1ST EUROPEAN SORGHUM CONGRESS

WORKSHOP

CROP MANAGEMENT TECHNIQUES FOR A BETTER PERFORMANCE

SORGHUM CULTIVATION IN RUSSIA

ENHANCING THE AGRONOMIC AND ENVIRONMENTAL ASSETS OF SORGHUM CROPS

Nicolai BENKO, Director of Agroplazma RUSSIA
OVER THE LAST 10 YEARS, THE SOWN AREA INCREASED BY 5.5 TIMES

The sown area of grain sorghum in Russia, thousand hectares (2010 – 2015)
THE SOWN AREA BY REGIONS OF RUSSIA, %:

- Rostov Region: 9%
- Saratov Region: 3%
- Volgograd Region: 35%
- Orenburg Region: 16%
- Samara Region: 37%
MAP OF MAIN SORGHUM REGION
GROSS YIELD OF SORGHUM, THOUSAND TONS (2010 - 2015)

Nicolaï BENKO, Sorghum grain cultivation in Russia
CROP CAPACITY, Q/Ha

Nicolaï BENKO, Sorghum grain cultivation in Russia

BUCHAREST
3-4 NOVEMBER 2016
In the Rostov region, an average of 5 years, sorghum yield exceeds the yield of crops (Q/ha).

<table>
<thead>
<tr>
<th>Crop</th>
<th>Yield (Q/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sorghum</td>
<td>37</td>
</tr>
<tr>
<td>Corn</td>
<td>29.1</td>
</tr>
<tr>
<td>Barley</td>
<td>31.6</td>
</tr>
<tr>
<td>Oats</td>
<td>33.8</td>
</tr>
</tbody>
</table>
1. Early maturity
   1.1 The neutral reaction to photoperiod
   1.2 There are forms that do not change the length of period of "germination-blooming"

2. Cold resistance (can withstand temperatures up to -3°C)

3. Drought resistance

4. Sweet sorghum - sugar content more than 20% for the production of molasses

5. Selection of on the quality of grain:
   Protein 14-16%
   Lysine > 2%
   Tryptophan > 1.2%
   Low in tannin (polyphenol)
### Grain sorghum

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varieties (lines)</td>
<td>55</td>
</tr>
<tr>
<td>Hybrids</td>
<td>39</td>
</tr>
</tbody>
</table>

### Sweet sorghum

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varieties (lines)</td>
<td>35</td>
</tr>
<tr>
<td>Hybrids</td>
<td>10</td>
</tr>
</tbody>
</table>

### Sorghum-sudangrass hybrids

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hybrids</td>
<td>28</td>
</tr>
</tbody>
</table>

**Total amount – 167**  
**Foreign of these – 28**
The main breeding companies-originators of sorghum varieties:

1. Russian Research Institute of sorghum and maize (Saratov)

2. Research Institute of agriculture of the south-east (Saratov)

3. All-Russian Research Institute of grain crops I.G. Kalinenko (Zernograd)

4. Stavropol Research Institute of Agriculture

5. All-Russian Research Institute of sorghum and soybean “Slavyanskoe pole” (Rostov)

6. Agroplazma (Krasnodar)
Previous crops: wheat, corn

Soil preparation: autumn plowing and pre-sowing cultivation

Sowing: when temperature of soil is 12-14 °C (usually about 10-20 of May)

Sowing rate:

- Grain sorghum: 250-300 thousand seeds / ha
- Sweet sorghum: 200 thousand seeds / ha

Row spacing: Grain sorghum, for silage - 70 cm or 45 cm; sorghum-sudangrass hybrids -15 cm.

Cultivations: Inter-row cultivations

Processing by herbicide (2,4-D-amide salt), insecticide (organophosphorous compound + pyrethroid)

Dessiccation and harvesting with moisture at 13-14%
Projects of Agroplazma company, as a member of "Skolkovo" innovation center:

1. Sorghum - food and fodder supercrop

2. Sweet sorghum, as an alternative to sugar beet in sugar production
“AGROPLAZMA” LLC. is interested in cooperation on breeding and seed production of sorghum!