SORGHUM CULTIVATION IN RUSSIA
ENHANCING THE AGRONOMIC AND ENVIRONMENTAL ASSETS OF SORGHUM CROPS

Nicolai BENKO, Director of Agroplazma RUSSIA
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%
- Orenburg Region: 16%
- Volgograd Region: 35%
- Samara Region: 37%
GROSS YIELD OF SORGHUM, THOUSAND TONS (2010 - 2015)

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


Values: 10.5, 8.8, 10.5, 14.4, 15.8
In the Rostov region, an average of 5 years, sorghum yield exceeds the yield of crops (Q/ha)

- Sorghum: 37
- Corn: 29.1
- Barley: 31.6
- Oats: 33.8
THE MAIN DIRECTIONS OF BREEDING SORGHUM IN RUSSIA

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)
### VARIETIES OF SORGHUM IN THE STATE REGISTER OF RUSSIA

#### Grain sorghum

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

<table>
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#### Sorghum-sudangrass hybrids

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<th>Amount</th>
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<tbody>
<tr>
<td>Hybrids</td>
<td>28</td>
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**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


**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!