HortScience. 15(4):531. 1980

'Great Northern Harris' Dry Bean[1]

D. P. Coyne,[2] David S. Nuland,[3] M. L. Schuster,[2] and F. N. Anderson[3]
University of Nebraska, Lincoln, NE 68583

Additional index words. Phaseolus vulgars, Xanthomonas phaseoli, bean common mosaic virus, vegetable breeding

Common blight, caused by the bacterium *Xanthomonas phaseoli* (E. F. Smith) Dowson, is one of the most serious seed-borne diseases of bean, *Phaseolus vulgaris* L. Recommended controls are use of certified, disease-free seed and crop rotation; there is no satisfactory chemical control.

A common blight tolerant cultivar 'GN Valley', derived from our bean breeding program and released in 1974 (1) yielded consistently above the standard cultivar 'GN UI 59', even in the absence of common blight and has also shown high blight tolerance under natural infection in the field (1, 2). 'GN Valley' contains plants of varying dates of flowering and maturity. The homozygous and heterogenous genetic structure of this cultivar was synthesized purposely in order to increase its yield stability by spreading flowering over a longer period of time. Here we describe an early maturing bulk selection of 'GN Valley'.

[1]Received for publication March 22, 1980. Published as Paper No. 5964, Journal Series, Nebraska Agricultural Experiment Station. Research was conducted under Project No. 20-36. The authors appreciate the financial support of the Rocky Mountain Bean Dealers Association and the Green Giant Foundation, the field assistance of numerous staff at the Panhandle Station, University of Nebraska, Scottsbluff, Nebraska. The testing of the reaction of 'GN Valley' to BCMV and BYMV strains by R. R. Provvidenti, Cornell Univ., N. Y. Agr. Expt. Stat., Geneva, N. Y. is also appreciated.

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[2]Professors, Department of Horticulture.
[3]Assist. Prof., and Assoc. Prof., respectively, Panhandle Station, Scottsbluff, Nebraska.

Origin

Seed was bulked from 100 early maturing plants selected in a field of 'GN Valley' grown on a farm at the Panhandle Station, University of Nebraska, Scottsbluff, in 1975. This bulked seed, which was designated as Early Valley bulk, was increased again in the field in 1976 and 1978 at the same location.

The cultivar name 'GN Harris' (Fig. 1) was later assigned to this bulked selection, in honor of the late Lionel Harris, former Superintendent of the Panhandle Station, University of Nebraska, Scottsbluff.

Performance and description

'GN Harris' was compared in 10 trials, using randomized complete block designs, during 1976, 1978 and 1979 with the standard GN cultivars and the new Nebraska GN cultivars. 'GN Harris' was similar in yield to 'GN Valley' in 8 trials, and lower yielding in 2 trials. The mean percent yield increase of 'GN Harris' over the standard 'GN UI 59' was 17% (1979), 4% (1978) and 11% (1976). 'GN Harris' (91 days) is similar in maturity to 'GN UI 59' and about 8 days earlier than 'GN Valley'. 'GN Harris' has the same degree of blight tolerance as 'GN Valley' (2) and is similar in seed characteristics. 'GN Harris' has less vigorous vine growth than 'GN Valley'.

Outstanding characteristics and uses

'GN Harris' is earlier and more uniform in maturity than 'GN Valley' but retains the same degree of common blight tolerance and high yielding ability. 'GN Valley' is resistant to the type strain and NY-15 strain of bean common mosaic virus (BCMV) and to the pea strain of bean yellow mosaic virus (BYMV), so that selections from that cultivar would be expected to possess this resistance (R. Provvidenti, personal communication). The high common blight tolerance of 'GN Harris' should enable the production of certified seed in Nebraska and reduce losses due to this disease in commercial fields.

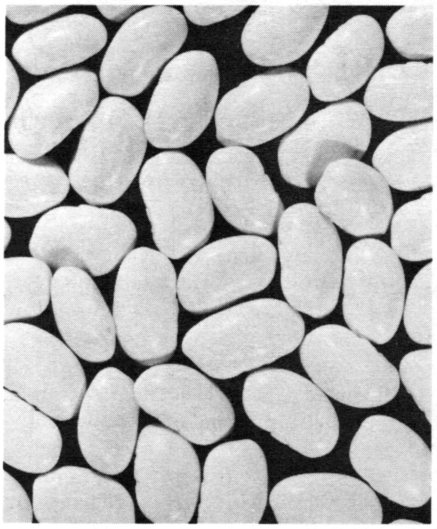

Fig. 1. Seed of 'Great Northern Harris'.

Availability

Foundation seed as well as samples for trial are distributed by the Nebraska Foundation Seed Division, University of Nebraska, Lincoln, NE 68583. We are requesting protection of this cultivar under the Plant Variety Protection Act.

Literature Cited

1. Coyne, D. P. and M. L. Schuster. 1974. 'Great Northern Valley' dry bean. *HortScience* 9:482.
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