2015 Idaho Spring Barley Variety Performance Tests and 2013-2015 Yield Summaries

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Variety Testing

Spring varieties of wheat and barley are evaluated each year to provide performance information to help growers select superior varieties for their growing conditions. The tests are done using growers' fields or experiment station locations and the varieties are grown under conditions typical for crop production in the area. Varieties are included in these tests based on their potential adaptation in an area and commercial use of a variety. The number of entries is limited due to resource constraints. Individual plots were planted as 7 rows spaced 7" apart for 14' to 25' in length and replicated 4 times in a randomized complete block design. Plots in northern Idaho that were direct seeded included five paired rows, three inches apart with ten inches from center to center of paired rows.

Information Summarization

Agronomic performance data for 2015 spring barley tests are summarized by district in Tables 1-4. The state is divided into the Northern (Table 1), the Southern (Table 2), and the Eastern Districts (2-row barley in Table 3 and for 6-row barley in Table 4). Yield data are reported for individual sites while other agronomic data are averaged over all sites of each table. Bushel/acre yield results are based on 48 lb/bu at 11% moisture. Lodging ratings are the percent of a plot area lodged. Plump percentage is based on cleaned grain retained on a 6/64" screen. Thin grain percentage is clean grain passing through a 5.5/64" screen. Average values are presented at the bottom of listings and are followed by a least significant difference (LSD) statistic at the 5% level.

Average yield data from variety performance trials in 2013, 2014, and 2015 are presented in Table 5 for all districts. These data represent results of 4-12 site/years and can be a good indication of long-term performance of a variety.

Information Interpretation

Average past performance of a variety is the best indicator available to predict future performance potential. Variety performance can vary from location to location and year to year. The results reported in this article are for 2015 trials; previous results can be found in the spring 1992 to 2014 issues of Idaho Grain Magazine. Average performance over locations and years more accurately indicates a variety's relative performance. Try to evaluate as much information as you can prior to selecting varieties. Yield is a primary characteristic used to select varieties, but disease resistance, maturity, lodging tendency, and quality characteristics such as test weight and plumpness are also important variety selection considerations. Also consider that plots are managed according to the average expected yield, latest varietal maturity, and / or performance of the surrounding crop in a grower's field, whether wheat or barley. Varietal performance may not reflect actual performance in your field when a specific variety is managed for optimal economic performance.

Reported small differences among varieties in yield and other characteristics are usually of little importance due to chance differences in tests. Utilize the LSD statistic to determine the true difference between varieties. If differences between varieties are greater than the 5% LSD value, the varieties are considered "significantly different." This means that there is a 9.5 in 10 chance that the reported difference between varieties is a true difference and not due to other experimental factors or chance variation. If no significant differences are determined for a trial, n.s. is used in place of the LSD.

Further Information

Variety performance information for winter wheat and winter barley has been published in the fall issues of Idaho Grain. An excellent Extension Publication for barley producers is "Idaho Spring Barley Production Guide" (Bulletin No. 742) that was updated for 2003, (see the Idaho Ag Communications website at http://www.cals.uidaho.edu/edcomm/catalog.asp under "crops" and "cereals"). For spring wheat producers, "Irrigated Spring Wheat Production Guide for Southern Idaho" (Bulletin No. 697) can be ordered on the same website. All these publications are free through the University of Idaho Agriculture Publications (ph. 208-885-7982) or contact your county Extension Office. Additional Idaho small grain variety performance information is available on the web at http://www.uidaho.edu/extension/cereals/

Table 1. Dryland spring barley performance in Northern District at Bonners Ferry, Craigmont, Genesee, and Moscow, 2015.

	Yield				North Idaho Average					
Variety	Bonners Ferry	Craigmont	Genesee	Moscow	Yield	Test weight	Plant Height	Lodging*	Plumps	Thins
Feed	bu/A				bu/A	lb/bu	inches	%	%>6/64	%<5.5/64
Camas	75	46	120	76	79	50.5	30	5	65	22
Champion	71	50	129	85	84	50.3	31	3	66	21
LCS Vespa	73	39	123	82	79	47.9	27	0	66	18
Lenetah	80	50	124	81	84	50.2	30	2	70	16
Lyon	75	44	129	77	81	47.9	30	12	67	21
Muir	71	42	112	82	76	48.0	30	13	66	19
Tetonia	70	42	117	85	78	48.1	30	2	58	25
Malt										
CDC-Copeland	73	32	110	76	73	47.8	32	20	68	17
LCS Genie	63	33	109	69	68	48.0	26	28	70	14
LCS Odyssey	73	41	124	83	80	46.8	27	3	73	14
LCS Overture	78	36	113	84	78	47.0	27	1	71	16
Merem	85	19	118	73	74	49.7	32	4	68	15
Food										
Kardia	72	25	108	69	68	47.5	31	1	68	11
Salute	61	40	110	69	70	47.2	30	3	72	12
Transit	35	14	83	44	44	53.3	33	1	32	29
Average	70	39	115	76	77	48.7	30	7	65	18
LSD (α = .05)	13	6	12	7	7	1.2	1	11	5	5

*Most lodging observed in Genesee.