

Registration of "Weatherford" Wheat

'Weatherford', a soft white winter wheat (*Triticum aestivum* L.), (Reg. no. CV _____, P.I. 602861) was developed by Oregon Agricultural Experiment Station and released in the Fall of 1999. Weatherford was tested as OR898120. It resulted from the cross Malcolm/3/VPM/Mos951/Hill/4/VPM/Mos951//2*Hill with VPM/Mos951//2* Hill used as the top cross parent. Weatherford was named after Marion Weatherford in recognition of his many contributions to the wheat industry in the Pacific Northwest.

Weatherford is a semi-dwarf with stiff straw. The spike is awned, fusiform, mid-dense, and nodding. Glumes are glabrous, white, mid-long; shoulders are narrow, acuminate, 2 to 3 mm. Awns are 2 to 7 cm long. The kernels are white, mid-long, soft, elliptical with a small to midsize germ, a narrow, mid-deep crease and rounded cheeks. The brush is small.

Weatherford combines sources of resistance to the major foliar diseases observed in the Pacific Northwest with the exception of *Septoria spp.* observed in the higher rainfall areas of western Oregon and Washington. It is resistant to Columbia Basin Foot Rot or Eyespot *Pseudocercospora herpotrichoides* and has a moderately resistant reaction to *Cephalosporium gramineum*. Compared to current cultivars, Weatherford has superior baking properties for sponge cake volume and sponge cake score.

The breeding history of Weatherford involved a modified bulk approach. The top cross was made in 1986 with the initial selection being an individual F₂ plant. Seed from this plant was solid seeded in three rows for the F₃ generation. Twenty-five spikes were selected from the center row and bulked for planting in a similar manner for the F₄ generation, except 50 spikes were selected and bulked to provide larger plots for the F₅ generation. Subsequently, 500 spikes were grown as individual rows with phenotypically similar rows bulked for yield trials and preliminary milling and baking evaluation. Non-replicated yield trials were conducted using an augmented design followed by four years of replicated yield testing at multiple locations. One thousand head rows were selected and grown separately with phenotypically similar rows bulked to provide breeders' seed.

Weatherford was entered in the Western Regional White Winter Wheat Yield Trial for three years (1995-1998). When compared to Stephens and Madsen, Weatherford yielded 860 Kg ha⁻¹ and 430 Kg ha⁻¹ more, respectively, when averaged over eight locations in WA, ID and OR. During the same period, Weatherford in state yield trials yielded 1001 Kg ha⁻¹ and 360 Kg ha⁻¹ more than Stephens and Madsen, respectively, at the intermediate rainfall site (350 mm). At the dryland site, Stephens yielded 200 Kg ha⁻¹ more than Weatherford, with the latter yields similar to Madsen.

Foundation Seed of Weatherford is available from the Washington State Crop Improvement Association, Washington State Seed House, Pullman, WA 99164. An application for Plant Variety Protection certificate has been applied for for Weatherford.

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seed/reg Weatherford