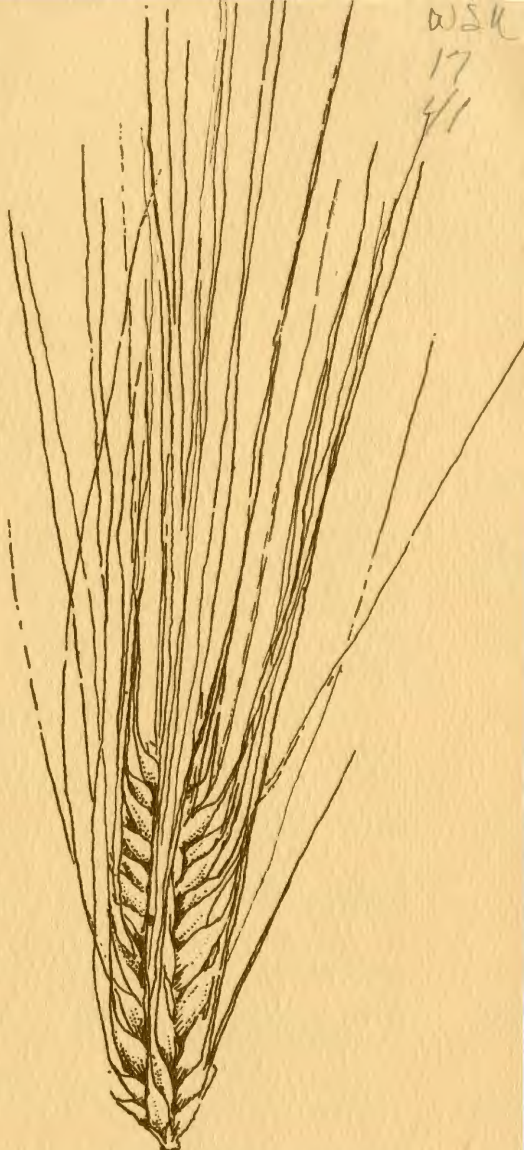


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STEPTOE BARLEY

*Cooperative Extension Service
College of Agriculture
Washington State University
Pullman
Extension Circular 392
October 1974*

OCT 30 1974

Step toe Barley

Step toe, CI-15229, is a six-row, rough awned, spring feed barley developed for production in the Pacific Northwest. It has an erect head and is about the same plant height as Gem, but is considerably shorter than Unitan.

Step toe yields significantly more than Unitan or Gem on both irrigated and nonirrigated land (Tables 1 and 2). Step toe is more lodging and shatter resistant than Gem or Unitan.

Step toe has fairly smooth white plump kernels with long rachilla hairs. The kernels are larger than those of Unitan, and about the same size as those of Gem. Test weight is higher than Gem and about equal to Unitan. Step toe heads about the same time as Unitan and about five days later than Gem.

Seed of Step toe takes somewhat longer to break dormancy after harvest than Unitan. A seed germination test should be run before the variety is seeded.

Disease Reaction

The reaction of Step toe to diseases in eastern Washington is not known, as barley diseases offer no serious problems in this area. There is limited evidence that Step toe is susceptible to a number of barley diseases in other areas, including yellow dwarf virus, which is sometimes prevalent west of the Cascades. Step toe may be somewhat susceptible to loose smut, which can be controlled with Vitavax seed treatment.

Recommended Areas

Step toe is recommended to replace Unitan and Gem and other feed barleys in eastern Washington, both on irrigated and non-irrigated land.

Managing Step toe

Seed Step toe at 60 pounds per acre and treat for wireworm control as recommended in EM 1664. Fertilize Step toe at the same rates that have been used for other six-row barleys. Fertilizer Guide 29, *Barley for Eastern Washington*, has specific information on fertilizing barley.

Development of Step toe

Step toe was developed by Carl Muir and R. A. Nilan, Department of Agronomy and Soils, College of Agriculture Research Center, Washington State University. The original cross was Washington 3564 x Unitan. The cross was made at the Washington Agricultural Experiment Station in 1959. Selection 6428-66 was made in 1966. The variety was named for Step toe Butte, a landmark in northern Whitman County.

The variety was tested in Washington for agronomic performance at Pullman, Pomeroy, Walla Walla, and Dayton for five years and with irrigation at Royal Slope for two years. It has also been tested for four years at over 15 locations of the Regional Rocky Mountain Nursery, which includes Oregon and Idaho.

Table 1. Yield of Spring 6-Row Feed and Malting Barley Without Irrigation, 1969-73

	Pullman			Pounds per acre			
	Plant ht, inches	Lodg. %	Test wt. lb/bu	Pullman	Walla Walla	Dayton	Pomeroy
Step toe	34	16	51.0	4474	3758	3946	3010
Blazer	36	15	50.5	3715	3173	3634	2986
Unitan	39	31	50.0	3691	3173	3307	2486
Gem	34	28	48.9	3672	2438	3240	2534
Tråll	39	23	53.2	3221	2568	2669	2506

Table 2. Yield of Spring 6-Row Barley Varieties at Royal Slope with Irrigation, 1972-1973

	Plant ht, inches	Lodg. %	Kernel size		Yield lb/a
			% plump	% thin	
Steptoe	34	2	98	0	7541
Unitan	36	13	96	1	6307
Blazer	38	5	89	2	6043

Authors of this publication are Robert A. Nilan, professor of agronomy; Kenneth J. Morrison, Extension agronomist; and Carl Muir, research technologist. All are in the Department of Agronomy and Soils. Work was conducted under project 1006.

Issued in furtherance of the Acts of May 8 and June 30, 1914, by the Washington State University Cooperative Extension Service, J. Orville Young, Director, in cooperation with U. S. Department of Agriculture. 5M10-74EM