



# Grain



**apsov**  
SERVING AGRICULTURE

# Our company

Apsov is longstanding established Italian company which constantly endeavours to enhance the field of agriculture.

Our commitment is to create new opportunities for ourselves and our customers. We constantly strive to strengthen and enhance the brand, by launching new varieties and offering excellent services.

We are genetic providers and are at the forefront in terms of innovation; we believe in a flexible and efficient organization, market oriented and strongly focused on a technical approach. Our ambition is to be a leading company, with the best human and material resources.

The values which drive us and we seek to uphold are customer focus, passion for work, dynamism, fairness, cooperation, positivity.



apsov came into being a Cooperative -APSOV Soc. Coop- in 1967, when it was set up by a group of young farmers. The favourable climatic conditions of the territory, coupled with the founders' agricultural expertise have been and remain the basis for high quality seed production.

Today APSOV is still 100% owned by farmers and it is the leader of a group of companies: APSOVSEMENTI SPA (1995), Sementi Maremma (2002), GMAX seeds (2017).

Apsov is the leading Italian company in terms of production and marketing of cereals, pulses and oil crops seeds; it runs a multiplication area constantly exceeding 7,000 ha, with a seed production of about 25,000 tons / year; it generates a turnover of 22 mm, steadily increasing, which is the exclusive result of seed activity; it carries out breeding programs for bread and durum wheat, barley, triticale, employing 10 people on a full-time basis.





# SOYBEAN

## cropping: nitrogen

### SYMBIOSIS AND NITROGEN-FIXATION

Nodules must be present on the roots and should gradually turn into reddish colour, indicating nitrogen fixation has started.

Otherwise, it is necessary to proceed with fertilization.

#### Possible reasons for the loss of symbiosis are:

- **the absence of a specific rhizobium**, the *Bradyrhizobium japonicum* is not present in our soils. It is always recommended to use selected strains, more efficient than natural ones.
- **excess of nitric nitrogen** in the soil.
- **compact soils and water lodging** that prevent atmospheric nitrogen to get into contact with the nodules.
- **the excessive soil acidity**, the lack of Molybdenum.



### NITROGEN BALANCE

#### Uptake:

60 Kg N per ton of produced grain  
100 Kg N/ha for the plant development

#### Input:

250 Kg N/ha are supplied by rhizobia  
+ 70 Kg N/ha root uptake + fertilization  
(see table)

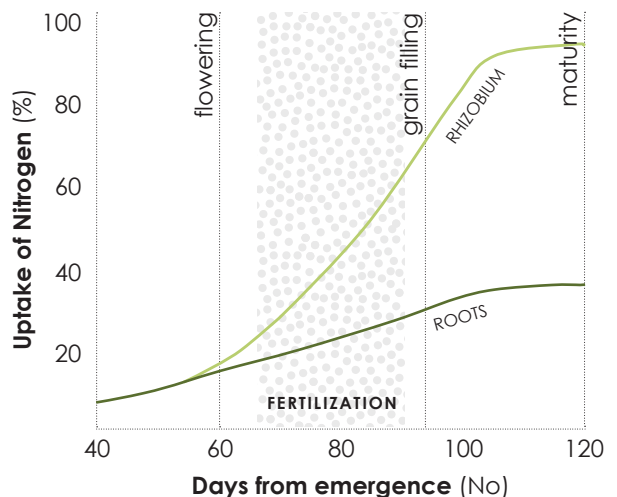
YIELD t/ha	UPTAKE kg N/ha	FERTILIZATION kg N/ha
4,0	340	<b>20</b>
4,5	370	<b>30</b>
5,0	400	<b>45</b>
5,5	430	<b>60</b>

### WHEN TO FERTILIZE

The formation of nodules is strongly inhibited by the presence of nitric nitrogen, therefore fertilizer application must be performed **between the end of flowering and the grain filling stage**.

#### IT IS IMPORTANT TO REMEMBER THAT:

- A late input can also be applied in liquid form along with treatments against worms or red spider mite.
- Organic fertilizers (including manure application) is positive, as it does not affect rhizobium activity.



# SOYBEAN cropping: seed rate

## SEED RATE

Soybean has the ability to compensate for several factors of yield performance: low plant population with more branches and more pods; conversely in case of high plant density.

### The harvest target is:

1st SOWING: 30-35 plants / sqm – 2nd SOWING: 35-40 plants / sqm

The optimal planting rate based on the variety is:

GOOD BRANCHING and LATE MATURITY: 35-45 seeds / sqm

LOW BRANCHING and EARLY MATURITY: 45-55 seeds / sqm



## INTER-ROW SPACE

Inter-row sowing of 70-75 cm with corn planters may limit yield, in fact:

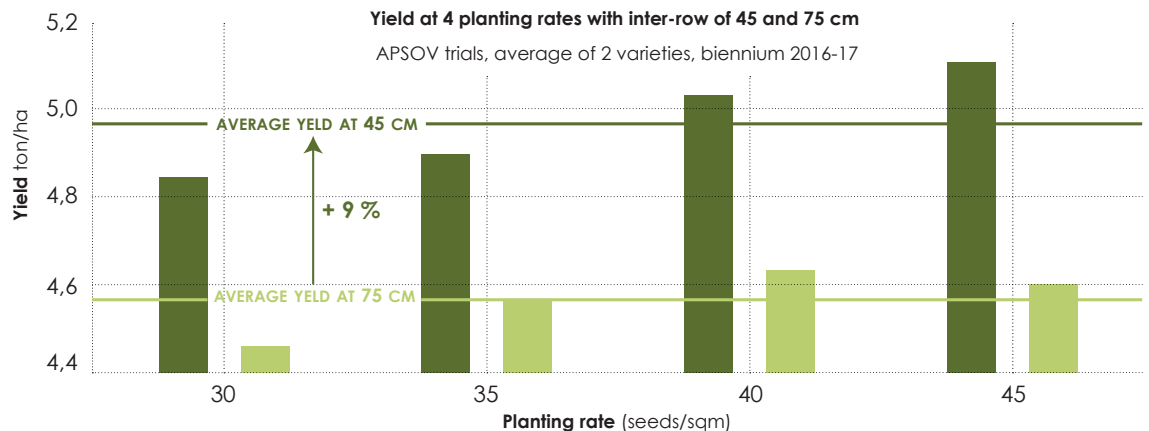
- It limits the full exploitation of light radiation by the crop
- It promotes the weed growth, since it takes several more days for soybean plants to cover the inter-row space.
- It increases the competition among plants in the row.

For these reasons, it is always recommended to avoid sowing at 70-75 cm in the case of late sowing and with varieties with low branching attitude.

Several trials have shown that by using wider inter-row space, yield might decrease by 5 to 15%.

Below the results of Apsov trial performed for 2 years in a row, showing that the 45 cm inter-row achieved a 9% higher yield (+0.41 ton/ha).

Higher planting rate is more performing only at 45 cm.



# Celina



Maturity group 1+ (1.2)

**The highest yield producer of all regardless of conditions**

**FEATURES**

HEIGHT	medium
POD COLOUR	brown
HILUM COLOUR	black
BRANCHING	good
DEFOLIATION	medium
FIRST POD HEIGHT	high

**QUALITIES**

TKW	medium 180-200 g
PROTEIN CONTENT	good

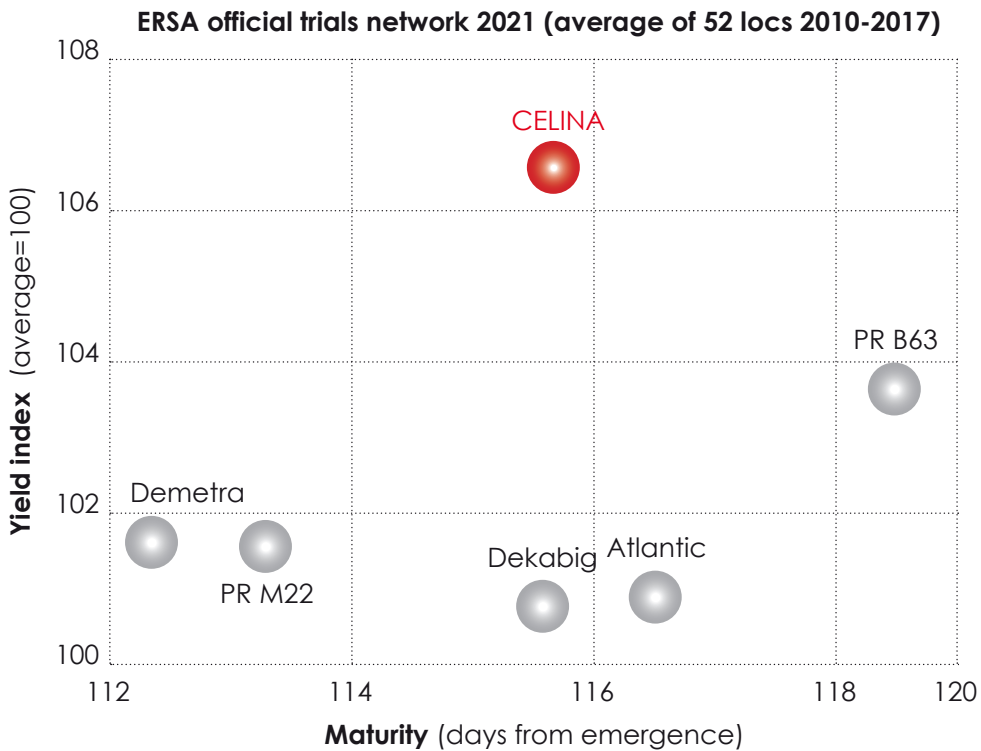
**RESISTANCES**

LODGING				MR
DEHISCENCE				R
DROUGHT STRESS				MR

**ADVICES**

Planting time:  
**1st crop**

Planting rate  
**40-45 seeds/sqm; 3,2-3,6 units/ha**



# Benedetta



Maturity group 1 (1.0)

**The earliest in maturity group 1 super yielding**

## FEATURES

HEIGHT	medium
POD COLOUR	light brown
HILUM COLOUR	black
BRANCHING	medium-high
DEFOLIATION	medium
FIRST POD HEIGHT	high

## QUALITIES

TKW	high 200-220 g
PROTEIN CONTENT	good

## RESISTANCES

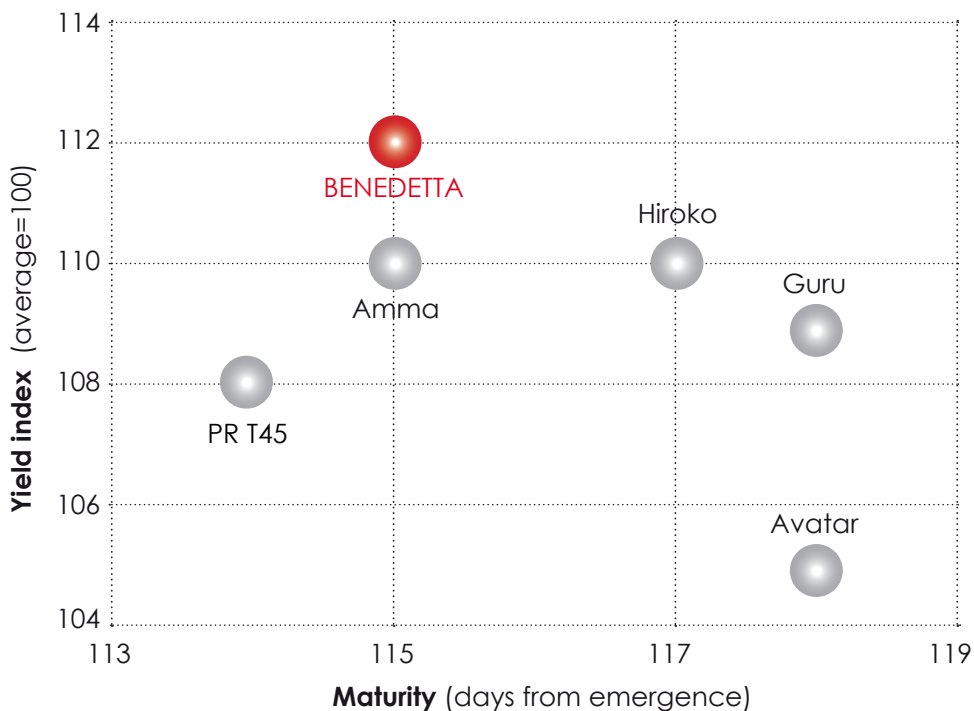
LODGING				R
DEHISCENCE				R
DROUGHT STRESS				R

## ADVICES

Planting time:  
**1 st crop / 2 nd crop**

Planting rate:  
**40-45 seeds/sqm; 3,2-3,6 units/ha**

ERSA official trials network 2021 (average of 8 locs)



# Annette



Maturity group 1- (0.7)

**Perfect balance between yield and earliness**

**FEATURES**

HEIGHT	medium
POD COLOUR	brown
HILUM COLOUR	brown
BRANCHING	good
DEFOLIATION	fast
FIRST POD HEIGHT	medium

**QUALITIES**

TKW	medium 180-200 g
PROTEIN CONTENT	medium

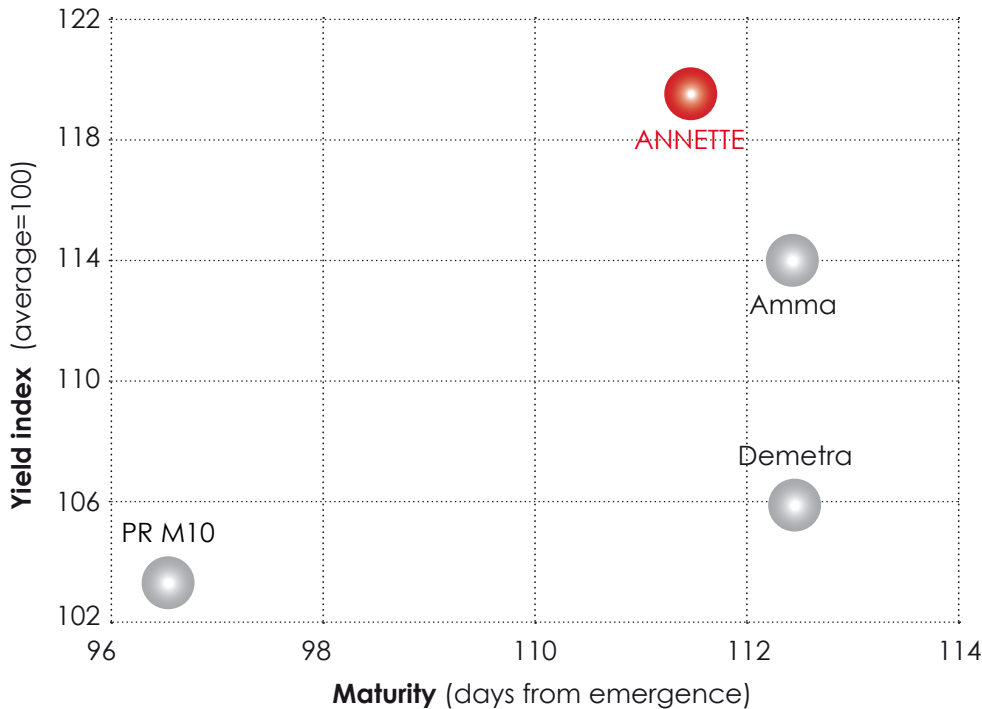
**RESISTANCES**

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

**ADVICES**

Planting time:  
**1 st crop / 2 nd crop**  
 Planting rate  
**40-45 seeds/sqm; 3,6-4,1 units/ha**

**APSOV advanced trials network (average of 19 locs 2017-19)**





# Carlotta



Maturity group 1- (0.6)

**Early, rustic and stable**

## FEATURES

HEIGHT	<b>medium-high</b>
POD COLOUR	<b>light brown</b>
HILUM COLOUR	<b>brown</b>
BRANCHING	<b>medium</b>
DEFOLIATION	<b>fast</b>
FIRST POD HEIGHT	<b>high</b>

## QUALITIES

TKW	<b>low 160-180 g</b>
PROTEIN CONTENT	<b>good</b>

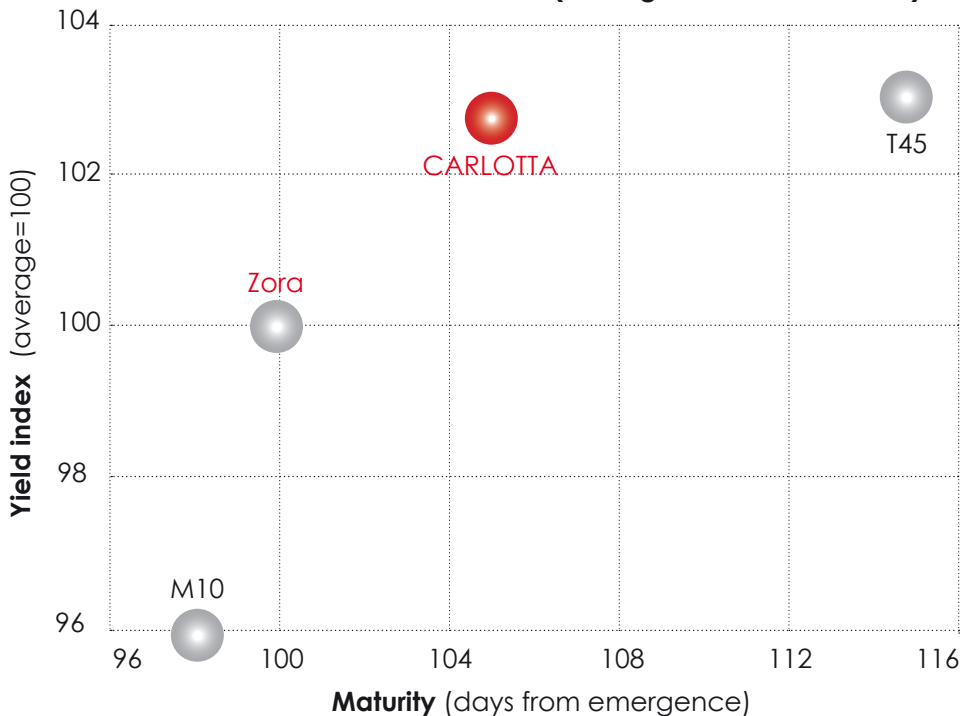
## RESISTANCES

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

## ADVICES

Planting time  
**1 st crop / 2 nd crop**  
 Planting rate:  
**40-45 seeds/sqm; 3,2-3,6 units/ha**

APSOV advanced trials network (average of 23 locs 2018-20)





# Dorothy



Maturity group 0+ (0.5)

**Super high yielding which never lodges**

**FEATURES**

HEIGHT	medium-low
POD COLOUR	light brown
HILUM COLOUR	brown
BRANCHING	high
DEFOLIATION	fast
FIRST POD HEIGHT	medium

**QUALITIES**

TKW	medium 180-200 g
PROTEIN CONTENT	good

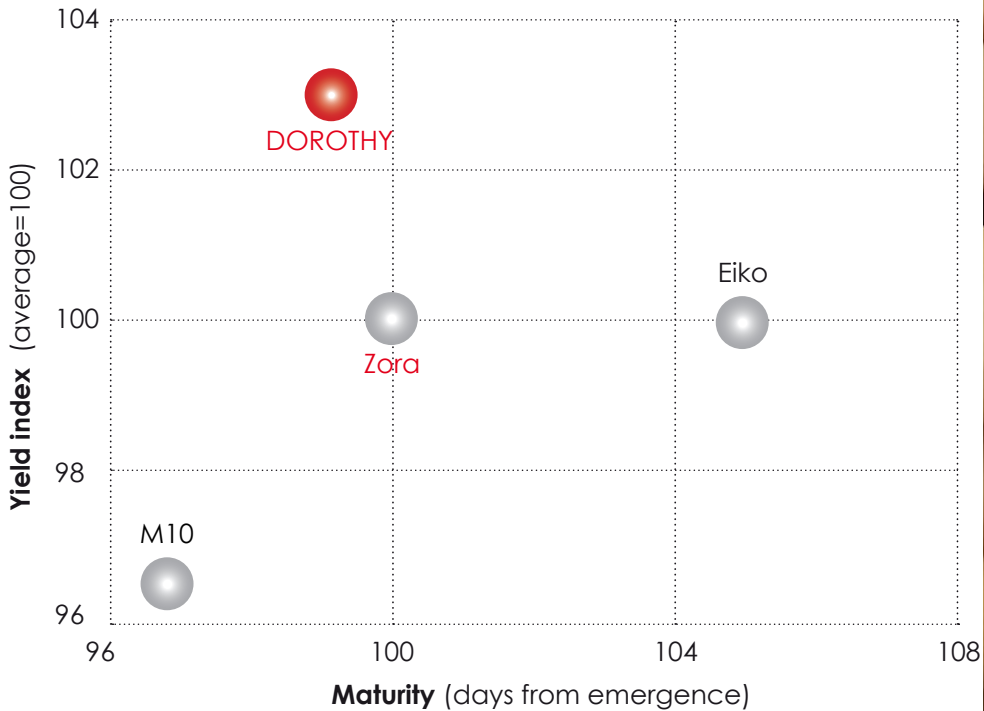
**RESISTANCES**

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

**ADVICES**

Planting time:  
**1 st crop / 2 nd crop**  
 Planting rate:  
**40-45 seeds/sqm; 3,2-3,6 units/ha**

APSOV advanced trials network (average of 27 locs 2019-21)





# Zora



Maturity group 0+ (0.5)

**White hilum and good yield potential**

**FEATURES**

HEIGHT	medium
POD COLOUR	grey
HILUM COLOUR	white
BRANCHING	low
DEFOLIATION	fast
FIRST POD HEIGHT	high

**QUALITIES**

TKW	low 160-180 g
PROTEIN CONTENT	good

**RESISTANCES**

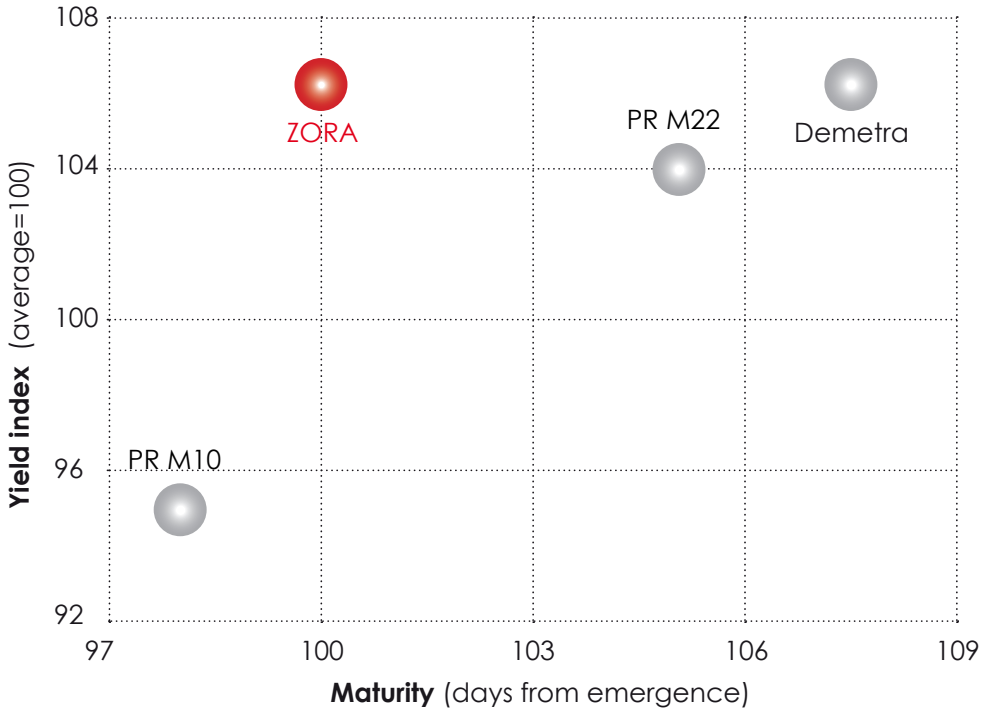
LODGING			MR
DEHISCENCE			MR
DROUGHT STRESS			R

**ADVICES**

Planting time:  
1 st crop / 2 nd crop

Planting rate:  
50-55 seeds/sqm; 4,0-4,4 units/ha

APSOV advanced trials network (average of 18 locs 2016-18)



# Betty



Maturity group 0 (0.3)

**Very early and lodging resistant**

## FEATURES

HEIGHT	medium
POD COLOUR	brown
HILUM COLOUR	black
BRANCHING	medium
DEFOLIATION	fast
FIRST POD HEIGHT	medium

## QUALITIES

TKW	medium-high 190-220 g
PROTEIN CONTENT	medium

## RESISTANCES

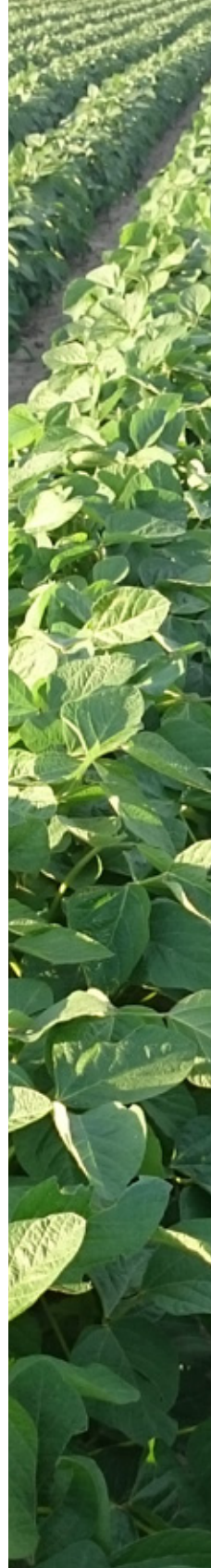
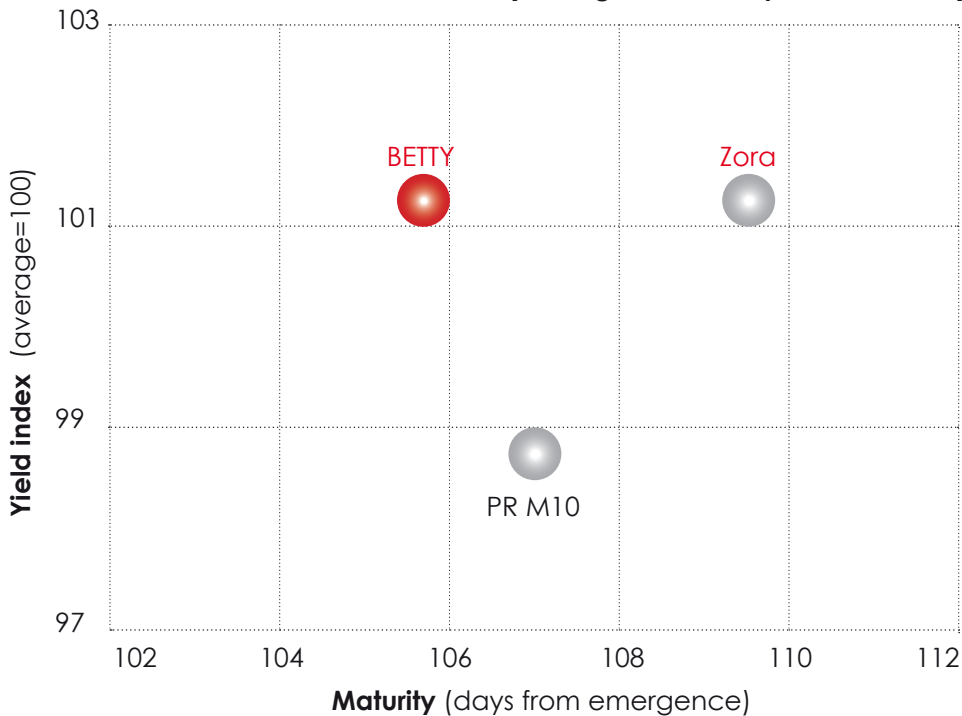
LODGING				R
DEHISCENCE				R
DROUGHT STRESS				R

## ADVICES

Planting time:  
**1 st crop / 2 nd crop**

Planting rate:  
**40-50 seeds/sqm; 3,6-4,0 units/ha**

APSOV advanced trials network (average of 15 locs period 2018-19)



# SORGHUM for every purpose

● Possible ● Best

		Silage	Forage	
GRAIN SORGHUM	<b>Anggy</b>	●		Moderate height High exertion, that is the distance between the panicle and the last leaf ("combine" trait) Grain with nutritional values similar to corn.
	<b>Diamond</b>	●		
	<b>Ggolden</b>	●		
	<b>Icebergg</b>	●		
	<b>Ruby</b>	●		
SILAGE SORGHUM	<b>Argensor</b>	●	●	High size, excellent to substitute corn silage. Best compromise between biomass production and grain yield.
	<b>Argensil</b>	●	●	
	<b>Silomix</b>	●		
SORGHUM SUDANGRASS	<b>Piper</b>	●	●	Multicut, suitable for green forage production and hay.
	<b>Fienomix</b>	●	●	

**GREAT VALUE** - production cost are 40% lower, compared to corn

**SUSTAINABLE**- compared to corn demand is 30% lower in water and 50% in nitrogen

**HIGH YIELD** - from 5 to 10 tons/ha of grain at 14% moisture from 30 to 80 tons/ha of silage as it is

**RUSTIC**- root system efficiency and ability to better resist under severe drought stress ensure maximum adaptability

**HEALTHY**- It does not develop mycotoxin





# GRAIN SORGHUM: crop management

## SOWING

This has to be scheduled with a soil temperature exceeding 12 °C at a depth of 2-cm. Ideal seeding rate is 10-15 Kg with single kernel planter and 15-20 Kg/ha with rows planter, which means an average planting rate of 35-45 plants/sqm for grain crop and 40-50 plants/sqm for silage crop.

## NUTRITION

A pre-planting application of 100-120 Kg/ha nitrogen for dry soils and 130-150 Kg/ha for deep and irrigated soils is advisable. If needed, additional 80-100 Kg/ha of Phosphorus and Potassium (pre-planting) must be provided. Uptakes for 1 ton grain are: 28 Kg N; 10 Kg P2O5; 33 Kg K2O.

## WEED CONTROL

Pre-emergence: Aclonifen, Pendimethalin, Terbutylazine (broad leaf weeds - grasses)  
Early post-emergence: S- S-Metolachlor+ terbutylazine (grasses + broad leaf weeds)  
Post-emergence: Prosulfuron, Bentazone, Mesotrione, 2,4 D, MCPA, Dicamba,Fluroxipir, Bromoxinil.

## IRRIGATION

Water need is of 400-450 mm, the critical phase coincides with the beginning of flowering until the kernels filling. If required, provide 40-80 mm at the end of flowering.



## Diamond



Purpose: grain

**Food grade: white kernel and clear huskes**

### FEATURES

MATURITY	<b>medium</b>
HEIGHT	<b>medium</b>
GRAIN COLOUR	<b>pure white</b>
PANICLE DENSITY	<b>mid-compact</b>
HEAD EXERTION	<b>good</b>

### ADVICES

Planting time:  
**Early to mid-early**

Planting rate:  
**35-40 seeds/sqm; 10-11 kg/ha**

### RESISTANCES

STOCK RESISTANCE				<b>R</b>
DROUGHT STRESS			<b>MR</b>	

# Ggolden

Purpose: grain

**Earliness with high yield potential**

## FEATURES

MATURITY	<b>early</b>
HEIGHT	<b>medium-short</b>
GRAIN COLOUR	<b>white</b>
PANICLE DENSITY	<b>mid-loose</b>
HEAD EXERTION	<b>high</b>

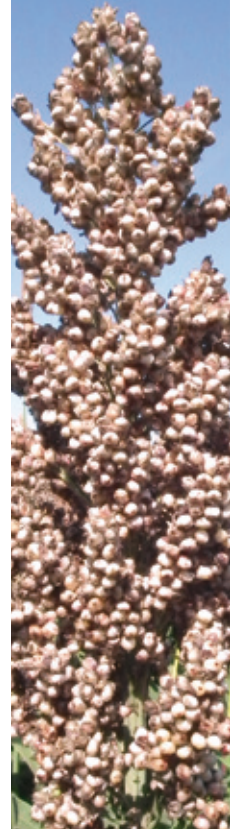
## ADVICES

Planting time:  
**Early to mid-late**

Planting rate:  
**40-45 seeds/sqm; 12-14 kg/ha**

## RESISTANCES

STOCK RESISTANCE					<b>R</b>
DROUGHT STRESS					<b>R</b>



# Icebergg

Purpose: grain

**Early, high yielding with very white grain**

## FEATURES

MATURITY	<b>early</b>
HEIGHT	<b>medium</b>
GRAIN COLOUR	<b>pure white</b>
PANICLE DENSITY	<b>mid-loose</b>
HEAD EXERTION	<b>high</b>

## ADVICES

Planting time:  
**Early to mid-late**

Planting rate:  
**40-45 seeds/sqm; 12-14 kg/ha**

## RESISTANCES

STOCK RESISTANCE					<b>R</b>
DROUGHT STRESS					<b>R</b>





# Anggy

Purpose: grain



**Yielding and rustic**

## FEATURES

MATURITY	<b>early</b>
HEIGHT	<b>medium</b>
GRAIN COLOUR	<b>dark red</b>
PANICLE DENSITY	<b>mid-compact</b>
HEAD EXERTION	<b>high</b>

## ADVICES

Planting time:  
**Early to mid-early**

Planting rate:  
**40-45 seeds/sqm; 11-14 kg/ha**

## RESISTANCES

STOCK RESISTANCE				<b>R</b>
DROUGHT STRESS				<b>R</b>



# Ruby

Purpose: grain



**Leafy plant suitable for wholemeal silage**

## FEATURES

MATURITY	<b>early</b>
HEIGHT	<b>medium-short</b>
GRAIN COLOUR	<b>dark red</b>
PANICLE DENSITY	<b>mid-compact</b>
HEAD EXERTION	<b>high</b>

## ADVICES

Planting time:  
**Early to mid-late**

Planting rate:  
**35-40 seeds/sqm; 10-11 kg/ha**

## RESISTANCES

STOCK RESISTANCE				<b>R</b>
DROUGHT STRESS				<b>R</b>

# Piper

Purpose: for hay, green forage and silage

**Early type. Resprouts quickly and has high tillering attitude**

FEATURES	MATURITY	<b>early</b>
	HEIGHT	<b>medium</b>
	CUTS NUMBER	<b>till 4 cuts</b>
	LEAFNESS	<b>very good</b>

ADVICES	Planting time: <b>Early to early</b>
	Planting rate: <b>45-55 kg/ha</b>
	Cut: <b>best when height gets 120 cm</b>

RESISTANCES	LODGING					R
	DROUGHT STRESS					R



## SILAGE: sorghum vs corn

ARGENSOR and ARGENSIL are tall grain hybrids, suitable for silage with very similar quality to corn silage. By using these two products, the performances of the two species level out in regard to yield levels, dry matter content and starch.

Parameter	Poor soils	High fertility soils	Notes
WATER REQUIREMENT	++	+	Sorghum needs about 400 mm of water, compared to the 600-700 mm of corn, and withstands prolonged drought periods.
COSTS	++	+	Sorghum ensures less need for nitrogen and reduced costs for plant protection.
SILAGE QUALITY	+	-	Equivalent: corn contains more starch while sorghum more sugar and less lignified fiber.
DIABROTICA TOLERANCE	++	+	The sorghum roots are not affected by Diabrotica.
MYCOTOXIN CONTENT	++	+	Sorghum does not contain mycotoxins (aflatoxin), which could affect corn silage crops grown in drought stress.



# Silomix



Single cut mix

## COMPOSITION

20%	SWEET STALK GRAIN SORGHUM, VERY TALL
40%	TALL GRAIN SORGHUM
40%	TALL GRAIN BMR SORGHUM

## FEATURES

MATURITY	<b>medium-early</b>
HEIGHT	<b>high 220-240 cm</b>
LODGING	<b>resistant</b>
REGROWTH	<b>good</b>
WATER NEED	<b>medium</b>

## NUTRITIONAL DATA

DM (%)	<b>26-31</b>
PROTEINE (%DM)	<b>7-9</b>
SUGAR (%DM)	<b>10-12</b>
STARCH (%DM)	<b>18-21</b>
NDF (%DM)	<b>54-60</b>
NDF AT 30 H (%DM)	<b>60-65</b>
UFL (n/KG DM)	<b>0,85-0,90</b>

## PURPOSE

PRE-DRIED SILAGE	<b>suitable</b>
DIRECT SILAGE	<b>ideal</b>
HAY	<b>not suitable</b>
WRAPPED	<b>not suitable</b>

### best harvest stage

- GRAIN FILLING
- SOFT DOUGH
- HEADING
- HEADING

## ADVICES

Planting rate:  
Single kernel planter  
**8 kg/ha**  
Cereal planter  
**12 kg/ha**



# Fienomix



Multicut mix

COMPOSITION	30%	SUDAN GRASS
	30%	HYBRID SORGHUM X SUDAN
	40%	HYBRID FODDER BMR SORGHUM

FEATURES	MATURITY	<b>medium-early</b>
	HEIGHT	<b>high 240-260 cm</b>
	LODGING	<b>mid-resistant</b>
	REGROWTH	<b>high</b>
	WATER NEED	<b>low</b>

NUTRITIONAL DATA	DM (%)	<b>24-28</b>
	PROTEINE (%DM)	<b>7-9</b>
	SUGAR (%DM)	<b>14-16</b>
	STARCH (%DM)	<b>4-8</b>
	NDF (%DM)	<b>60-65</b>
	NDF AT 30 H (%DM)	<b>50-55</b>
	UFL (n/KG DM)	<b>0,75-0,80</b>

PURPOSE	PRE-DRIED SILAGE	<b>ideal</b>
	DIRECT SILAGE	<b>suitable</b>
	HAY	<b>suitable</b>
	WRAPPED	<b>ideal</b>

- best harvest stage**
- GRAIN FILLING
  - SOFT DOUGH
  - HEADING
  - HEADING

**ADVICES** Planting rate:  
Single kernel planter  
**30 kg/ha**  
Cereal planter  
**40 kg/ha**



# Argensor



Purpose: whole plant silage

**High sugar content in stover Tall plant and excellent starch producer**

## FEATURES

MATURITY	<b>medium-early</b>
HEIGHT	<b>medium-high</b>
CUTS NUMBER	<b>single</b>

## NUTRITIONAL DATA

DM (%)	<b>27-32</b>
PROTEIN (%DM)	<b>7-9</b>
SUGAR (%DM)	<b>10-12</b>
STARCH (%DM)	<b>20-22</b>
NDF (%DM)	<b>54-60</b>
NDF AT 30 H (%DM)	<b>57-60</b>
UFL (n/KG DM)	<b>0,85-0,90</b>

## RESISTANCES

LODGING				<b>R</b>
DROUGHT STRESS				<b>R</b>

## ADVICES

Planting time:  
**Early to mid-late**

Planting rate:  
**25-30 seeds/sqm; 7-10 kg/ha**

# Argensil



Purpose: whole plant silage

**High sugar content in stover which grows to a considerable height**

## FEATURES

MATURITY	<b>medium</b>
HEIGHT	<b>high (220-260 cm)</b>
CUTS NUMBER	<b>single</b>

## NUTRITIONAL DATA

DM (%)	<b>25-30</b>
PROTEIN (%DM)	<b>7-9</b>
SUGAR (%DM)	<b>11-13</b>
STARCH (%DM)	<b>16-18</b>
NDF (%DM)	<b>54-60</b>
NDF AT 30 H (%DM)	<b>60-65</b>
UFL (n/KG DM)	<b>0,85-0,90</b>

## RESISTANCES

LODGING			<b>MR</b>	
DROUGHT STRESS				<b>R</b>

## ADVICES

Planting time:  
**Early to mid-late**

Planting rate:  
**20-25 seeds/sqm; 6-9 kg/ha**

# Planting rate

		Row distance cm							
		30	35	40	45	50	60	70	75
<b>SUNFLOWER</b>	5,5	-	-	-	40,4	36,4	30,3	26,0	24,2
	6,0	-	-	-	37,0	33,3	27,8	23,8	22,2
	6,5	-	-	-	34,2	30,8	25,6	22,0	20,5
	7,0	-	-	-	31,7	28,6	23,8	20,4	19,0
<b>SORGHUM</b>	20,0	16,7	14,3	12,5	11,1	10,0	8,3	7,1	6,7
	22,5	14,8	12,7	11,1	9,9	8,9	7,4	6,3	5,9
	27,5	12,1	10,4	9,1	8,1	7,3	6,1	5,2	4,8
	30,0	11,1	9,5	8,3	7,4	6,7	5,6	4,8	4,4
	32,5	10,3	8,8	7,7	6,8	6,2	5,1	4,4	4,1
	35,0	9,5	8,2	7,1	6,3	5,7	4,8	4,1	3,8
	37,5	8,9	7,6	6,7	5,9	5,3	4,4	3,8	3,6
	40,0	8,3	7,1	6,3	5,6	5,0	4,2	3,6	3,3
	42,5	7,8	6,7	5,9	5,2	4,7	3,9	3,4	3,1
	45,0	7,4	6,3	5,6	4,9	4,4	3,7	3,2	3,0
<b>SOYBEAN</b>	40,0	8,3	7,1	6,3	5,6	5,0	4,2	3,6	3,3
	42,5	7,8	6,7	5,9	5,2	4,7	3,9	3,4	3,1
	45,0	7,4	6,3	5,6	4,9	4,4	3,7	3,2	3,0
	47,5	7,0	6,0	5,3	4,7	4,2	3,5	3,0	2,8
	50,0	6,7	5,7	5,0	4,4	4,0	3,3	2,9	2,7
	52,5	6,3	5,4	4,8	4,2	3,8	3,2	2,7	2,5
	55,0	6,1	5,2	4,5	4,0	3,6	3,0	2,6	2,4



# Iolen

High oleic



**High yielding compact plant with high oil content**

## FEATURES

MATURITY	<b>medium-early</b>
HEIGHT	<b>medium-low</b>
HEAD SIZE	<b>high</b>
ACHENES WEIGHT	<b>good</b>
OIL CONTENT	<b>high</b>

## ADVICES

Planting time:  
**Early to mid-early**

Planting rate:  
**5,5-7,5 seeds/sqm**

## RESISTANCES

LODGING				R
DOWNY MILDEW				RM9
PHOMOPSIS			MR	
SCLEROTINIA		MS		
PHOMA				T

# Inotop

High oleic



**Early, stable and resistant**

## FEATURES

MATURITY	<b>early</b>
HEIGHT	<b>medium</b>
HEAD SIZE	<b>medium</b>
ACHENES WEIGHT	<b>very high</b>
OIL CONTENT	<b>high</b>

## ADVICES

Planting time:  
**Early to mid-late**

Planting rate:  
**6,0-7,5 seeds/sqm**

## RESISTANCES

LODGING				R
DOWNY MILDEW			RM7	
PHOMOPSIS				T
SCLEROTINIA		MS		
PHOMA				T

# Absollute

High oleic, IMI



**Top yield. None better for resistance to mildew**

**FEATURES**

MATURITY	<b>medium-early</b>
HEIGHT	<b>medium-high</b>
HEAD SIZE	<b>medium</b>
ACHENES WEIGHT	<b>medium</b>
OIL CONTENT	<b>high</b>

**ADVICES**

Planting time:  
**Early to mid-early**

Planting rate:  
**5,5-7,5 seeds/sqm**

**RESISTANCES**

LODGING					R
DOWNY MILDEW					RM9
PHOMOPSIS				MT	
SCLEROTINIA				MR	
PHOMA					T



# Duet CL

High oleic, IMI



**Consistant yield across different conditions**

**FEATURES**

MATURITY	<b>medium-early</b>
HEIGHT	<b>medium</b>
HEAD SIZE	<b>medium</b>
ACHENES WEIGHT	<b>good</b>
OIL CONTENT	<b>high</b>

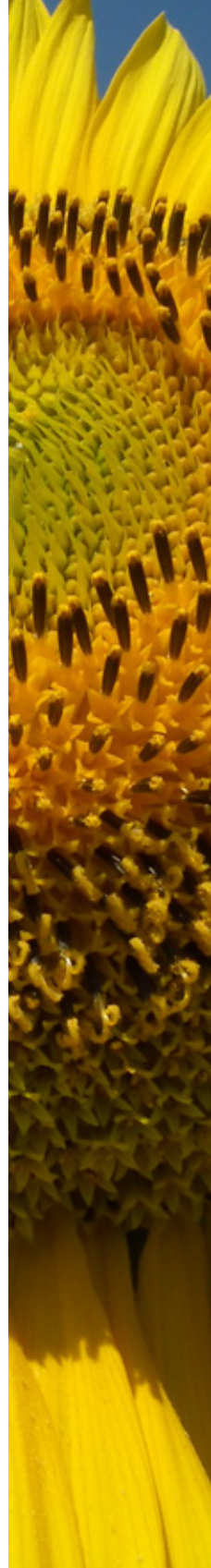
**ADVICES**

Planting time:  
**Early to mid-early**

Planting rate:  
**6,0-7,5 seeds/sqm**

**RESISTANCES**

LODGING					R
DOWNY MILDEW					RM9
PHOMOPSIS				MT	
SCLEROTINIA				MR	
PHOMA		MS			



# Nemo



Linoleic

**Rustic and highly resistant to drought stress**

FEATURES

MATURITY	<b>medium-early</b>
HEIGHT	<b>medium</b>
HEAD SIZE	<b>medium</b>
ACHENES WEIGHT	<b>medium</b>
OIL CONTENT	<b>good</b>

ADVICES

Planting time:  
**Early to mid-late**

Planting rate:  
**5,5-7,5 seeds/sqm**

RESISTANCES

LODGING				R
DOWNY MILDEW				RM9
PHOMOPSIS				T
SCLEROTINIA		MS		
PHOMA				T

# Nemo CL



Linoleic-IMI

**High yield potential and highly resistant to drought stress**

FEATURES

MATURITY	<b>medium</b>
HEIGHT	<b>medium</b>
HEAD SIZE	<b>medium</b>
ACHENES WEIGHT	<b>medium-high</b>
OIL CONTENT	<b>high</b>

ADVICES

Planting time:  
**Early to mid-early**

Planting rate:  
**6,0-7,5 seeds/sqm**

RESISTANCES

LODGING				R
DOWNY MILDEW				RM9
PHOMOPSIS		MS		
SCLEROTINIA				MR
PHOMA				MT



# BUCKWHEAT: crop management

- CROP ROTATION:** It precedes or follows cereal crop, it can be used as intercrop (please bear in mind that it is sensitive to sulphonylurea residuals). It is resilient to the weeds, thanks to the covering development and a certain allelopathic action. Nectar-secreting plant, it takes advantage of bees' presence for being pollinated.
- SOIL:** It thrives in light or gravelly soils. It is not particularly suited to heavy soils with tendency to compact and with many nitrogen residuals. In fertile and deep soils it might have an excessive plant development with consequent lodging problems. It does not succumb to acidity.
- TEMP. REQUIREMENTS:** Temperature needed for germination is above 10 ° C. It is very sensitive to frost, temperatures below 4 °C lead to sterility.
- PLANTING TIME:** From mid-May till end of July, depending on water reserves in soil. If planted after cereal crops it shall also act as cover crop.
- PLANTING MODE:** Shallow planting (1-4 cm), better to avoid compacted soil or water lodging.
- SEEDING RATE:** 180-200 seeds/sqm equivalent to about 35-40 kg/ha, depending on TKW.
- FERTILIZATION:** It is an undemanding crop, as it does not require nitrogen inputs which might be self-defeating and cause lodging. On extremely marginal land, a pre-planting fertilization with phosphorus and potassium might be considered.

## Zirka

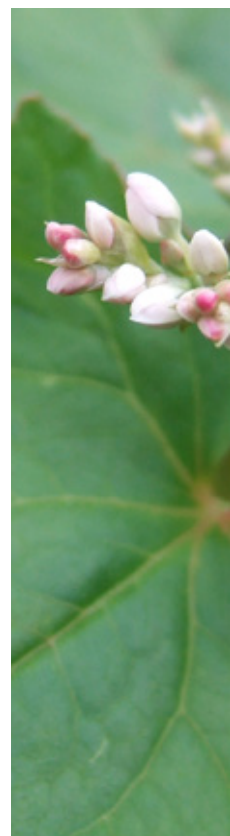


**Large seeds' size and easy to be dehulled**

FEATURES	MATURITY	<b>early</b>
	HEIGHT	<b>medium 50-60 cm</b>
	FLOWER COLOUR	<b>white</b>
	PLANT TYPE	<b>branched</b>

QUALITIES	TKW	<b>18-20 g</b>
	DEHULLING	<b>high</b>

RESISTANCES	LODGING					<b>R</b>
	COLD	<b>S</b>				
	FUNGI DISEASES					<b>R</b>





# Angelus

Ulisse x 8158 - [2013]



FEATURES

HEIGHT	<b>high</b>
MATURITY	<b>medium</b>
GRAIN COLOUR	<b>yellow</b>
GROWTH HABITUS	<b>spring</b>

RESIST.

LODGING					R
COLD				MR	
DEHISCENCE					R

QUALITIES

HECTOLITRIC WEIGHT	<b>high</b>
TKW	<b>210-260 g</b>
PROTEIN CONTENT	<b>high</b>
PURPOSE	<b>grain</b>

# Galactic

Pedigree unavailable



FEATURES

HEIGHT	<b>medium</b>
MATURITY	<b>early</b>
GRAIN COLOUR	<b>yellow</b>
GROWTH HABITUS	<b>spring</b>

RESIST.

LODGING					R
COLD				MR	
DEHISCENCE					R

QUALITIES

HECTOLITRIC WEIGHT	<b>good</b>
TKW	<b>200-240 g</b>
PROTEIN CONTENT	<b>good</b>
PURPOSE	<b>grain</b>

# Bluemoon

Pedigree unavailable



FEATURES

HEIGHT	<b>high</b>
MATURITY	<b>medium</b>
GRAIN COLOUR	<b>green</b>
GROWTH HABITUS	<b>spring</b>

RESIST.

LODGING					R
COLD				MR	
DEHISCENCE					R

QUALITIES

HECTOLITRIC WEIGHT	<b>good</b>
TKW	<b>200-240 g</b>
PROTEIN CONTENT	<b>good</b>
PURPOSE	<b>food grain</b>





# Lump

Pedigree unavailable

FEATURES	HEIGHT	<b>high</b>
	MATURITY	<b>medium</b>
	GRAIN COLOUR	<b>yellow</b>
	GROWTH HABITUS	<b>spring</b>

RESIST.	LODGING				R
	COLD			MR	
	DEHISCENCE				R

# Peps

Pedigree unavailable

FEATURES	HEIGHT	<b>high</b>
	MATURITY	<b>medium</b>
	GRAIN COLOUR	<b>green</b>
	GROWTH HABITUS	<b>spring</b>

RESIST.	LODGING				R
	COLD			MR	
	DEHISCENCE				R

# Poseidon

Pedigree unavailable

FEATURES	HEIGHT	<b>high</b>
	MATURITY	<b>medium</b>
	GRAIN COLOUR	<b>green</b>
	GROWTH HABITUS	<b>spring</b>

RESIST.	LODGING				R
	COLD			MR	
	DEHISCENCE				R



QUALITÀ	HECTOLITRIC WEIGHT	<b>high</b>
	TKW	<b>200-240 g</b>
	PROTEIN CONTENT	<b>good</b>
	PURPOSE	<b>grain</b>



QUALITIES	HECTOLITRIC WEIGHT	<b>good</b>
	TKW	<b>200-240 g</b>
	PROTEIN CONTENT	<b>good</b>
	PURPOSE	<b>food grain</b>



QUALITIES	HECTOLITRIC WEIGHT	<b>high</b>
	TKW	<b>230-270 g</b>
	PROTEIN CONTENT	<b>good</b>
	PURPOSE	<b>food grain</b>



# La Torre

Clones selected from the Vogherese ecotype - [1994]

## Production and quality guarantee

### FEATURES

PLANT	<b>erect</b>
HEIGHT	<b>medium-tall</b>
STEM DIMENSION	<b>medium-thin</b>
BRANCHING	<b>high</b>
BLOOMING	<b>medio-precocce</b>
DOMANCY	<b>dormient</b>
AFTER WINTER REGROW	<b>mid-early</b>

### QUALITIES

REGROW VELOCITY	<b>very fast</b>
STEM/ LEAVES RATIO	<b>good</b>
LONGEVITY	<b>high</b>
TOLER. TO TRAMPLING	<b>high</b>
STRESS TOLERANCE	<b>good</b>
DESTINATION	<b>hay and silgae, dehydrated</b>



# Isola

Clones selected from the Vogherese ecotype - [2001]

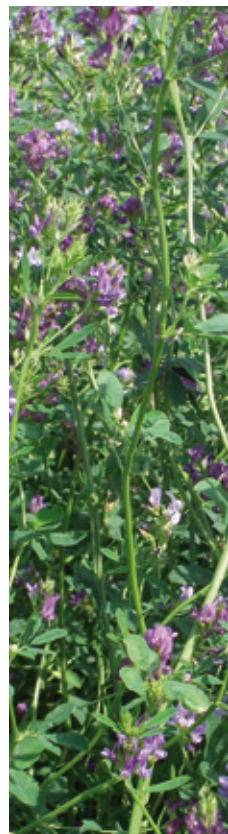
## High yielding long lasting stand

### FEATURES

PLANT	<b>erect</b>
HEIGHT	<b>high</b>
STEM DIMENSION	<b>medium-thin</b>
BRANCHING	<b>high</b>
BLOOMING	<b>early</b>
DOMANCY	<b>dormient</b>
AFTER WINTER REGROW	<b>mid-early</b>

### QUALITIES

REGROW VELOCITY	<b>fast</b>
STEM/ LEAVES RATIO	<b>high</b>
LONGEVITY	<b>good</b>
TOLER. TO TRAMPLING	<b>good</b>
STRESS TOLERANCE	<b>high</b>
DESTINATION	<b>hay and silgae, dehydrated</b>



# CHICK PEA: crop management

## SOWING

From December to April, later planting is possible in certain areas where spring and summer are not too hot and dry.

A minimum temperature of 9°-10°C is required for germination. To obtain 35-40 plants/sqm seeding rate is 45-50 seeds/m<sup>2</sup> (130-250 kg/ha based on TKW). The distance between the rows is 45-50 cm for hoed crops and 30-35 cm with cereal planter. Tamping should be performed in order to protect the seeds from the anti-germination effect of herbicide as well as facilitating harvesting.

## NUTRITION

Chickpea is a pulse with nitrogen-fixing activity carried out by symbiotic bacteria of the genus *Rhizobium*. We therefore recommend a pre-planting of 60-120 units/ha or localized at sowing time 5-20 units of Phosphorus.

## WEED CONTROL

In order to speed up the process should conditions be harsh (significant nitrogen deficiency, strong runoff before sowing, crop precessions particularly exploiting), 20-30 units/ha of Nitrogen could be added. Pre-emergence: - pendimethalin (ex. Stomp Aqua 1,0-1,75 lt/ha; Inca 1,5 -2,5 l/ha). - pendimethalin + acionifen (Challenge 2,0 lt/ha).

## HARVEST

Post-emergence: pytidate (ex. Lentagran 45 WP 1,2 – 1,8 kg/ha) for the dicotyledons control. It is possible once 14% moisture content is reached, by using preferably axial-flow combine harvester, with beater speed setting of 350-500 rpm, large holed sieves, maximum ventilation.



# Alamo



Purpose: food

**Much appreciated by the food industry**

FEATURES	HEIGHT	<b>medium 60-70 cm</b>
	PLANT	<b>mid-erect</b>
	MATURITY	<b>medium</b>
	FLOWER COLOUR	<b>white</b>
	GROWTH HABITUS	<b>spring</b>

QUALITIES	GRAIN TYPE	<b>rough</b>
	TKW	<b>380-470 g</b>
	CALIBER >9	<b>45%</b>
	CALIBER >8	<b>45%</b>
	CALIBER >7	<b>10%</b>

\*average data based on TKW of 420 g

RESISTANCES	LODGING				<b>R</b>
	COLD			<b>MR</b>	
	DEHISCENCE				<b>R</b>
	ASCOCHYTA R.			<b>MR</b>	

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