University of Idaho
College of Agriculture

Cooperative Extension Service
Agricultural Experiment Station

Current Information Series No. 574

February 1981

Red Mexican Beans — NW 59 and NW 63

Two New Small Red Bean Cultivars Resistant To Curly Top and Common Bean Mosaic Viruses

Marshall LeBaron and John J. Kolar

U.S. production of Red Mexican or small red beans has been primarily in the irrigated areas of central Washington and southern Idaho. In 1979, these areas produced 468,000 cwt of small red beans for seed, processing product and export. The newer producing areas of North Dakota have also shown considerable interest in small reds.

UI 36 and Rufus are currently the predominant varieties although Big Bend and UI 34 are grown to a limited extent. UI 37, a very early maturing variety, has been used in some of the short-season areas.

Two new Red Mexican cultivars, NW 59 and NW 63, have been jointly named and released by the U.S. Department of Agriculture and the Agricultural Experiment Stations of Washington State University, University of Idaho and Oregon State University. They were developed by the USDA bean breeding program at Prosser, Washington, and evaluated in trials in Idaho and other bean production areas in the Cooperative Dry Bean Nursery program.

Pedigree

Both NW 59 and NW 63 were derived from crosses involving the same parentage [(PI 203958 × UI 35) × DRK 801] × Sutter Pink. PI 203958 is a plant introduction resistant to Fusarium root rot. UI 35 is a later maturing, semi-vining, virus-resistant variety. DRK 801 is a dark red, kidney-type breeding line with curly top resistance, and Sutter Pink is a mosaic-susceptible pink variety. Crosses were made at Prosser by Dr. D. W. Burke between 1960 and 1966. NW 59 was tested under the designation RS 59 and RM 59 while NW 63 was tested as RS 63 and RM 63.

Disease Reaction

Both NW 59 and NW 63 are considered immune to the prevalent strains of Bean Common Mosaic Virus but are susceptible to the less common Western Strain. Both are immune to the Curly Top Virus and both have more resistance to Fusarium root rot than the Red Mexican varieties currently in production.

Description

NW 59 and NW 63 resemble their early-maturing parent — Sutter Pink — in plant habit except they have darker green foliage and their pod set is somewhat higher on the plant. The root system appears to be more extensively developed than the current varieties which may permit less frequent irrigation and reduce the possibility of white mold. The seeds of both varieties are uniform in size with typical Red Mexican color but their shape resembles that of the pink beans.

Performance

The new small red varieties were included in variety trials conducted at Kimberly and Parma to determine maturity and seed size (Table 1) and seed yield (Table 2). Both varieties were 1 to 2 days earlier than UI 36 and 3 to 4 days earlier than Rufus. NW 63 appeared to be about a day earlier than NW 59.

The seeds of NW 59 and NW 63 were considerably smaller than those of UI 36. The new varieties both show a slight yield advantage over UI 36. Yields of NW 59 and NW 63 should be equal or slightly better than the varieties currently used in the Red Mexican production areas in Idaho.

Table 1. Maturity and seed size of 4 varieties of small red beans grown at Kimberly and Parma, Idaho.

	Days to maturity	Seeds/lb.							
		Parma			Kimberly				Avg. all tests
		1978	1979	Avg.	1977	1978	1979	Avg.	
NW 59	92	1746	1586	1666	1539	1607	1503	1550	1608
NW 63	91	1594	1544	1569	1467	1482	1444	1464	1517
UI 36	93	1482	1365	1424	1403	1476	1393	1424	1414
Rufus	95	1227	1488	1358	1604	1444	1546	1531	1445

Table 2. Seed yields of 4 varieties of small red beans grown at Kimberly and Parma, Idaho.

	lb./acre									
	Kimberly						Parma			Avg. all tests
	1974	1975	1977	1978	1979	Avg.	1978	1979	Avg.	
NW 59	—	—	2930	2910	3350	3060	2840	2720	2780	2950
NW 63	3040	3790	2790	2930	3260	3160	2870	2370	2620	3010
UI 36	3220	3350	3070	2820	3035	3100	2960	3000	2980	2920
Rufus	2830	3890	2735	2870	3055	3075	2870	2920	2890	3010

THE AUTHORS — Marshall LeBaron is research professor of agronomy, Extension professor of plant science, Extension crop management specialist and superintendent of the University of Idaho Research and Extension Center, Kimberly. John Kolar is research professor of agronomy with emphasis on plant breeding at the UI R&E Center, Kimberly.

Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture, Fred E. Kohl, Acting Director of Cooperative Extension Service, University of Idaho, Moscow, Idaho 83843. We offer our programs and facilities to all people without regard to race, creed, color, sex or national origin.

IM 2-81

5 cents per copy