
Plant Variety Protection Number: 200700441

Variety: Fineway

Experimental name or Synonym: <FX001B>

Taxon: Triticum aestivum L.

Crop: Wheat, common

Applicant: Northwest Plant Breeding Co.

Date filed: 09/10/2007

Status: Certificate Issued

Status date: 06/05/2008

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Years protected: 20

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Certified Seed Only - To be sold by variety name only as a class of certified seed.

Plant Variety Protection Office

USDA-AMS, Beltsville, MD

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WSCIA

From: "Northwest Plant Breeding" <northwestwheat@direcway.com>
To: <d_boze@wscia.com>
Sent: Wednesday, August 10, 2005 4:57 PM
Subject: Update on FX10001B Descripton

NOTES ON FX1001B REGISTERED SEED STOCK INCREASED at Pomeroy, WA.
 (Revision of July 29, 2005 by Konzak)

I (Cal Konzak, Breeder at NPB) inspected the seed increase field of the HRW wheat, Clearfield (Finley type) being grown near Pomeroy, WA, on June 21, 2005. Mr. Jake King (NPB staff) joined me and walked over various parts of the field with me. The only weeds we noted were a very few cheat grass plants that either emerged after the BEYOND™ herbicide spray or were missed by the spray. The farmer joined us for a large part of the inspection; He noted that he had found a few plants of Speedwell, a weed that I did not see. However, I did note, that he had planted a buffer strip of our blended FX1001B lines as a border around the seed field. We plan to be at the field during the harvest to collect about 5-600lbs of seed from the field center for use to initiate the next Certified Seed cycle as Breeder seed stock.

I did note a low level of plant height variability, similar to, but at a lower frequency than seen in Madsen (for example), and in some cases we noted that the taller heads were on the same plant as were shorter culms, indicating that the height variations were largely environmentally induced. I believe from prior experience, that the original Finley, from which the FX1001B was derived, may have a similar plant height variability. The frequency of taller spikes did not seem to be enough to be a concern to any grower, and may not even show in a drier cultivation environment, where the variety likely is better adapted, because it is a tall height variety. We did note that the variety had been infected by stripe rust, and although the grower had the field sprayed for rust control, we also noted that the inherent 'adult plant resistance to stripe rust, as present in the original 'Finley' was fully effective in the FX1001B population, hence the control spray was unnecessary. The number of plant internodes showed a range from a low of 4 to a high of 5, but most plant culms had 5. The peduncle lengths varied from about 30 cm to about 45 cm on different culms. Plant color was generally blue green with often a greener tendency than blue, since the bloom was mostly on spikes and to some extent on the flag leaf and stems. Often there was a remnant of bloom on the underside of the flag leaf nearest the stem, with the rest of the leaves and plant green in color, without the wax surface. These seem to me to be minor variations of no real significance. Although the plant and spike colors were only beginning to show, it seemed clear that the tan color was being expressed, as expected, and the spike color will be largely a dark tan. However, as I learned later, there appears to be a low frequency of white chaffed plants among the population. Because the variety is comprised of sublines from a mutation induced in the original Finley, I suspect that one of the sublines carries a second mutation for white chaff color, and in the blend, the frequency of white chaffed plants may be about 1 in 5000 plants of the population. The white chaff mutation would be a genetically recessive trait, which may not have been obvious in prior inspections, or may have been a delayed release of the mutation, which often may occur. Nevertheless, this low frequency of white chaff plants is a reasonable level to be considered a part of the composition of the new variety. I should note that the original Finley carries a low frequency of white seeds(25/Kg) (Official release report, and Crop Science 40:1197-1198, 2000). As reported by the USDA Seed Lab, I also noted the presence of a low frequency of white seeds, when I checked the sublines that were blended into the FX001B, finding that the frequency of white seeds was about 25/Kg. Those lines were the ones blended for the Breeder seed lot provided to the farmer. I made NaOH treatments to samples of the seeds and after going through samples ranging in amounts from 2.933 seeds to 3477 seeds based on their wt/1000k. I tested from 116g to 135g sample seed lots, after visually isolating all the white seeds I could see. Then I treated each lot with the NaOH solution (5%), and during the treatment, identified only 2 additional white seeds. After leaving the treated seeds overnight, no more white seeds were noted. My calculations on the basis of white seeds per Kg, averaged over the seven lots to be 25.3, which is consistent with that in the original 'Finley'. I have no easy interpretation for the presence of that frequency of white seeds, unless some of the original mutants were outcrossed in the field with white seeded plants among them. Interestingly, we found no white chaff when we cleaned the seven lots of the original unblended sublines, but since the frequency is very low(<1:5000 plants) in the Registered

seed lot, that could be expected. I sampled spikes to assure myself of the glume characteristics, and these will be noted in the formal PVP Application.

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