



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

WORKSHOP

INNOVATIVE RESEARCH TOWARDS GENETIC PROGRESS

## SEED BREEDING: QUALITY AS AN ASSET

**Maximising results through genetic diversity,  
innovation and seed quality**



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BUCHAREST  
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# ASSOCIATION DESCRIPTION



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# SEED BREEDING: QUALITY AS AN ASSET

## GENERAL OVERVIEW OF SORGHUM SEED PRODUCTION IN EUROPE (2015)



Source: Gnis



# SEED BREEDING: QUALITY AS AN ASSET

## EC NORMS FOR SORGHUM SEED MARKETING VARIETIES REGISTRATION

Council directive 2002/53/EC

### ● DUS and VCU testing

#### EU catalogue:

***Sorghum bicolor* (L.) Moench: 244**

***Sorghum sudanense* (Piper) Stapf: 18**

***Sorghum bicolor* (L.) Moench x *Sorghum sudanense* (Piper) Stapf: 50**



Source: Gnis





# SEED BREEDING: QUALITY AS AN ASSET

## EC NORMS FOR SORGHUM SEED MARKETING CONDITIONS FOR CROP CERTIFICATION

**Council directive 66/402/EC**

- **Isolation distance: 300m**
- **Official checks for varietal identity and purity**
- **Maximum threshold for impurities (hybrid varieties)**
  - **Parental male line: 0,1%**
  - **Parental female line**
    - **At flowering stage: 0,3% including 0,1% fertile of the same type**
    - **At maturity stage: 0,1%**



Source: Gnis



# SEED BREEDING: QUALITY AS AN ASSET

## EC NORMS FOR SORGHUM SEED MARKETING CONDITIONS FOR CROP CERTIFICATION

### Focus on impurities

#### Five off-types or variants:

- grain outcrosses,
- height mutation, ←
- forage outcrosses,
- johnsongrass (*Sorghum halepense*),
- shattercane (*Sorghum x drummondii*)



Source: aganytime.com

**Field inspections and official checks are done to eliminate those impurities**



# SEED BREEDING: QUALITY AS AN ASSET

## EC NORMS FOR SORGHUM SEED MARKETING CONDITIONS FOR SEEDLOT CERTIFICATION

### Council directive 66/402/EC

- The seed shall conform to the following standards:
  - Minimum germination: 80%
  - Minimum analytical purity: 98%
  - Maximum content of seeds of other plant species: 0



Source: Gnis

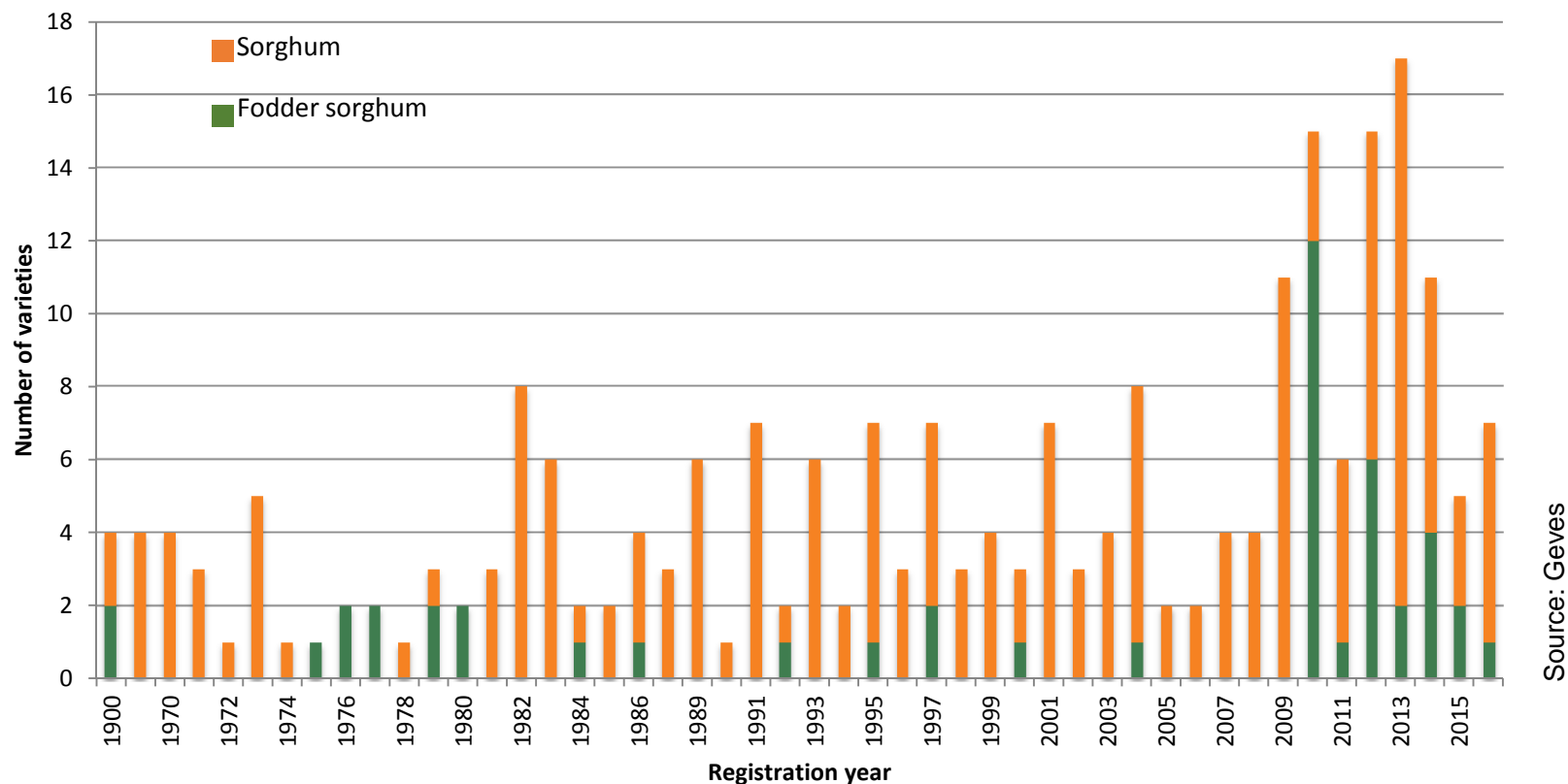




# SEED BREEDING: QUALITY AS AN ASSET

## EXAMPLE OF FRANCE

### Evolution of the registration number in the French catalogue







# SEED BREEDING: QUALITY AS AN ASSET

## EXAMPLE OF FRANCE

### Number of cultivars multiplied in 2015

	Sorghum		Sorghum sudan x bicolor	Sorghum sudan
	Varieties	Parental lines	Varieties	Parental lines
EU catalogue	14	6		
National catalogue	28	27	1	
Under registration in France	10	17		
Under registration in EU or OECD	9	16		10
<b>Total</b>	<b>61</b>	<b>66</b>	<b>1</b>	<b>10</b>



Source: Gnis



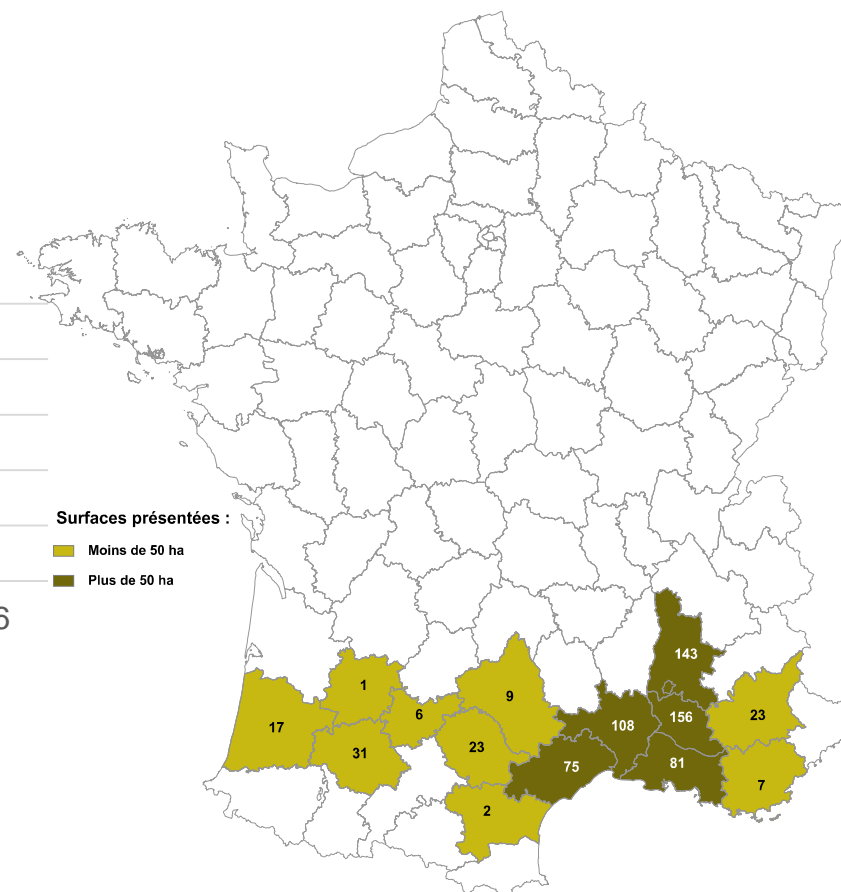
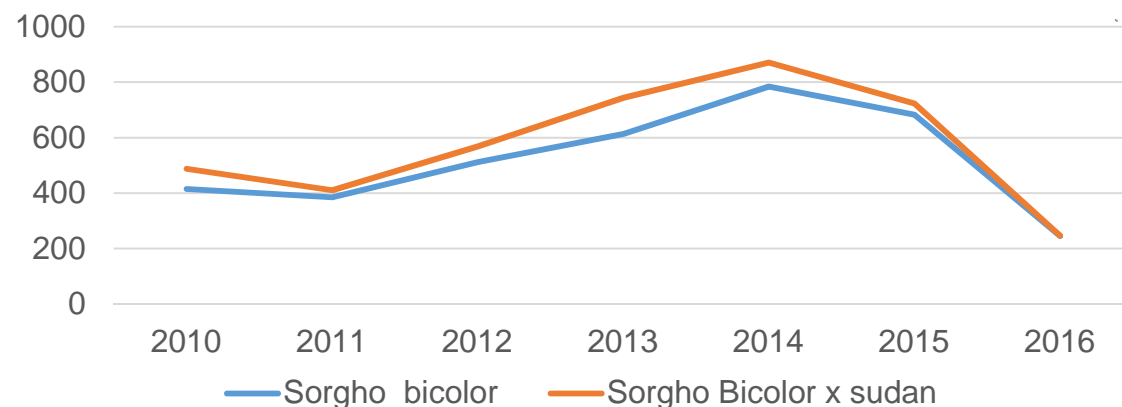
# SEED BREEDING: QUALITY AS AN ASSET

## EXAMPLE OF FRANCE

Production in 2015

Production area

Multiplication of sorghum seeds in France





# SEED BREEDING: QUALITY AS AN ASSET

## EXAMPLE OF FRANCE

### CROP PRODUCTION

#### Results of conformity (Sorghum Bicolor)

**2015: 98,9% of sorghum seed crops conform**

**2014: 99% of sorghum seed crops conform**







# SEED BREEDING: QUALITY AS AN ASSET

## EXAMPLE OF FRANCE

### Certified quantities in 2015

Certified quantities (tons)	Sorghum	Sorghum sudan	Sorghum sudan x bicolor
Pre basic and basic	11	1	0,8
Certified	411	22	140
<b>Total</b>	<b>422</b>	<b>23</b>	<b>141</b>



Source: Gnis

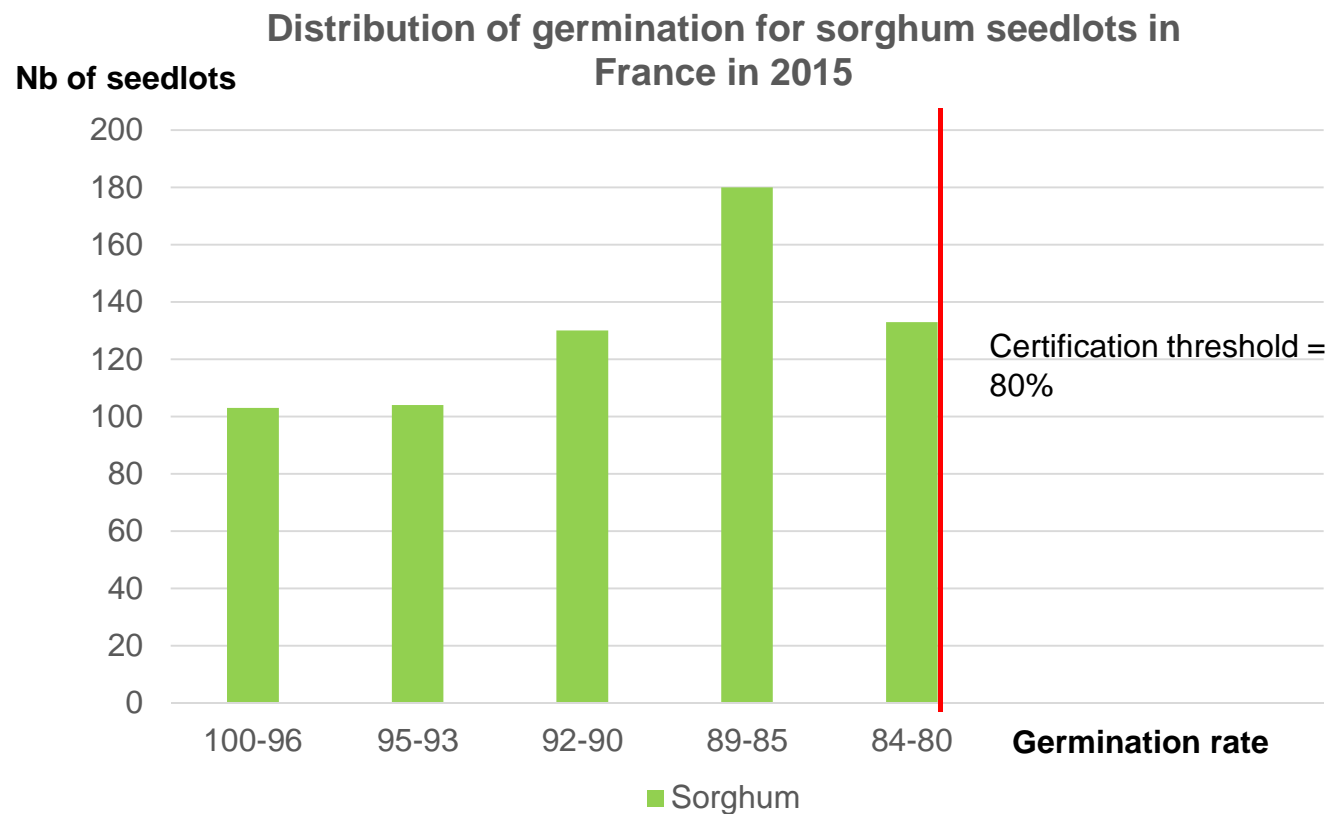




# SEED BREEDING: QUALITY AS AN ASSET

## EXAMPLE OF FRANCE

### Results for germination



Average  
88,5% of  
germination

Source: Gnis



# SEED BREEDING: QUALITY AS AN ASSET

**Thank you for your attention**

**Time for discussion...**



Source: Gnis