growing conditions. Alpine is considered a midseason variety maturing 93 days after planting, equivalent in harvest maturity to Starlight, and is five days later than Beryl and UI-59 cultivars. Alpine has mature seed that weighs 35.3 g/100 seeds and is equivalent to the standard variety, UI-59, is larger than the widely grown variety in Nebraska, Beryl, but has a smaller seed than the variety, Starlight. Alpine meets the requirements for the "dry pack" marketing trade and has produced a satisfactory canned product over two years

of testing. It compares favorably in appearance with other commercial varieties and commercial canned products with appearance values rated above the average of 3.0 on a 5-point hedonic scale.

Alpine carries the Ur-3 gene block for resistance to bean rust and is resistant to all Michigan isolates of rust and many U. S. races present in other production areas. Alpine has field resistance to the alpha strain of anthracnose disease to which all other commercial great northern varieties are susceptible.

Seed of Alpine for experimental purposes may be obtained from Dr. J. D. Kelly, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI, 48824-1325. The Agricultural Research Service has no seed for distribution.

Consideration is being given to release of Alpine on an exclusive release basis jointly by the Michigan Agricultural Experiment Station and the Agricultural Research Service.

Administrator
Agricultural Research Service

Date

Director
Michigan Agricultural Experiment Station

Date