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[DRAFT]

Idaho Agricultural Experiment Station

Moscow, ID

and

United States Department of Agriculture

Agricultural Research Service

Washington, D.C.

Announce the release of

JEFFERSON (IDO462) Hard Red Spring Wheat

'Jefferson' hard red spring wheat (*Triticum aestivum* L.) was developed cooperatively by the Idaho Agricultural Experiment Station and the USDA-ARS for use by grain producers in the Pacific Northwest of the United States. Jefferson is a semi-dwarf wheat adapted to rain-fed and irrigated production at elevations of 1500 m with excellent yield and milling quality.

Jefferson was derived from the cross A8541S with the pedigree A78240S-2/'Westbred 906R', where A78240S-2 derived from the cross IDO230/IDO166 with the expanded pedigree: 'Fielder'*2 // 'Mengavi'/'8156'/'6/'Moran'/'3/III-58-1/'Frontana'/'3*'/'Thatcher'/'5/'Frontana'/'Kenya 58'/'Norin 10'/'Brevor'/'3/'Yaqui 54'/'4/'Twin' sib. A8541S was advanced by the bulk method without intentional selection in the F₂ generation. In the F₃ generation, heads were selected from short plants and planted as F_{3,4} headrows in 1987. From these headrows the selection A8541S-12 was advanced to testing in southeastern Idaho yield trials for 5 years. In 1993, A8541S-12 was designated IDO462 and entered into the Tri-State Spring Wheat Nursery. IDO462 was advanced the next year into the Western Regional Spring Wheat Nursery for three years of testing (1994 to 1996). In 1996, IDO462 was evaluated in the Pacific Northwest Wheat Quality Council and in Idaho on-farm extension trials. In 1995, 100 head selections were grown at Tetonía, ID and selected for uniform plant type. Seed from headrows that were true-to-type were harvested and planted at Tetonía in 1996 to form breeders seed.

(108)

1 Jefferson is most similar in appearance to the Northrup-King cultivar 'Probrand 751'. Jefferson
2 has an unpigmented coleoptile and erect juvenile growth. Jefferson has a recurved, twisted, flag leaf and
3 an awned, erect, mid-dense, head, which is white-chaffed at maturity. Jefferson is 4 cm taller than
4 Probrand 751, and 12 cm shorter than 'Amidon'. Jefferson is approximately 1 day later in heading than
5 Probrand 751 and 1 day earlier than Amidon. Seed of Jefferson is a dark red color and is hard, ovate and
6 plump, with a kernel type similar to 'Westbred 936' but approximately 3 mg per kernel smaller than
7 Probrand 751. Based on field evaluations in Washington and Idaho, Jefferson has adult plant resistance to
8 stripe rust [caused by *Puccinia striiformis* (Westend.)], moderately resistant to the Hessian fly [*Mayetiola*
9 *destructor* (Say)] but is moderately susceptible to leaf rust [caused by *P. recondita* (Roberge ex Desmaz.)],
10 and susceptible to the Russian wheat aphid [*Diuraphis noxia* (Mordvilko)].

11
12 In 16 site-years of replicated trials from 1994 to 1997, Jefferson had a grain yield of 81 bu ac⁻¹
13 compared to 81 bu ac⁻¹ for Probrand 751, 76 bu ac⁻¹ for Westbred 926, and 72 bu ac⁻¹ for Amidon. In the
14 same trials, Jefferson, Probrand 751, Westbred 926, and Amidon had test weights of 60.6, 59.5, 59.8, and
15 59.6 lb bu⁻¹, respectively. In southeastern Idaho trials, Jefferson has an intermediate grain protein content
16 similar to Westbred 926 and Westbred 936; it had approximately 7 g kg⁻¹ higher grain protein content than
17 Probrand 751 and 10 g kg⁻¹ lower grain protein content than Amidon. Jefferson has a high milling yield,
18 similar to Probrand 751, and significantly higher (p<0.05) than Amidon, Westbred 926, and Westbred 936.
19 Jefferson has significantly longer (p<0.05) dough mixing times than Amidon, Probrand 751, and Westbred
20 926 (1.2, 0.8, 0.6 m longer, respectively). Bread loaf volume of Jefferson is similar to Amidon, Probrand
21 751, Westbred 926, and Westbred 936.

22
23 Seed of Jefferson will be maintained by the Idaho Agricultural Experiment Station. Foundation
24 seed may be obtained by contacting the Foundation Seed Program at the University of Idaho, Kimberly
25 Research and Extension Center, Kimberly, Idaho. Plant variety protection has been requested for
26 Jefferson. The date of the final authorization shall serve as the official release date for Jefferson.

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WSCIA

From: "Edward Souza" <esouza@uidaho.edu>
To: "WSCIA" <wscia@televar.com>
Sent: Monday, April 04, 2005 12:00 PM
Subject: RE: Jefferson HRS Wheat

Doug,

It is our intent that white seed be a part of the description in Registered and Certified. In Idaho the base for Foundation is added to the amount of other classes allowed in Registered and Certified.

Ed

-----Original Message-----

From: WSCIA [mailto:wscia@televar.com]
Sent: Monday, April 04, 2005 12:50 PM
To: Ed Souza
Cc: Greg Lowry; Scott Blake
Subject: Jefferson HRS Wheat

Ed:

Regarding your February 1, 1999 supplemental description for Jefferson, a maximum of 4 white wheat seeds per pound is allowed in Foundation class seed. Registered and Certified class lots are not addressed. Was it your intent to allow 4/lb white wheat seeds in Registered and Certified class lots as well?

Please let me know.

Thank you.

Doug Boze
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