

‘VIDA’, ‘CHOTEAU’ and ‘OUTLOOK’ Spring Wheat Varieties

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VIDA - Vida was derived from the cross of Scholar/Reeder made in 1998 by the Montana Agricultural Experiment Station. Vida was released in 2005. Vida is a high yielding hard red spring with moderate resistance to leaf and stripe rust but is moderately susceptible to stem rust. Vida is a semi-dwarf wheat with white glumes and awns. Kernels are red, ovate with rounded cheeks and a mid-deep crease. Vida has good milling and baking characteristics. Vida is recommended for districts 1-6 under dryland conditions. Plant Variety Protection #200600225. To be sold by variety name only as a class of certified seed.

CHOTEAU – Developed and released by the Montana Agricultural Experiment Station in 2003. Choteau was derived from the cross of MT 9401/MT 9328. Choteau is a semi-dwarf hard red spring wheat with solid stems conferring tolerance to the wheat stem sawfly. The spike is lax and tapered with white awns and glumes. Kernels are red, ovate with a medium crease and brush. Choteau is resistant to the prevalent race of stem rust in Montana. Choteau has good grain protein and acceptable milling and baking quality. Choteau is recommended for districts 2-6 under dryland and irrigated conditions. Plant Variety Protection #200400035. To be sold by variety name only as a class of certified seed.

OUTLOOK – Developed from the cross of PI372129/Amidon//Amidon/3/MT 9312 and released by the Montana Agricultural Experiment Station in 2003. It is a semi-dwarf hard red spring wheat with good resistance to the Russian wheat aphid. Outlook has middense, erect, tapering heads with red awns and glumes. Outlook shows good resistance to prevalent races of stem rust in Montana. Outlook has acceptable milling and baking quality. Outlook is recommended for districts 1-6 under dryland and irrigated conditions. Plant Variety Protection#200400008. To be sold by variety name only as a class of certified seed.

**Table 1. Spring Wheat Grain Yield (bu/ac) in Montana Districts 1 to 6
Advanced Spring Wheat Nursery, Dryland and Irrigated, 2005-2008 (10 locations, 4 yr)**

| District | 1 | 2 | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 6 | Overall |
|------------------|-------------|----------------------|------------------------|-------------|------------------------|-------------|-------------|-------------|-------------|-------------|---------|
| MSU Res.Ctr | Kalispell | Bozeman | Bozeman | Huntley | Huntley | Moccasin | Havre | Conrad | Sidney | Sidney | Overall |
| | Dryland | Dryland ¹ | Irrigated ¹ | Dryland | Irrigated ² | Dryland | Dryland | Dryland | Dryland | Irrigated | average |
| VIDA | 54.0 | <u>60.4</u> | 66.3* | 56.8* | 87.3* | 33.2* | <u>47.1</u> | <u>52.7</u> | <u>50.5</u> | 64.1* | 57.2* |
| CHOTEAU | 54.1 | 51.9 | 65.4* | 52.5 | 85.5* | 31.7* | 41.8 | 49.1* | 45.5 | 64.6* | 54.2 |
| OUTLOOK | 50.7 | 54.3* | 63.1 | <u>58.6</u> | 91.9* | 33.1* | 43.6* | 47.6* | 48.4* | <u>72.9</u> | 56.4* |
| FORTUNA | 48.1 | 50.1 | 54.4 | 45.9 | 66.5 | 30.2 | 39.8 | 43.0 | 42.6 | 59.9 | 48.1 |
| MCNEAL | 45.8 | 48.8 | 52.3 | 54.5* | 83.7 | 32.4* | 40.2 | 45.3 | 46.6 | 72.6* | 52.2 |
| REEDER | <u>73.6</u> | 57.5* | 65.6* | 56.6* | 75.0 | 33.1* | 41.7 | 46.8* | 49.6* | 70.3* | 56.9* |
| CONAN | 51.8 | 51.1 | 64.8* | 48.8 | 72.1 | 30.2 | 42.6 | 47.0* | 43.9 | 64.3* | 51.6 |
| HANK | 61.9* | 56.3* | 69.6* | 54.4* | 89.0* | 34.0* | 42.9 | 44.6 | 49.2* | 71.4* | 57.3* |
| NORPRO | 53.2 | 50.1 | 63.0 | 55.1* | 91.3* | 31.6* | 39.5 | 45.2 | 50.2* | 71.8* | 55.1 |
| FREYR | 60.5* | 52.3 | 68.9* | 52.9 | 83.9 | 30.3 | 39.6 | 46.0 | 47.7* | 71.5* | 55.4* |
| JEDD | 58.3 | 55.3* | 69.9* | 53.9* | <u>92.7</u> | <u>34.3</u> | 43.7* | 48.2* | 49.4* | 71.4* | 57.7* |
| ONEAL | 55.6 | 57.1* | 64.9* | 54.9* | 91.4* | 31.5* | 43.8* | 51.0* | 48.8* | 72.7* | 57.2* |
| VOLT | 72.0* | 56.2* | 76.3 | 57.4* | 91.2* | 33.5* | 39.2 | 43.2 | 48.4* | 71.1* | 58.8 |
| MEAN | 56.9 | 54.0 | 65.0 | 54.0 | 84.7 | 32.8 | 41.9 | 46.9 | 47.8 | 69.1 | 55.3 |
| Lsd (.05) | 13.65 | 6.09 | 11.9 | 5.36 | 8.36 | 3.74 | 3.63 | 6.59 | 3.51 | 10.44 | 3.65 |

Means followed by an asterisk are not significantly different at the .05 level from the highest yielding wheat which is underlined

1 The Bozeman nurseries were hailed out in 2008, no data available

2 Huntley irrigated, 2005 and 2006, only.

**Table 2. Spring Wheat Variety Agronomic Summary in Montana District 1 to 6
Advanced Spring Wheat Nursery, Dryland & Irrigated 2005-2008 (10 locations, 4 yr)**

| Variety | Test Wt (lb/bu) | Heading date Julian days Date | Plant height (in) | Grain protein (%) | Stem Solid Rating ¹ 5 = Hollow 25 = Solid |
|---------|--------------------|----------------------------------|-------------------------|-------------------------|--|
| VIDA | 58.6 | 176 25-Jun | 33.2 | 13.9 | 11.4 |
| CHOTEAU | 59.2 | 175 24-Jun | 31.2 | 14.4 | 21.9 |
| OUTLOOK | 57.7 | 177 26-Jun | 33.1 | 13.9 | 7.4 |
| FORTUNA | 59.8 | 175 24-Jun | 38.5 | 14.2 | 17.8 |
| MCNEAL | 58.2 | 176 25-Jun | 33.0 | 14.3 | 6.9 |
| REEDER | 59.9 | 174 23-Jun | 33.5 | 14.4 | 6.5 |
| CONAN | 59.5 | 175 24-Jun | 30.4 | 14.4 | 9.9 |
| HANK | 57.4 | 173 22-Jun | 30.5 | 14.1 | 8.2 |
| NORPRO | 58.0 | 175 24-Jun | 30.5 | 14.1 | 7.1 |
| FREYR | 59.9 | 174 23-Jun | 34.0 | 13.8 | 7.8 |
| JEDD | 60.3 | 173 22-Jun | 27.7 | 13.9 | 9.4 |
| ONEAL | 59.1 | 176 25-Jun | 33.0 | 14.2 | 7.5 |
| VOLT | 60.8 | 177 26-Jun | 31.0 | 13.6 | 7.9 |
| MEAN | 59.1 | 175 24-Jun | 32.3 | 14.1 | 10.0 |

¹ Stem solidness data collected from the Bozeman dry and irrigated nurseries only

**Table 3. Spring Wheat Grain Yield and % Stem Cutting
Sawfly Nursery, 2004-2008 (12 locations, 5 yr)**

| Variety | Sawfly Stem Cutting ² % stems cut | Grain Yield under Sawfly Infestation ² bu/Ac |
|---------|--|---|
| VIDA | 21.1 | 37.8 |
| CHOTEAU | 12.5 | 34.3 |
| OUTLOOK | 38.8 | 32.9 |
| FORTUNA | 14.7 | 29.6 |
| MCNEAL | 48.2 | 33.3 |
| REEDER | 36.6 | 32.8 |
| CONAN | 14.0 | 32.9 |
| HANK | 40.5 | 32.4 |
| MEAN | 28.3 | 33.3 |

² Sawfly cutting and grain yields collected from nurseries at Turner, Loring and North Havre

Table 4. Mill and Bake Quality Summary, 2005-2007 (4 Location, 3 yr)

| Variety | Wheat Protein (%) | Kernel Hardness (%) | Flour Yield (%) | Flour Protein (%) | Flour ash (%) | Wheat Ash (%) | Mix Tolerance 1 = Weak 5 = Strong | Mix Time (min) | Mix Absorption (%) | Bake Time (min) | Bake Absorption (%) | Loaf Volume (cc) |
|-----------|-------------------------|---------------------------|-----------------------|-------------------------|---------------------|---------------------|--|----------------------|--------------------------|-----------------------|---------------------------|------------------------|
| VIDA | 14.2 | 83.4 | <u>68.8</u> | 12.7 | 0.42* | <u>1.54</u> | 2.9 | 3.6 | 63.1 | 4.9 | 72.6 | 1125 |
| CHOTEAU | 14.4* | 73.4 | 66.2 | 13.3 | 0.40 | 1.58* | 3.9 | 3.7 | 63.1 | 5.1 | 72.7 | 1146* |
| OUTLOOK | 14.3* | <u>94.3</u> | 66.5 | 13.1* | 0.45 | 1.69 | 4.8 | 4.7 | 63.2 | 5.6 | 73.2 | 1138 |
| FORTUNA | 14.4* | 72.5 | 68.5* | 12.9* | 0.46 | 1.65 | 3.7 | 3.7 | 62.6 | 5.2 | 72.1 | 1113 |
| MCNEAL | <u>14.9</u> | 89.8 | 64.3 | 13.3* | 0.46 | 1.74 | <u>5.6</u> | 6.1* | <u>64.4</u> | 9.8 | <u>76.6*</u> | <u>1188</u> |
| REEDER | 14.7* | 78.0 | 66.1 | 13.2* | 0.41* | 1.60* | 3.5 | 3.5 | 62.1 | <u>4.4</u> | 72.1 | 1110 |
| CONAN | 14.6* | 79.0 | 65.3 | 12.8* | 0.42* | 1.71 | 4.3 | 5.1 | 63.0 | 7.3 | 73.4 | 1134 |
| HANK | 14.3* | 70.5 | 66.6 | 13.1* | 0.44 | 1.68 | 4.4 | <u>6.3</u> | 63.4 | 9.1 | 74.1 | 1150* |
| NORPRO | 14.2 | 89.6 | 63.3 | 12.6 | 0.46 | 1.66 | 4.0 | 3.8 | 62.8 | 6.0 | 73.5 | 1086 |
| MEAN | 14.4 | 81.6 | 66.3 | 13.0 | 0.44 | 1.66 | 4.3 | 4.6 | 63.2 | 7.1 | 73.7 | 1126 |
| LSD (.05) | 0.58 | 3.15 | 0.94 | 0.52 | 0.02 | 0.07 | 0.58 | 0.49 | 0.84 | 1.00 | 1.08 | 48.40 |

Means followed by an asterisk are not significantly different at the .05 level from the variety with the better value which is underlined