

MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Alpine a New Great Northern Bean for Michigan
Michigan State University Extension Service
J.D. Kelly, L.O. Copeland, Crop and Soil Sciences
Issued July 1994
2 pages

The PDF file was provided courtesy of the Michigan State University Library

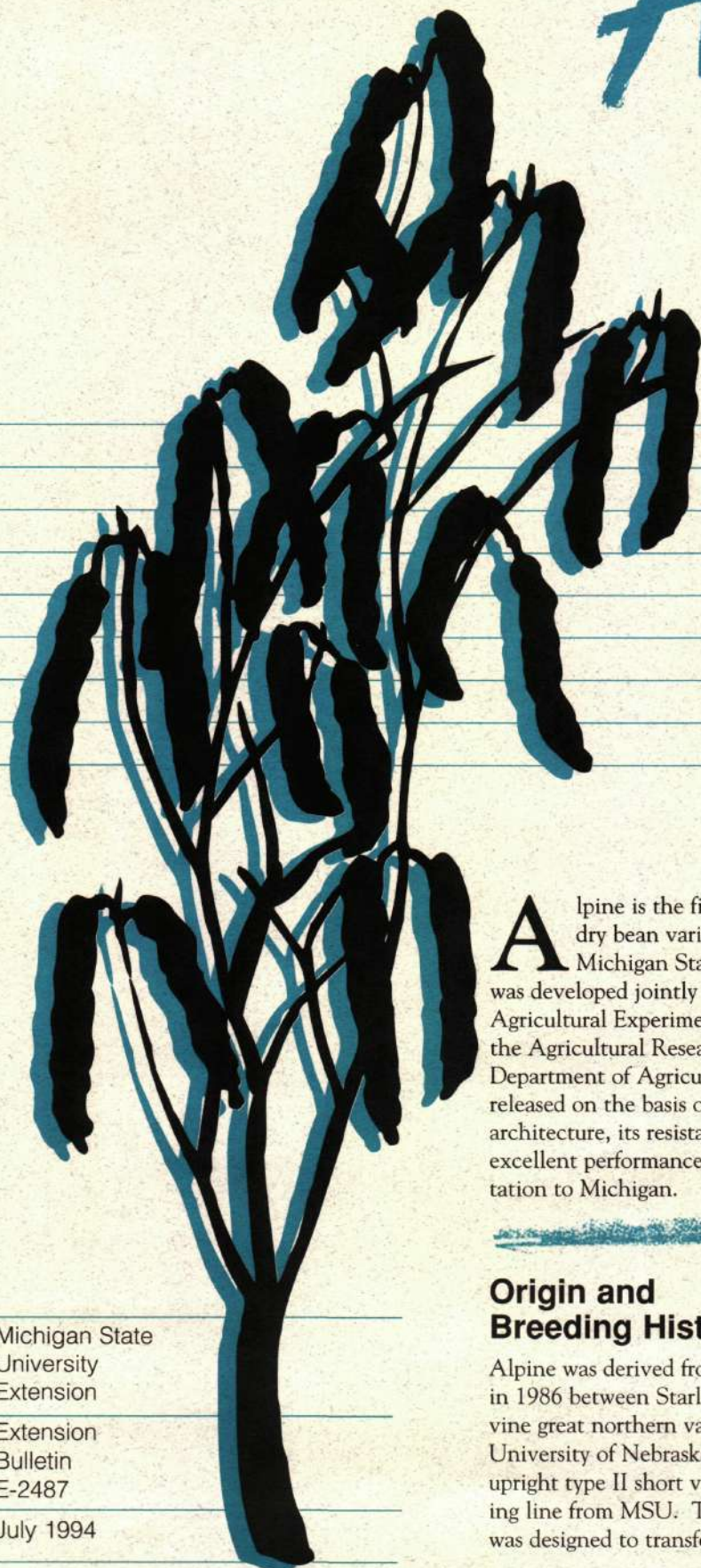
Scroll down to view the publication.

**NEW from
MSU**

Alpine

A NEW GREAT
NORTHERN BEAN

for Michigan



- Upright, type II short vine
- Mid-season, 93 day maturity
- Resistant to bean rust
- First great northern for Michigan
- Meets requirements for the "dry pack" market
- Compares favorably in appearance commercially
- High seed quality

Alpine is the first great northern dry bean variety released by Michigan State University. It was developed jointly by the Michigan Agricultural Experiment Station and the Agricultural Research Service, U.S. Department of Agriculture. It was released on the basis of its upright architecture, its resistance to bean rust, excellent performance record and adaptation to Michigan.

Origin and Breeding History

Alpine was derived from a cross made in 1986 between Starlight, a type III vine great northern variety from the University of Nebraska and P86297, an upright type II short vine pinto breeding line from MSU. The original cross was designed to transfer the upright

plant habit of the MSU pintos into the great northern seed class. After inoculating with local isolates of rust, 11 selections were made. The selection which was to become Alpine was chosen on the basis of seed quality, early maturity, rust resistance and upright plant type. It was entered into yield trials in 1989 with the code number G89003.

Yield Performance

Alpine was tested for five seasons (1989-1993) over 29 locations in Michigan and yielded an average of 25 cwt/acre (Table 1). It has outperformed commercial vine type great northern Beryl variety by 3 percent and UI-59 by 14 percent. Alpine is competitive with Starlight and commercial navy bean varieties of the same maturity class.

Michigan State
University
Extension

Extension
Bulletin
E-2487

July 1994

Agronomic Features

Alpine has an erect, type II plant habit with a short vine and carries most of its pods well off the ground. It is taller than other commercial great northern varieties, and has increased lodging resistance. These characteristics make Alpine ideally adapted to Michigan growing conditions. It is considered a mid-season variety, maturing 93 days after planting. Its harvest maturity is equivalent to Starlight and is five days later than Beryl and UI-59 great northern varieties. Alpine has a white flower.

Disease Resistance

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 is susceptible to Michigan isolates of anthracnose and bean common mosaic virus. Alpine has shown little tolerance to white mold, so chemical control is recommended when weather conditions favor disease development.

Quality Characteristics

Alpine has mature seed that weighs 35 g per 100 seeds and is equivalent to the standard variety, UI-59, is larger than the widely grown variety, 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 four 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 scale (5 is excellent).

Table 1. Alpine Great Northern Bean — Comparison of Agronomic, Disease, Yield Performance and Canning Characteristics.

Traits	Alpine	Beryl	Starlight	UI-59
Agronomic Traits				
Growth habit	Upright	Vine	Vine	Vine
Days to maturity	93	88	93	88
Days to flower	45	43	44	42
Height (cm)	50	40	45	38
Lodging score (1-5)	1.5	4.0	3.0	4.0
Selection index (1-9)	5.5	2.5	4.2	2.5
Seed size (g/100 seeds)	35	33	41	35
Yield (percent)	100	97	100	86
Disease Resistance				
Bean common mosaic virus	S	R	S	S
Michigan rust races	R	S	S	S
Alpha anthracnose	I	S	S	S
Common blight	T	T	T	S
Canning Quality				
Organoleptic rating (1-5)	3.5	3.9	3.0	4.1

Lodging: 1=erect, 5=prostrate

Selection: 1=worst, 9=best, based on adaptation

Anthracnose: I=intermediate, S=susceptible

Blight: T=tolerant, S=susceptible

Organoleptic rating: 1=worst, 3=average, 5=excellent

Release and Research Assessment

Alpine was released as an exclusive variety to the Michigan Dry Edible Bean Production Research Advisory Board (PRAB). Certified seed is available throughout Michigan and other areas of the United States through PRAB-approved outlets.

By J.D. Kelly and L.O. Copeland,

Department of Crop and Soil Sciences.



MSU is an Affirmative-Action/Equal-Opportunity Institution. Extension programs and materials are available to all without regard to race, color, national origin, sex, disability, age or religion. ■ Issued in furtherance of Extension work in agriculture and home economics, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Gail L. Imig, extension director, Michigan State University, E. Lansing, MI 48824. ■ This information is for educational purposes only. References to commercial products or trade names does not imply endorsement by the MSU Extension or bias against those not mentioned. This bulletin becomes public property upon publication and may be printed verbatim with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company.

Produced by Outreach Communications and printed on recycled paper using vegetable-based inks.

New 7:94 - 2M - TCM - SP - Price 25 cents, single copy free to Michigan residents. File 22.21 (Field Crops - Dry Beans)