NEW CULTIVARS

Naked oat HRONEC

Naked oat (*Avena nuda* L.)

Registered: Slovak Republic, 2012

Breeder’s rights: Plant Production Research Center Piešťany, Slovak Republic

Breeder and maintainer: Plant Production Research Center Piešťany, Research Breeding Station Vígľaš-Pstruša, Slovak Republic

Pedigree: Detvan × Izák

Description and agricultural attributes: Hronec is medium to early maturing naked oat cultivar. Heading time and length of vegetation period are consistent with the control cultivar Tatran. Plant height is medium. Average thousand grain weight is 21.76 g, volume weight 62.6 kg/hl and Hronec has lots of grain in the panicle (45). Resistance to lodging is good.

Disease resistance: Very good resistance to powdery mildew, good resistance to stem rust (*Puccinia graminis*) and leaf stripe, medium to good resistance to crown rust (*Puccinia coronata*).

Grain yield: Hronec had high grain yield in the mountain growing region. During the Official Trials (2010–2011) it overcame the control cultivar Tatran by 6.1%. Cultivar Hronec had above-average yield in all producing areas (sugar beet growing region 103.1%, potato growing region 102.4%, and mountain region 120.1%).

Agrotechnical recommendation: The cultivar has no special requirements for agronomics. To utilise its potential the cultivar needs a long growing season, therefore it requires an early spring sowing. Seeding rate is 5 million of germinated seeds per ha. Cultivar Hronec positively responds to good preceding crop. Nitrogen fertilization is also affected by the preceding crop.

Agrotechnical control: Protection against *Oscinella frit* is needed at least twice during the vegetation (1st application after emergence and the 2nd application during the heading). Protection to lodging is not required.

Preferences: Very high yield (especially in the mountain growing region), high volume weight, good resistance to diseases (especially to the powdery mildew), very good resistance to lodging.
Winter wheat STELARKA

Winter wheat (*Triticum aestivum* L.)

Registered: Slovak Republic, 2013

Breeders’ rights: Plant Production Research Center Piešťany (PPRC), Slovak Republic

Breeder and maintainer: PPRC Piešťany, Research and Breeding Station Malý Šariš, Slovak Republic

Pedigree: Estica × Sideral

**Description:** Stelarka is a late cultivar (on the same level in heading as a standard cultivar Ilias). Plants are medium-tall in height (0.88–1.03 m). The ear is white, long, medium dense, of parallel shape, with medium long scurs at the tip of the ear. Glaucosity of the flag leaf sheath and blade is very strong. Glaucosity of stem and ear is medium. The grain is red and of medium size (thousand grain weight is about 43 g). The cultivar has very good tillering ability.

**Grain quality:** In the State Official Trials (2010–2012) the cultivar Stelarka was classified as wheat of low bread-making quality (3–4). Stelarka exhibited very high and stable specific weight (79.8 kg/hl). Other quality parameters were as follows: N 13.0%, wet gluten content 29.9%, sedimentation test Zeleny 37 ml and bread volume 413 ml. The glutenin subunits are: 0, 7+9, 2+12.

**Grain yield:** Stelarka has a very high yield potential which was approved during testing in the Official Trials. Stelarka outyielded standard cultivars by 7.5% in maize growing region, 5.2% in sugar beet region and 4.9% in potato growing region.

**Disease resistance:** Field resistance to the main leaf diseases (powdery mildew, brown rust, leaf spots) is medium, slightly better than this of standard cultivars. Stelarka has good resistance to ear diseases, better than standard cultivars (Table 1).

<table>
<thead>
<tr>
<th>Cultivar</th>
<th>Leaf diseases</th>
<th>Ear diseases</th>
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<tbody>
<tr>
<td></td>
<td>Powdery mildew</td>
<td>Brown rust</td>
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<td></td>
<td>Yellow rust</td>
<td>Leaf spots</td>
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<tr>
<td></td>
<td>Powdery mildew</td>
<td>Septoria glume blotch</td>
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<td></td>
<td></td>
<td>Fusarium head blight</td>
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<td>Standard cultivars</td>
<td>5.7</td>
<td>6.3</td>
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<td></td>
<td>9.0</td>
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<td>7.1</td>
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<td>7.2</td>
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<tr>
<td>Stelarka</td>
<td>5.9</td>
<td>6.6</td>
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<tr>
<td></td>
<td>9.0</td>
<td>5.7</td>
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<td>7.5</td>
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<td>7.8</td>
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</tbody>
</table>

**Other characteristics:** Stelarka expressed good winter hardiness. Resistance to lodging is very high (8.6). It is suitable for growing in all production areas. Recommended seeding rate is 5.0 million germinated seeds per ha in maize growing region and 4.5 million germinated seeds per ha in sugar beet and potato growing regions.

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Winter wheat \textit{VLADARKA}

\textbf{Winter wheat (}\textit{Triticum aestivum} \textit{L.})

\textbf{Registered:} Slovak Republic, 2013

\textbf{Breeders' rights:} Plant Production Research Center Piešťany (PPRC), Slovak Republic

\textbf{Breeder and maintainer:} PPRC Piešťany, Research and Breeding Station Malý Šariš, Slovak Republic

\textbf{Pedigree:} Balthazar × Niagara

\textbf{Description:} Vladarka is a medium late cultivar with a medium plant height (0.98 m). The ear is white, of parallel shape, medium long, medium dense, with long scurs at the tip of the ear. Flag leaf, stem and ear have medium glaucosity. The grain is red and of medium size (thousand grain weight is about 41 g). The cultivar has very good tillering ability.

\textbf{Grain quality:} In the State Official Trials (2010–2012) the cultivar Vladarka was classified as wheat of high bread-making quality (7–8). The values of N content (13.2%), Zeleny sedimentation volume (42 ml) and loaf volume (455 ml) were on the same level as the standard cultivar Ilona. Vladarka exhibited very high and stable falling number (405 s) and specific weight (79.8 kg/hl). It has strong flour with high water binding capacity (59.8%). The farinograph parameters indicate very strong dough quality. The glutenin subunits are: 0, 7+9, 5+10. Vladarka is a carrier of the gliadin allele 1B1, which positively influence the flour quality.

\textbf{Grain yield:} The grain yield was on the same level as the average of all standard cultivars (99.9%) in the Official Trials in all growing regions. However, Vladarka, outyielded the standard bread wheat cultivar Ilona by 3.9% and Bardotka by 8.1%.

\textbf{Disease resistance:} Vladarka has a medium resistance, to powdery mildew, brown rust and ear diseases what is better than standard cultivars. Its resistance to leaf spot diseases is comparable to standard cultivars (Table 1).

\begin{table}
\centering
\begin{tabular}{|c|cccc|cccc|}
\hline
\textbf{Cultivar} & \textbf{Leaf diseases} & & & \textbf{Ear diseases} & & & \\
 & Powdery mildew & Brown rust & Yellow rust & Leaf spots & Powdery mildew & Septoria glume blotch & Fusarium head blight \\
\hline
Standard cultivars & 5.7 & 6.3 & 9.0 & 5.3 & 7.1 & 7.1 & 7.2 \\
Vladarka & 6.7 & 6.8 & 9.0 & 5.3 & 7.4 & 7.3 & 7.6 \\
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\end{tabular}
\caption{Results of resistance to diseases (from Official Trials) (1 – susceptible, 9 – resistant)}
\end{table}

\textbf{Other characteristics:} Vladarka expressed lower winter hardiness in comparison with standard cultivars (79%) in 2012. Resistance to lodging is intermediate (7.2). Vladarka is suitable for cultivation in all growing regions with recommended seeding rate of 4.5 million of germinated seeds per ha.

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