



# 1<sup>ST</sup> EUROPEAN SORGHUM CONGRESS

WORKSHOP

CROP MANAGEMENT TECHNIQUES FOR A BETTER PERFORMANCE

## SORGHUM CULTIVATION IN RUSSIA

ENHANCING THE AGRONOMIC AND ENVIRONMENTAL ASSETS OF  
SORGHUM CROPS



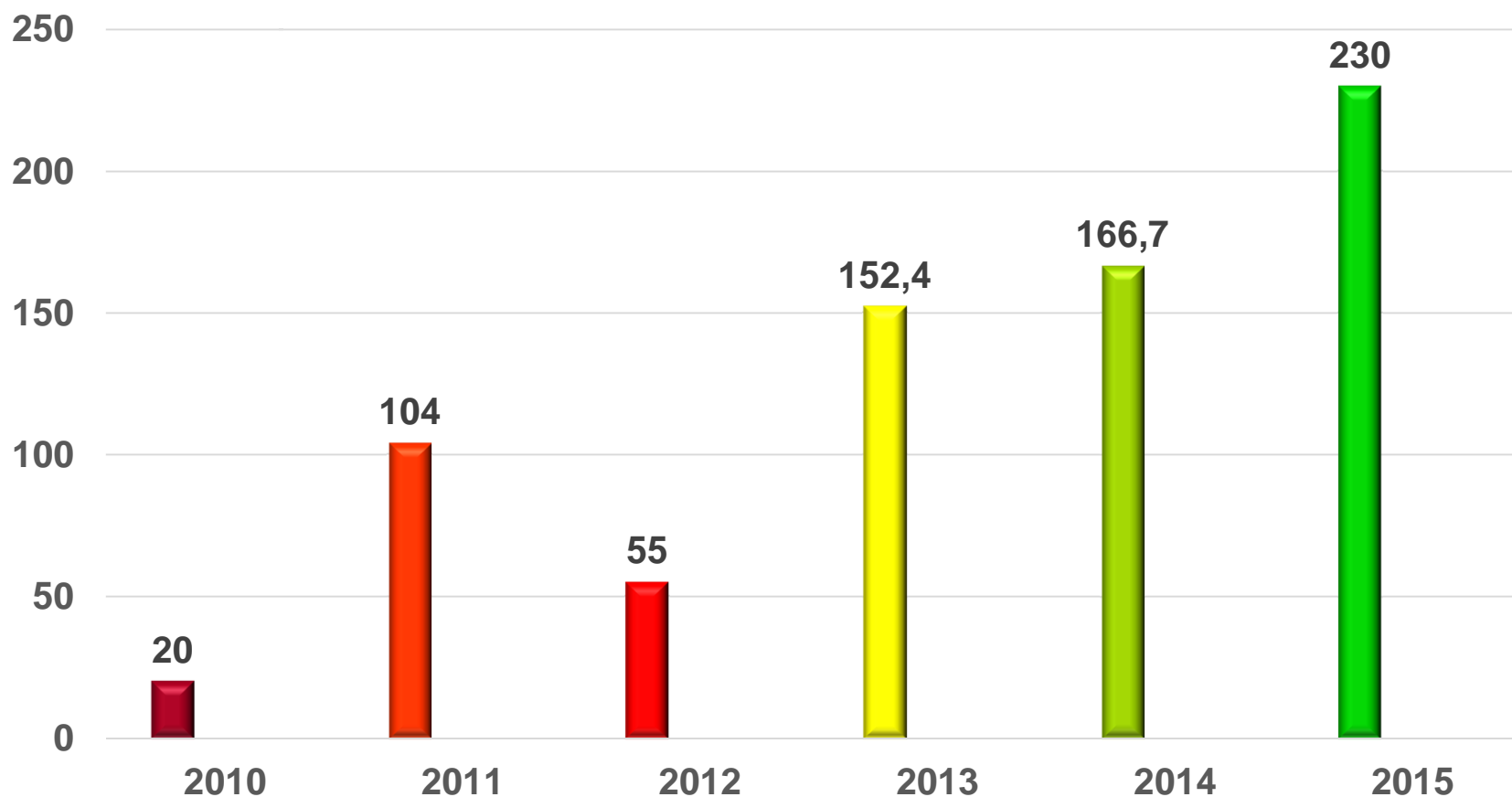
Nicolai BENKO, Director of Agroplazma RUSSIA

BUCHAREST  
3-4 NOVEMBER 2016



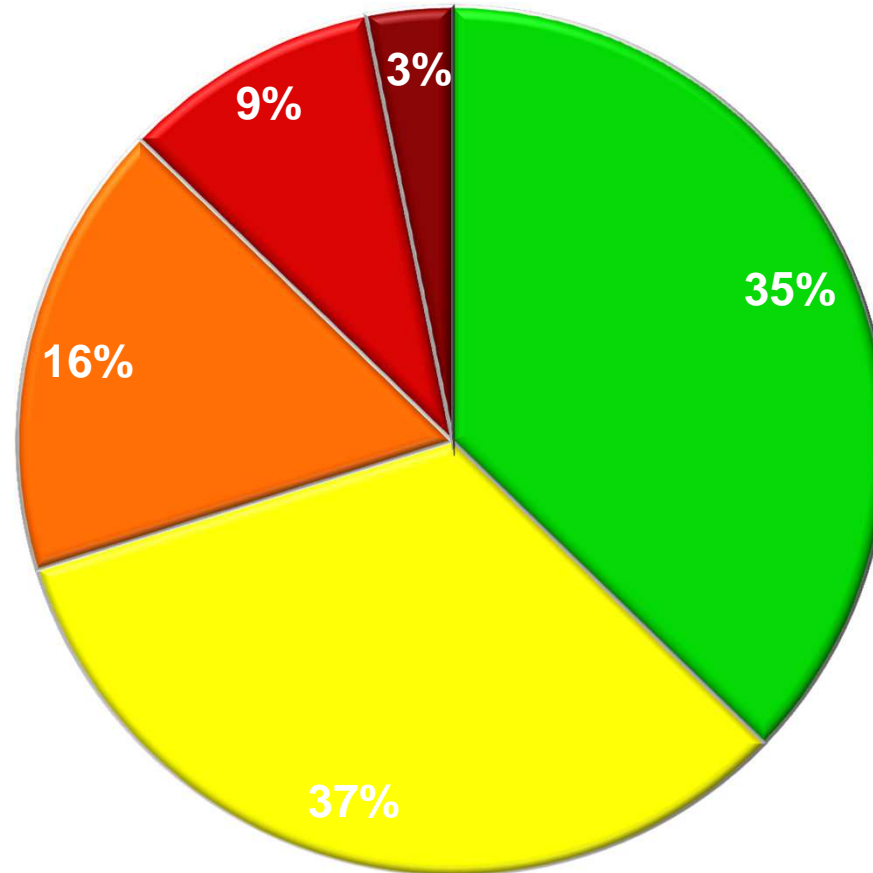
# OVER THE LAST 10 YEARS, THE SOWN AREA INCREASED BY 5.5 TIMES

## The sown area of grain sorghum in Russia, thousand hectares (2010 – 2015)





# THE SOWN AREA BY REGIONS OF RUSSIA, %:



■ Rostov Region

■ Saratov Region

■ Volgograd Region

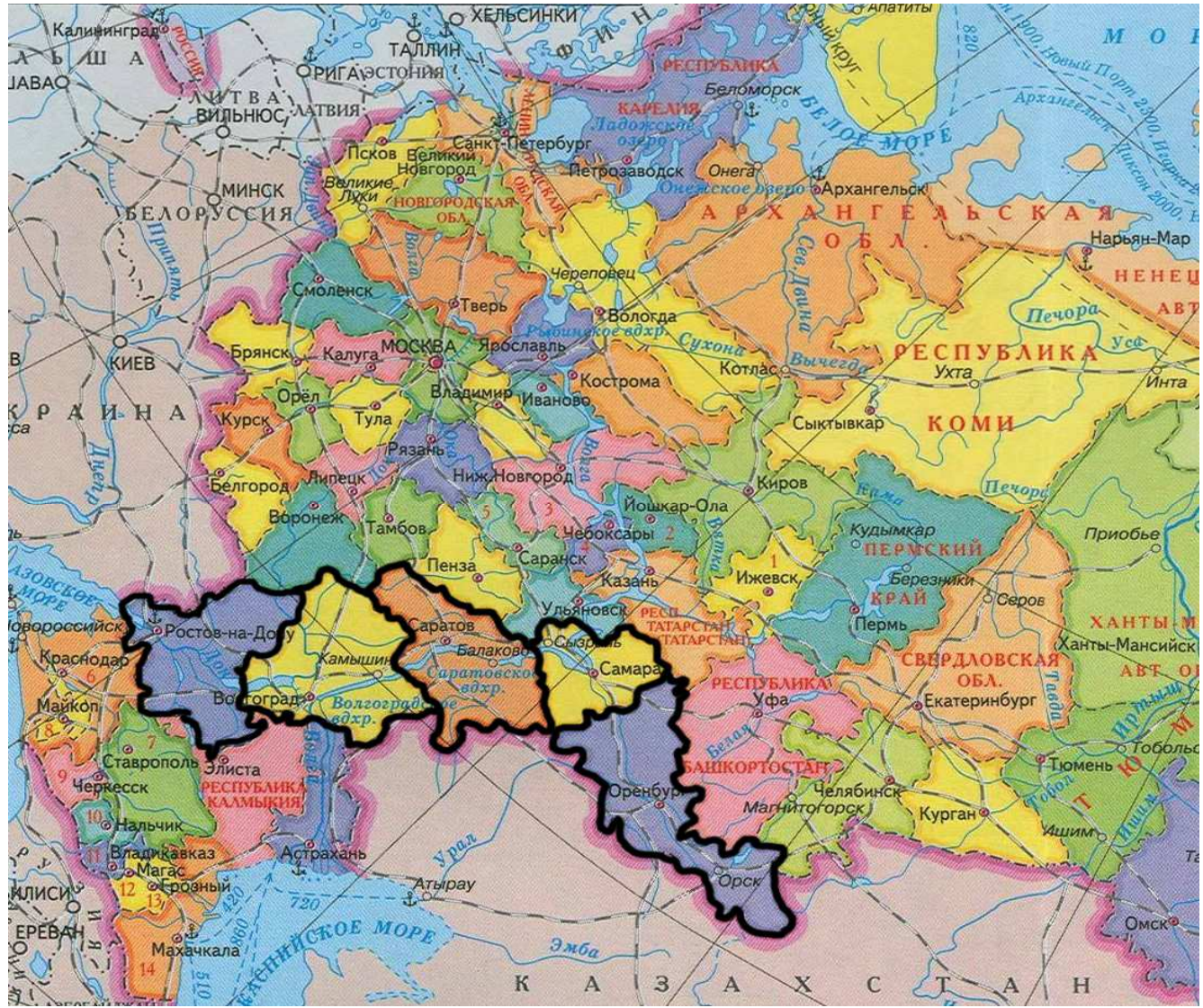
■ Orenburg Region

■ Samara Region



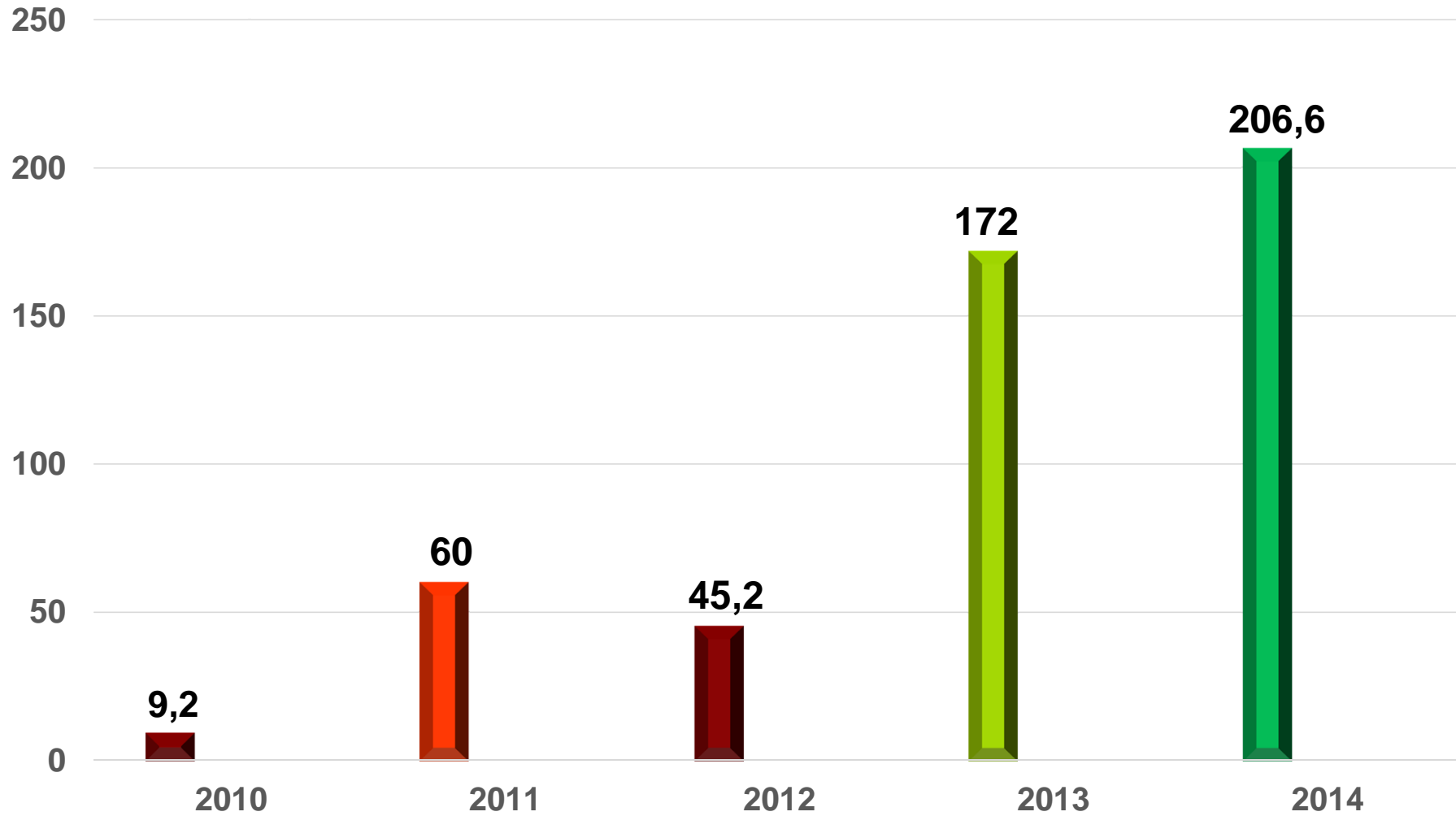


# MAP OF MAIN SORGHUM REGION





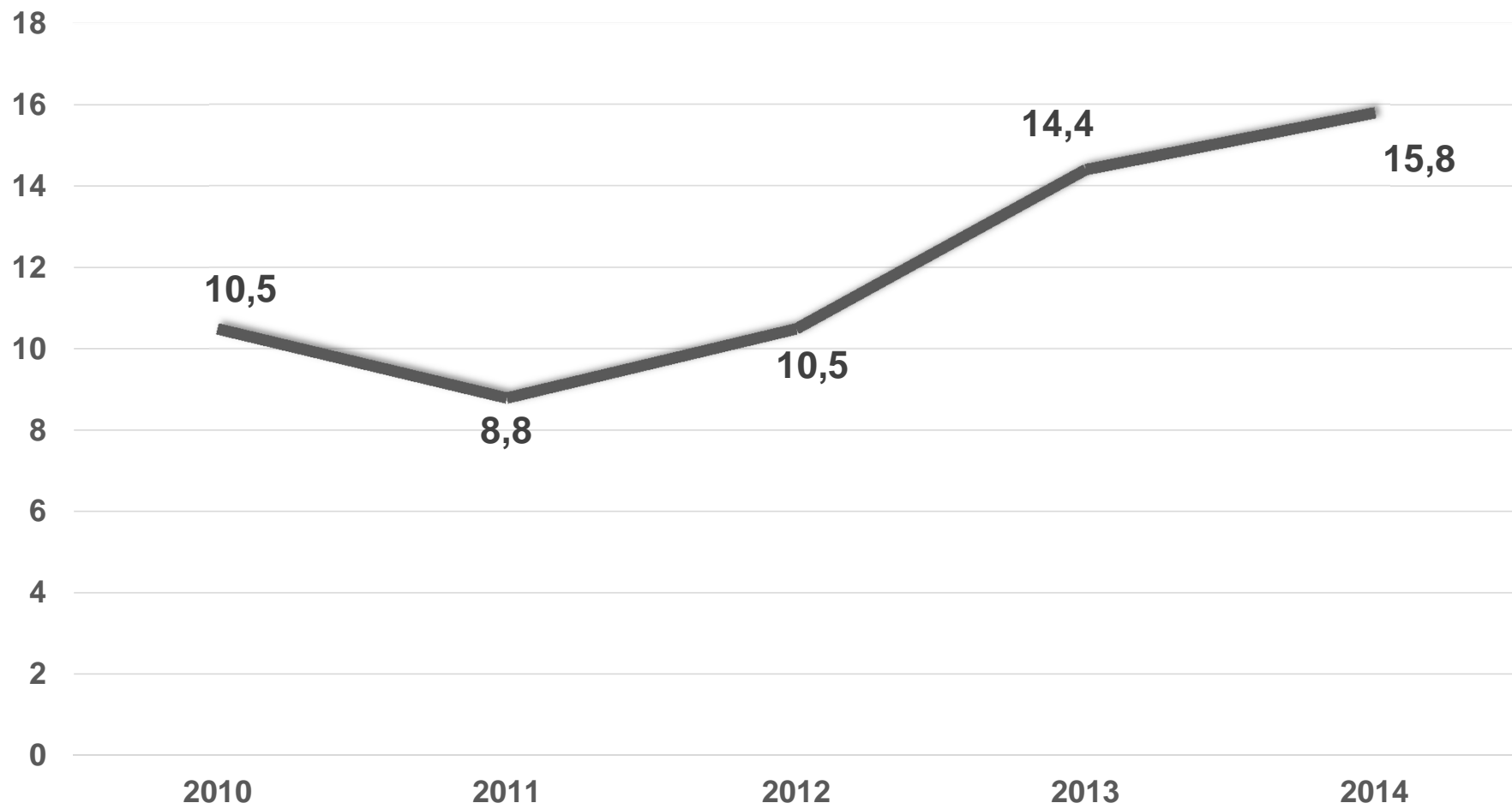
# GROSS YIELD OF SORGHUM, THOUSAND TONS (2010 - 2015)





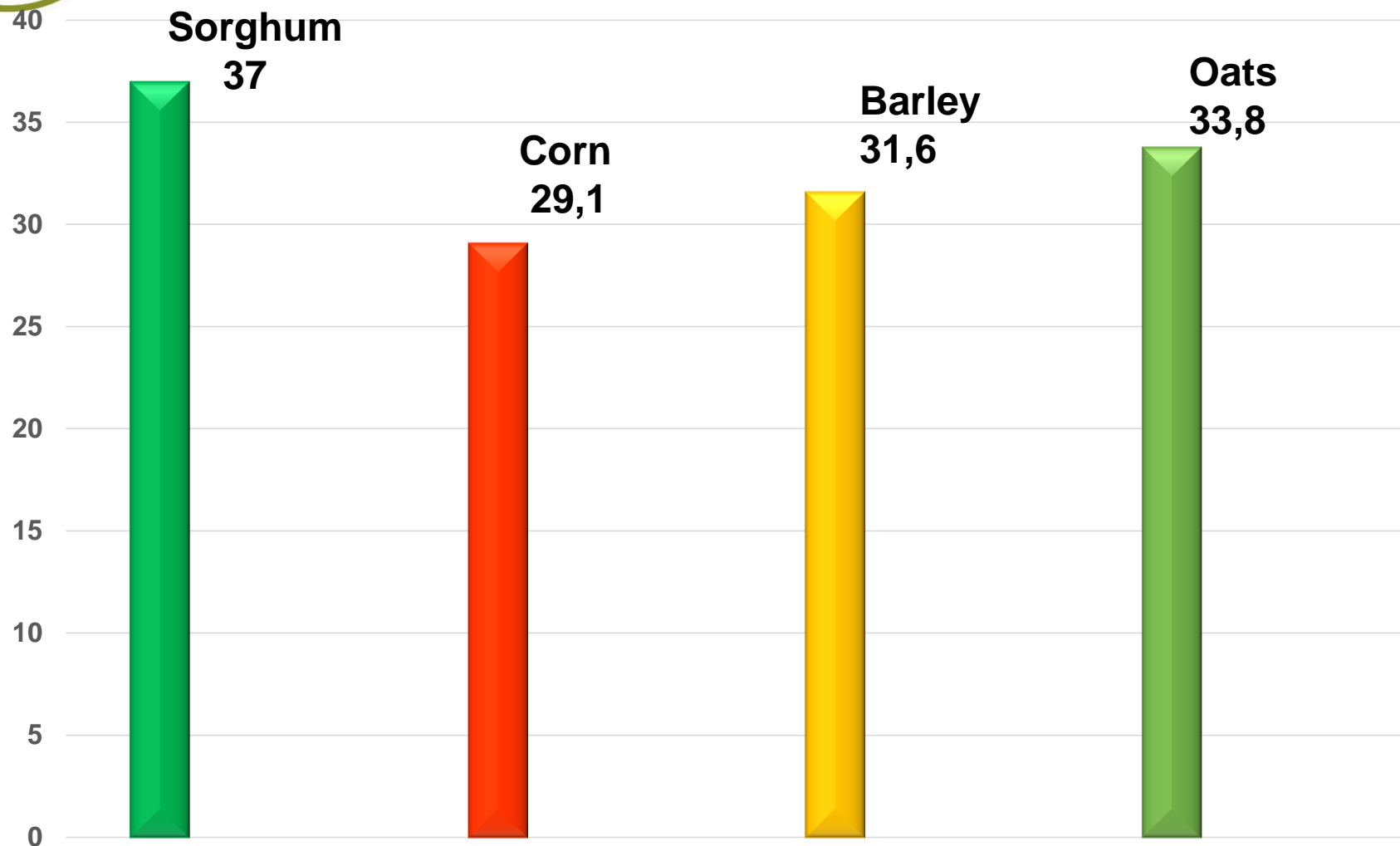


# CROP CAPACITY, Q/HA





IN THE ROSTOV REGION, AN AVERAGE OF 5 YEARS,  
SORGHUM YIELD EXCEEDS THE YIELD OF CROPS (Q/HA)





# 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 $-3^{\circ}\text{C}$ )

## 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

	Amount
Varieties (lines)	55
Hybrids	39

## Sweet sorghum

	Amount
Varieties (lines)	35
Hybrids	10

## Sorghum-sudangrass hybrids

	Amount
Hybrids	28

**Total amount – 167**

**Foreign of these – 28**



# VARIETIES OF SORGHUM IN THE STATE REGISTER OF RUSSIA

## 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 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)



# TYPICAL TECHNOLOGY OF CULTIVATION SORGHUM IN RUSSIA

- **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 Agrozplazma 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







# THANK YOU!

**“AGROPLAZMA” LLC. is interested in cooperation on breeding and seed production of sorghum!**