Colt: A New Early Season High-performing White Oat

L. Hall

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ORIGIN:
'Colt,' a white-hulled spring oat, was developed by the South Dakota Agricultural Experiment Station (SDAES) and released in 2009. Colt was tested as experimental line SD020883-29. SD020883-29 was an F10 derived line developed from the two-parent population SD97575/Morton. The complete pedigree is Settler/4/Nodaway70/Dal/Moore3/Dumont5/Spear/Kelsey3/WI2212/Froker//ND770015/4/Settler/6/-Troy/Lotta/7/Morton.

AGRONOMIC TRAITS:
Colt, when compared to the variety 'Don,' has superior grain yield, test weight, protein percentage, and groat percentage. The disease ratings include: resistance to smut, moderately susceptible-susceptible to crown rust, and moderately susceptible to BYDV. Colt also has a short-to-medium plant height and a very early maturity. It is a multi-purpose variety that may be used for companion crop, multi-cropping, and/or harvesting for grain.

RECOMMENDED CULTURAL PRACTICES:
Do not over fertilize with nitrogen. Total available units of nitrogen should not exceed 100 lbs/acre; this includes legume credits. Do not plant at a high seeding rate; keep the seeding rate at a maximum of 28 pure live seeds per square foot—excessively high seeding rates increase lodging. In order to ensure maximum production in areas that historically have high infections of crown and stem rust, an application of a fungicide is recommended.

CROP PERFORMANCE TESTING AND UEO REGIONAL TRIALS DATA:

<table>
<thead>
<tr>
<th>Variety</th>
<th>Yield Bu/a</th>
<th>Test Wt. Lbs/bu</th>
<th>Straw Strength1</th>
<th>Heading2 Don = 1 Days</th>
<th>Height Inches</th>
<th>Protein %</th>
<th>2009 SD Buckthorn Crown rust %</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLT</td>
<td>116</td>
<td>38.5</td>
<td>3.2</td>
<td>0</td>
<td>36</td>
<td>15.5</td>
<td>89</td>
</tr>
<tr>
<td>DON</td>
<td>110</td>
<td>36.5</td>
<td>2.9</td>
<td>1</td>
<td>33</td>
<td>14.6</td>
<td>80</td>
</tr>
<tr>
<td>REEVES</td>
<td>108</td>
<td>38.1</td>
<td>4.1</td>
<td>2</td>
<td>40</td>
<td>15.5</td>
<td>76</td>
</tr>
<tr>
<td>JERRY</td>
<td>108</td>
<td>37.6</td>
<td>2.6</td>
<td>5</td>
<td>39</td>
<td>15.3</td>
<td>79</td>
</tr>
<tr>
<td>LOC-YRS3</td>
<td>15</td>
<td>22</td>
<td>7</td>
<td>6</td>
<td>22</td>
<td>22</td>
<td>1</td>
</tr>
</tbody>
</table>

1Straw strength rating: 1 = strongest.
2Heading = days. Don is the standard.
3Loc-yrs = number of locations X years tested. For example: 5 locations X 3 years = 15 loc-yrs

Lon Hall, Project Leader, SDSU Oat Breeding Program
Table 2. 2008 Cooperative Uniform Early Oat Performance Nursery data

<table>
<thead>
<tr>
<th>Variety</th>
<th>3 loc/yrs Beta-Glucan %</th>
<th>8 loc/yrs Oil %</th>
<th>8 loc/yrs Protein %</th>
<th>8 loc/yrs Groat %</th>
<th>2008 MN Buckthorn Crown Rust</th>
<th>2008 MN inoculated Smut %</th>
<th>2 locs IL and IN ByzV1 0–9</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLT</td>
<td>4.2</td>
<td>5.1</td>
<td>16.2</td>
<td>71.9</td>
<td>*10S</td>
<td>0.0</td>
<td>5.5</td>
</tr>
<tr>
<td>DON</td>
<td>5.4</td>
<td>7.4</td>
<td>15.7</td>
<td>70.0</td>
<td>*65S</td>
<td>0.0</td>
<td>4.5</td>
</tr>
</tbody>
</table>

*S = susceptible (large pustule), the number is percent of leaf infected.
*BYDV = Barley Yellow Dwarf Virus. 0 is the best rating.

Application for Plant Variety Protection is pending.

Foundation seed is available to interested growers by contacting Jack Ingemansen, manager of SD Foundation Seed Stocks.

Phone: (605) 688-5418 Email: jack.ingemansen@sdstate.edu
Address: Jack Ingemansen, SD Foundation Seed Stocks, Plant Science Department, SDSU, Brookings, SD 57007

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