

SPRING CROPS



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 breeding new varieties and offering excellent services.

We are genetic providers and carriers 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 genetics resources.

The values which drive us 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 remain the basis for high quality seed production. Over the recent years Apsov business grew also through acquisition of shares of other companies: GMAX SEEDS settled in 2017; in 2023, the first foreign subsidiary, APSOV Seme Doo, was established in Serbia; over the same year APSOV entered the capital of the Spanish company HIBRISOL and purchased 100% of Sementi Maremma srl. Currently the multiplication area is 8,500 ha for winter crops and 3,500 ha for spring crops, with a production exceeding 30,000 tons per year. The group's turnover in 2022 was close to 50 million euro, exclusively generated by the seed business.



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)

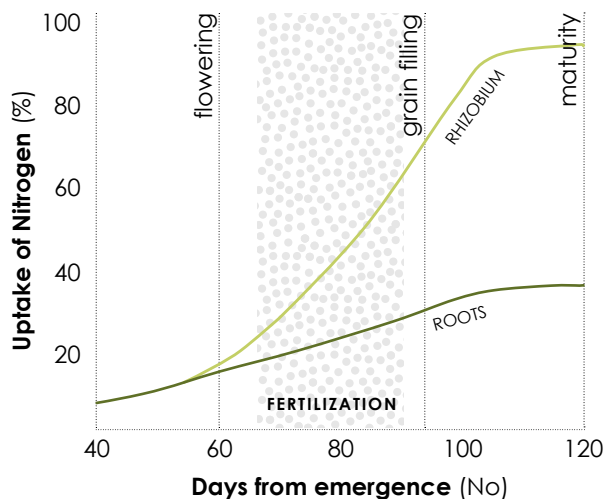
YIELD t/ha	UPTAKE Kg N/ha	FERTILIZATION Kg N/ha
4,0	340	20
4,5	370	30
5,0	400	45
5,5	430	60

WHEN TO FERTILIZE

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

IT'S 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.

Plants population target at harvest is:

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

The optimal planting rate based on the variety is:

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

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



INTER-ROW SPACE

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

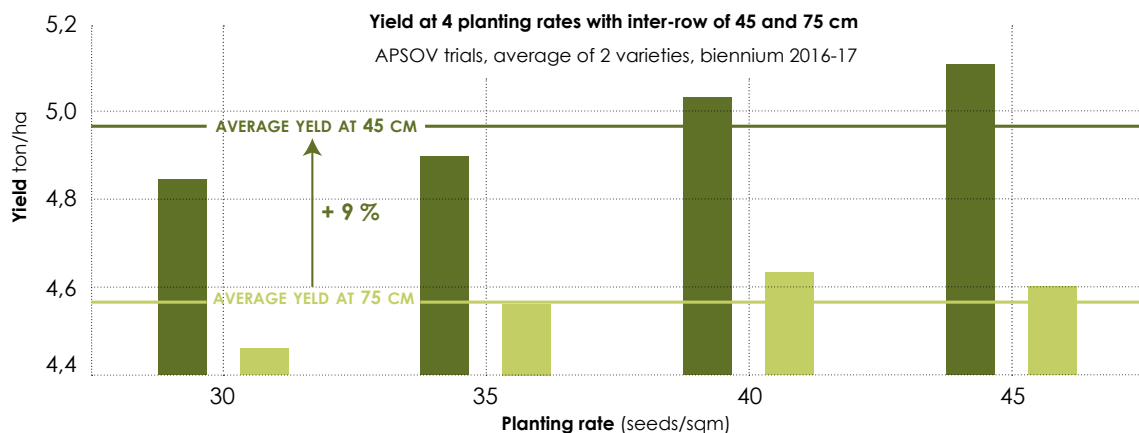
- It limits the full exploitation of light radiation by the crop
- It promotes the weed growth, since it takes several more days for soybean plants to cover the inter-row space.
- It increases the competition among plants along the row.

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 are 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).

Yield performance is higher only with inter-row space of 45 cm.



Dafne



Maturity group **1 (1.1)**

FEATURES

HEIGHT	medium
PUBESCENCE	light brown
HILUM COLOUR	white
BRANCHING	good
DEFOLIATION	good
FIRST POD HEIGHT	medium

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	good

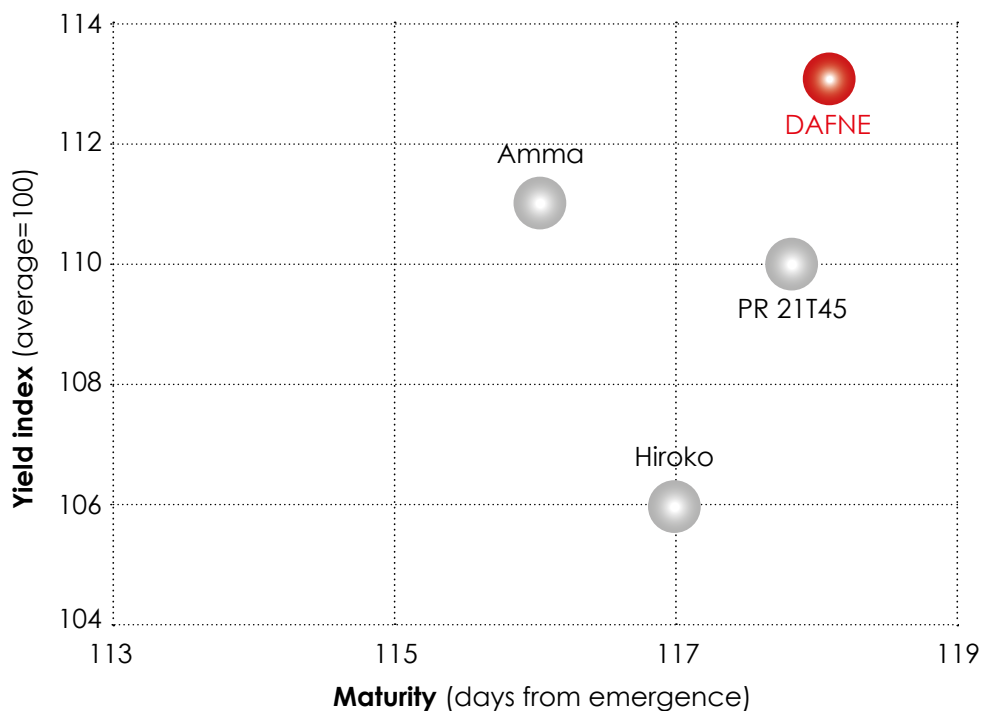
RESISTANCES

LODGING				R
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

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

APSOV advanced trials network (average of 32 locs 2020-24)



Benedetta



Maturity group 1 (1.0)

FEATURES

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

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	medium

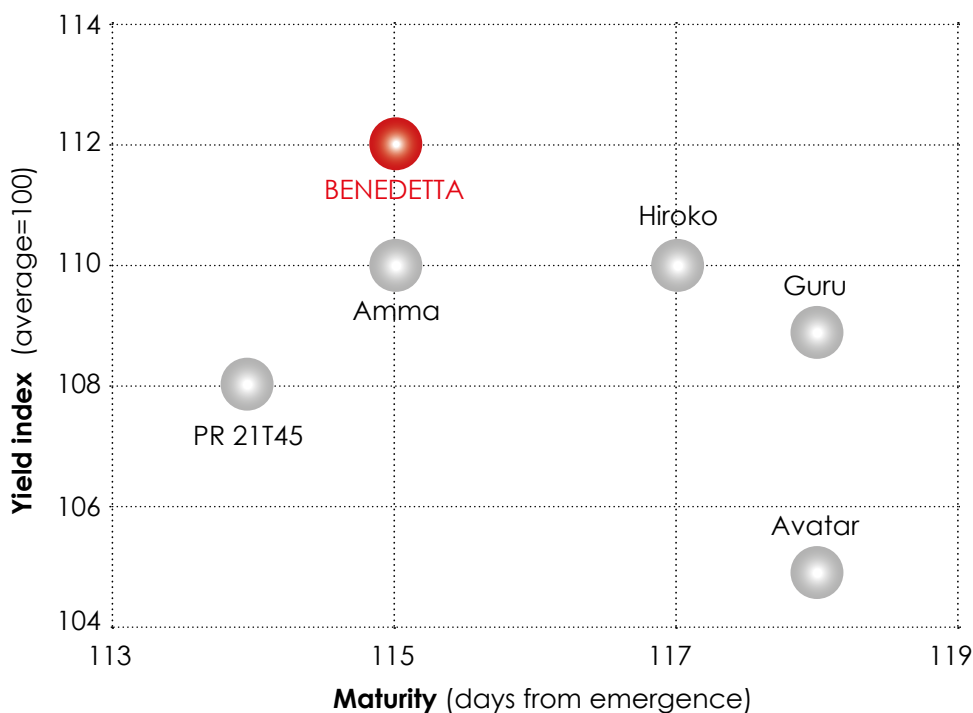
RESISTANCES

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

ADVICES

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

ERSA official trials network 2021 (average of 8 locs)



Annette



Maturity group **1- (0.7)**

FEATURES

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

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	medium

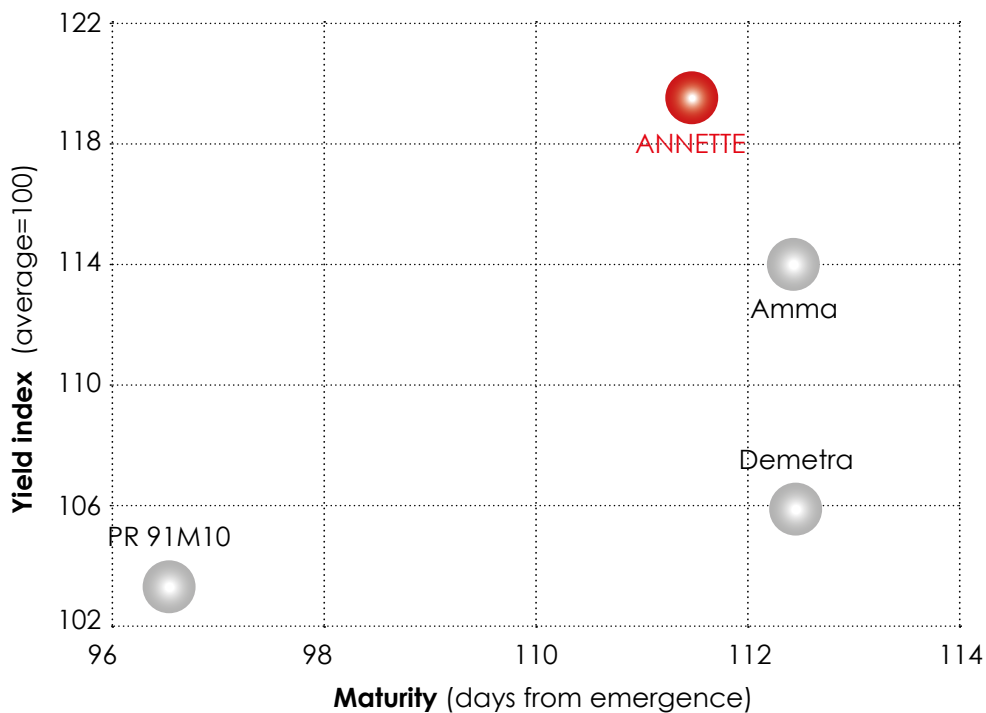
RESISTANCES

LODGING				MR
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

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

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



Carlotta



Maturity group 1- (0.6)

FEATURES

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

QUALITIES

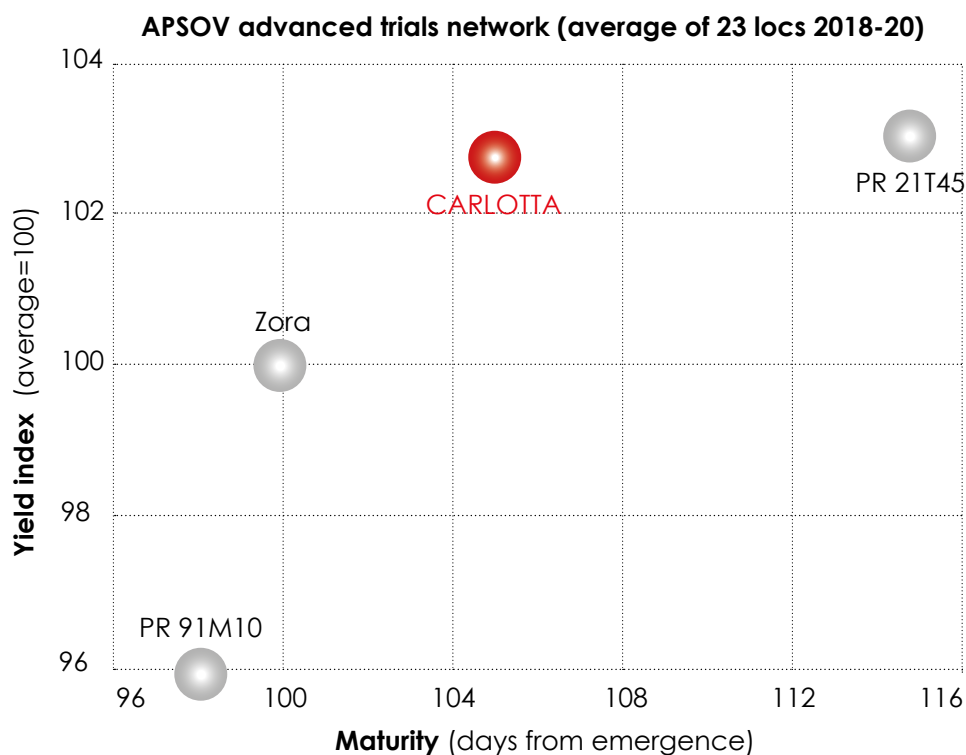
TKW	medium 160-190 g
PROTEIN CONTENT	good

RESISTANCES

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

ADVICES

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



Cameron



Maturity group

0+ (0.5)

FEATURES

HEIGHT	medium
PUBESCENCE	grey
HILUM COLOUR	brown
BRANCHING	medium
DEFOLIATION	good
FIRST POD HEIGHT	high

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	good

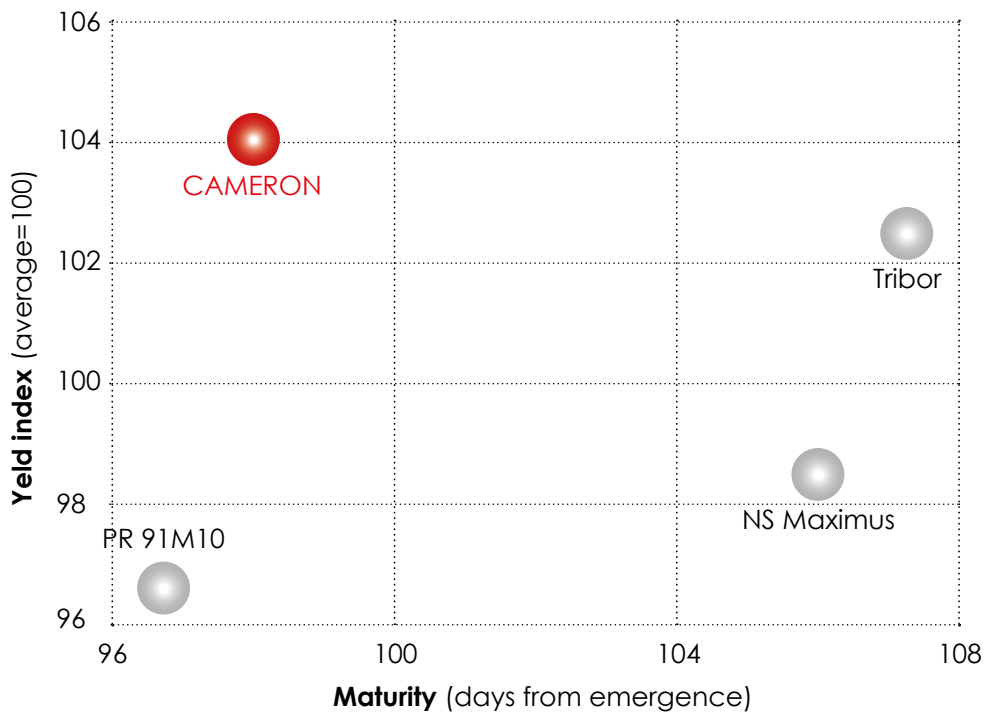
RESISTANCES

LODGING				MR
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

Planting rate:
3,6-4 units/ha; 45-50 seeds/sqm

APSOV advanced trials network (average of 30 locs 2020-24)



Fiamma



Maturity group

0+ (0.5)

FEATURES

HEIGHT	medium
PUBESCENCE	light brown
HILUM COLOUR	white
BRANCHING	good
DEFOLIATION	high
FIRST POD HEIGHT	good

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	good

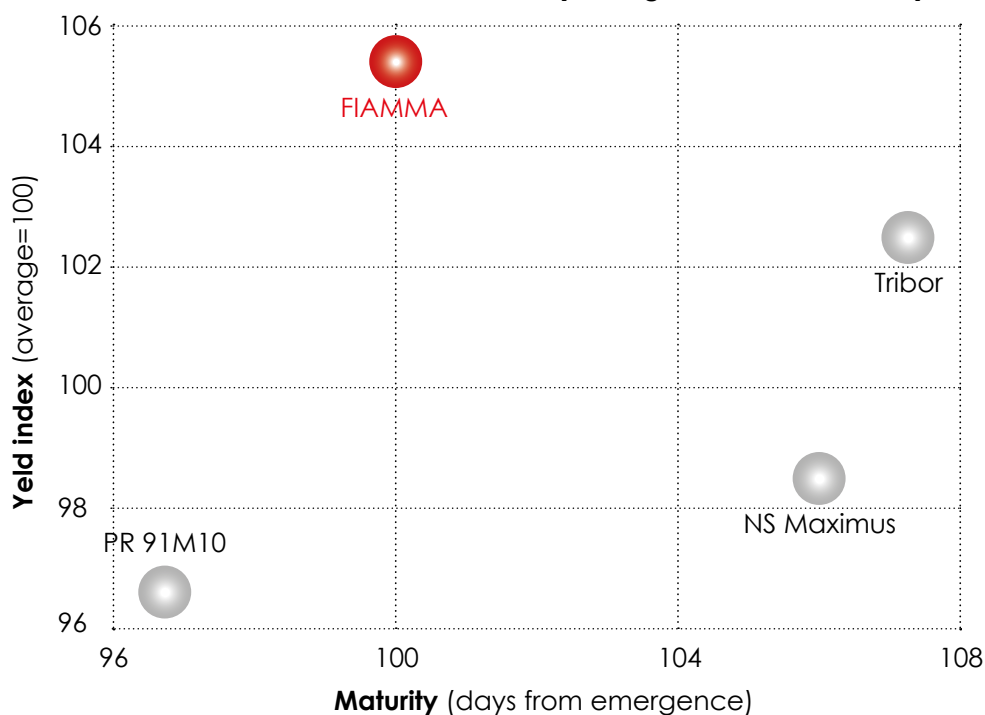
RESISTANCES

LODGING				R
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

Planting rate:
3,6-4 units/ha; 45-50 seeds/sqm

APSOV advanced trials network (average of 30 locs 2020-24)



Dorothy



Maturity group

0+ (0.5)

FEATURES

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

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	good

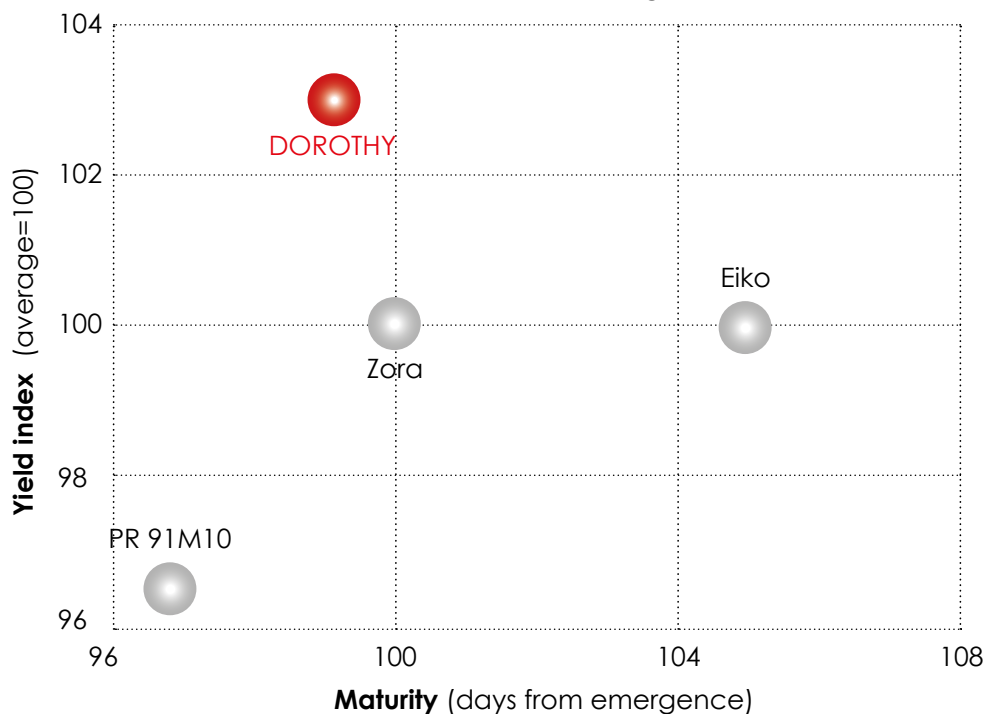
RESISTANCES

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

ADVICES

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

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



LIQUIFiX 120

Pre-treatment Biostimulant for Legumes

This product is compatible with various legume crops.



100%
ORGANIC

Benefits of LIQUIFiX 120

- ✓ Increased nodule formation. Faster root infection giving "crown nodulation. (Field trials in Ontario 2015-2018).
- ✓ Increased nitrogen fixation reducing the need for expensive nitrogen fertilisers.
- ✓ High concentration formula (1×10^{10} CFU/ml), which allows 120-day on-seed survival.
- ✓ Increases protein content within seeds and improves green mass by 1-4%.
- ✓ Optimising the nitrogen fixing potential of a legume crop leaving available nitrogen for the following crop. Estimates vary up to 150kg of available N per H.
- ✓ High brown pigment concentration that helps to ensure an even coating.

Eleonora



Maturity group

0+ (0.5)

FEATURES

HEIGHT	medium
PUBESCENCE	brown
HILUM COLOUR	white
BRANCHING	good
DEFOLIATION	good
FIRST POD HEIGHT	high

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	high

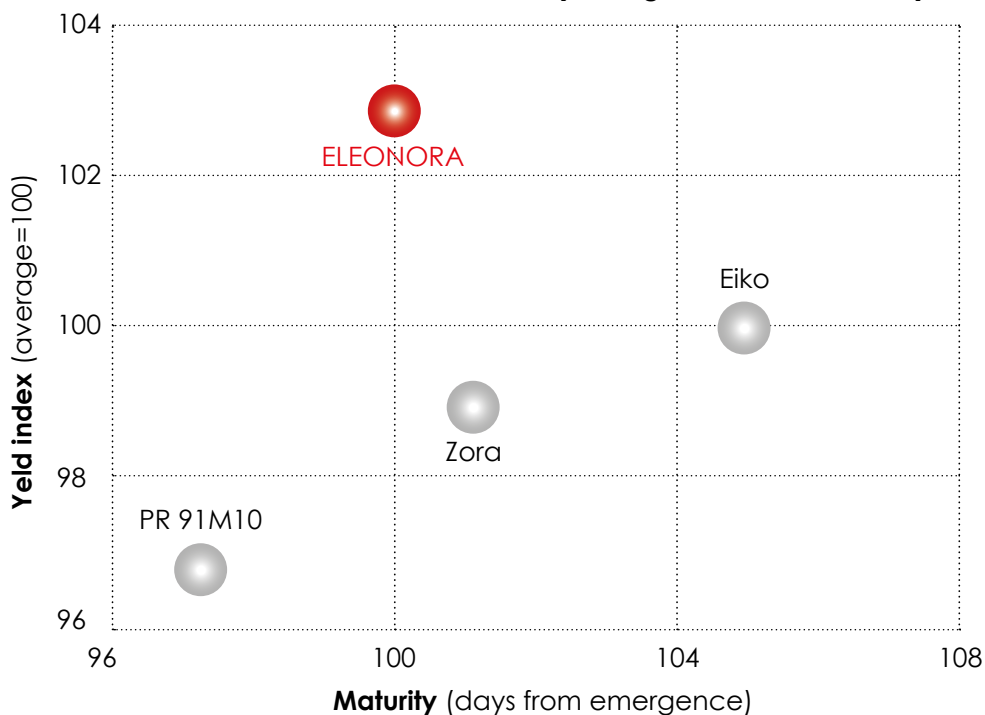
RESISTANCES

LODGING				MR
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

Planting rate:
3,6-4 units/ha; 45-50 seeds/sqm

APSOV advanced trials network (average of 27 locs 2021-23)



Elsa



Maturity group

0+ (0.5)

FEATURES

HEIGHT	medium
PUBESCENCE	grey
HILUM COLOUR	white
BRANCHING	good
DEFOLIATION	high
FIRST POD HEIGHT	good

QUALITIES

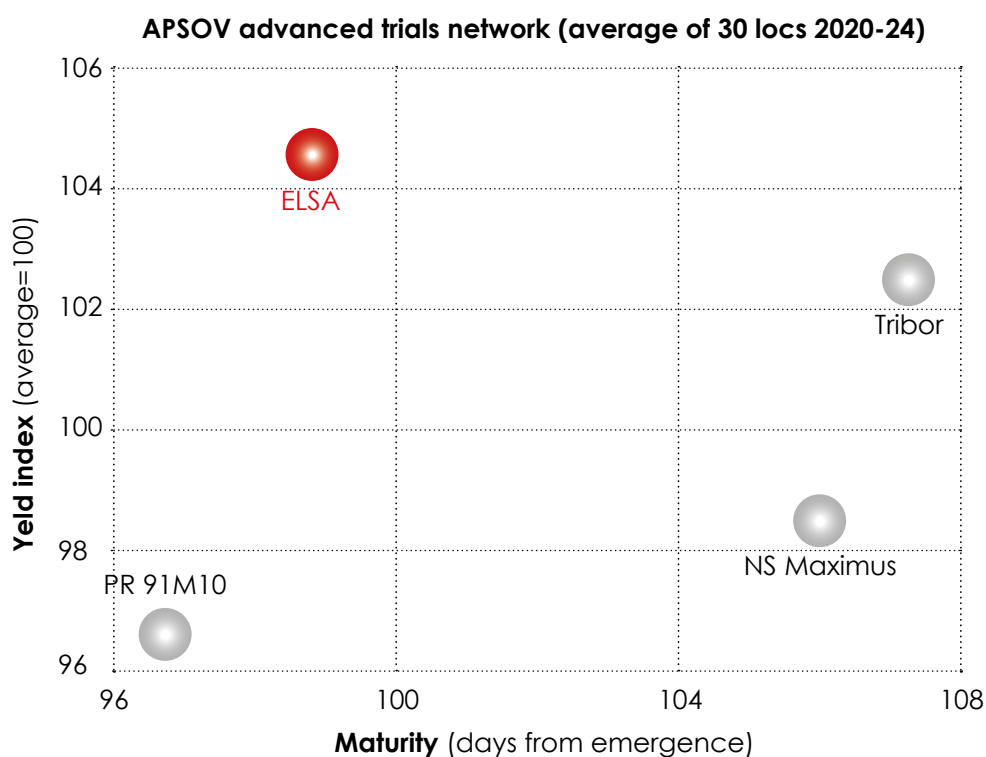
TKW	medium 160-190 g
PROTEIN CONTENT	good

RESISTANCES

LODGING				R
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

Planting rate:
3,6-4 units/ha; 45-50 seeds/sqm





Betty



Maturity group 0 (0.3)

FEATURES

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

QUALITIES

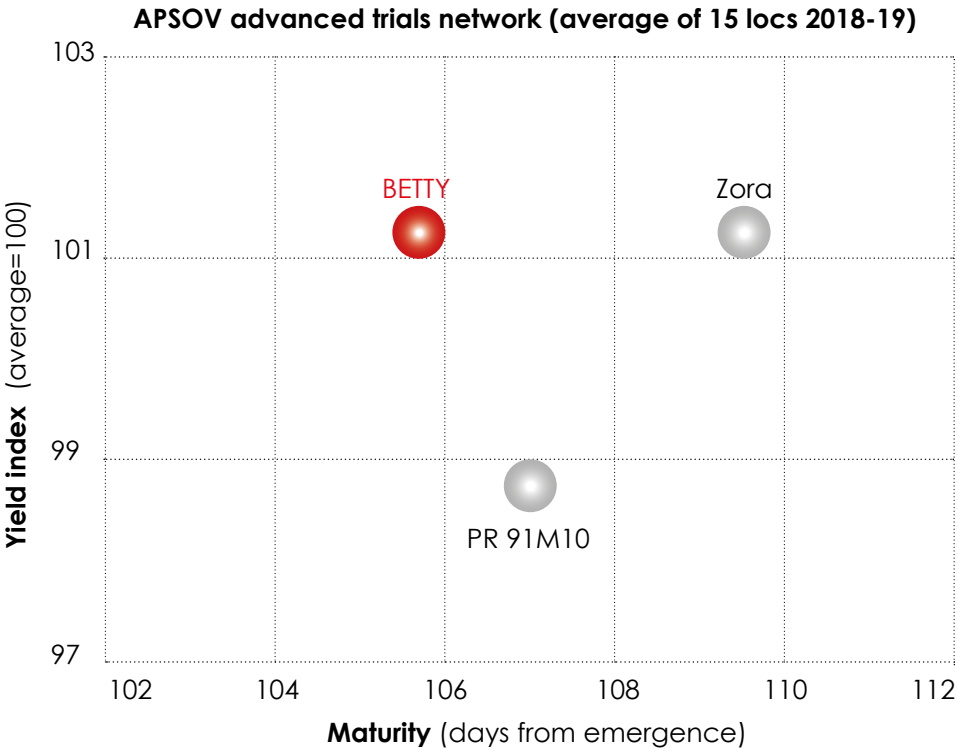
TKW	high >190 g
PROTEIN CONTENT	medium

RESISTANCES

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

ADVICES

Planting rate:
3,6-4 units/ha; 45-50 seeds/sqm
45-50 seeds/sqm



Fiorella



Maturity group

00 (00.5)

FEATURES

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

QUALITIES

TKW	high >190 g
PROTEIN CONTENT	medium

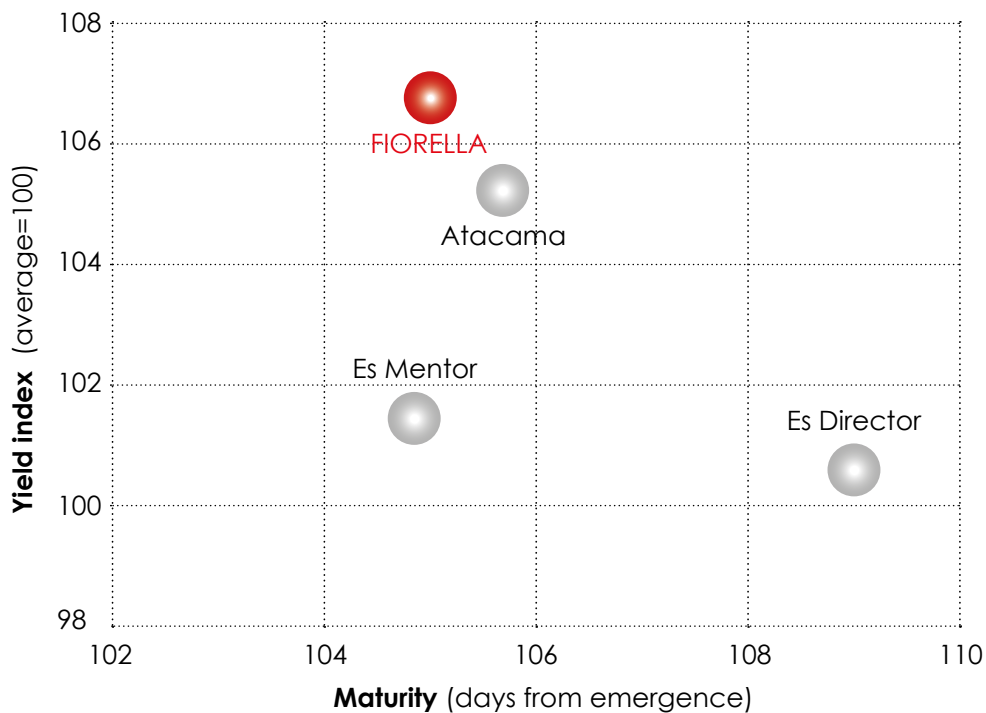
RESISTANCES

LODGING				R
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

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

APSOV advanced trials network (average of 22 locs 2023-24)





Frine



Maturity group 00 (00.1)

FEATURES

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

QUALITIES

TKW	medium 160-190 g
PROTEIN CONTENT	medium

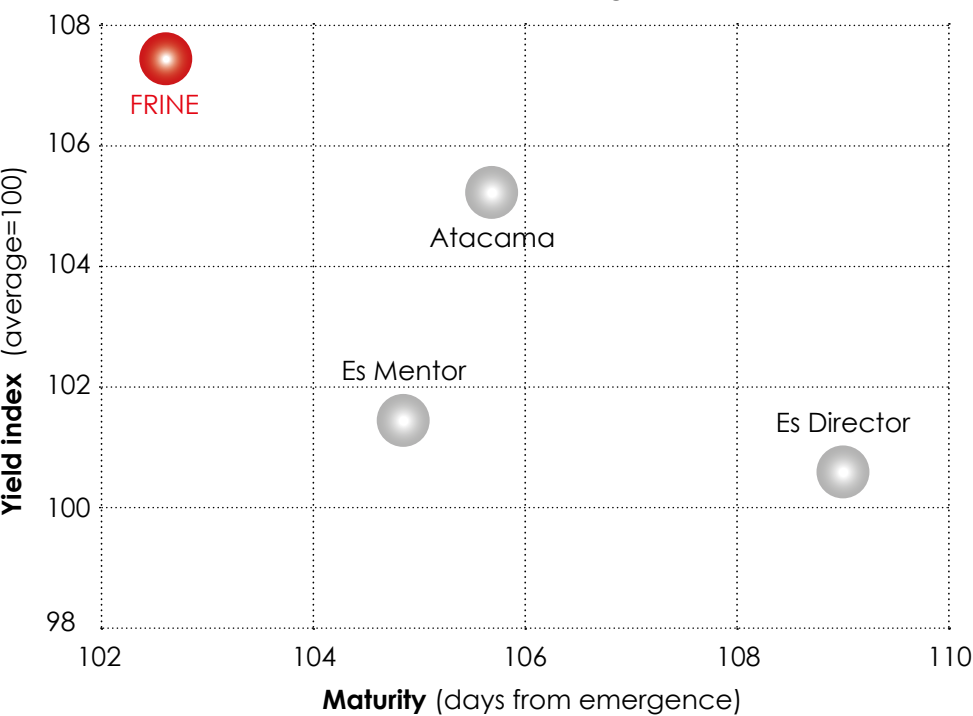
RESISTANCES

LODGING					R
DEHISCENCE					R
DROUGHT STRESS					R

ADVICES

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

APSOV advanced trials network (average of 22 locs 2023-24)



Maturity group

000 (000.7)

FEATURES

HEIGHT	medium
PUBESCENCE	brown
HILUM COLOUR	white
BRANCHING	low
DEFOLIATION	high
FIRST POD HEIGHT	high

QUALITIES

TKW	high >190 g
PROTEIN CONTENT	medium

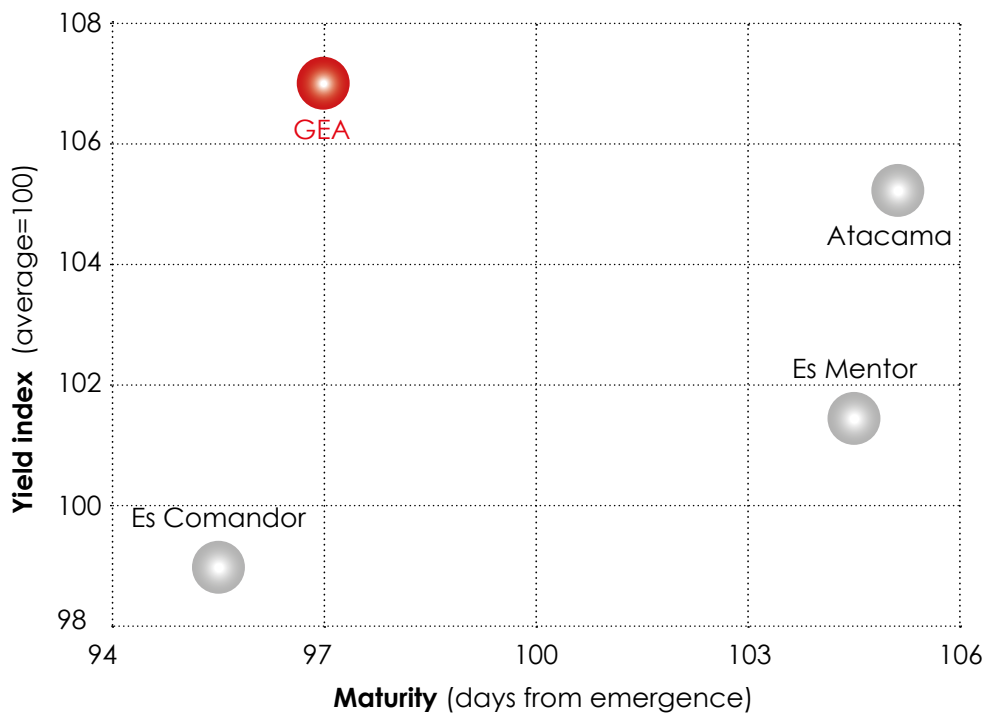
RESISTANCES

LODGING				R
DEHISCENCE				R
DROUGHT STRESS				R

ADVICES

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

APSOV advanced trials network (average of 24 locs 2023-24)





Fantine



Maturity group 000 (000.3)

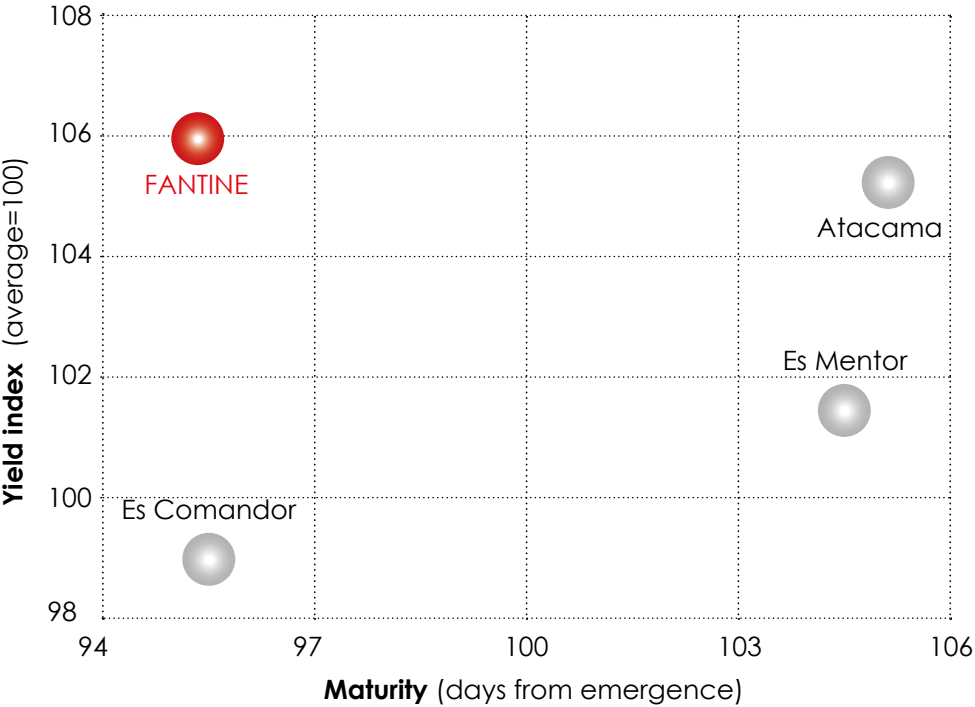
FEATURES	HEIGHT	medium-high
	PUBESCENCE	brown
	HILUM COLOUR	grey
	BRANCHING	low
	DEFOLIATION	high
	FIRST POD HEIGHT	high

QUALITIES	TKW	medium 160-190 g
	PROTEIN CONTENT	good

RESISTANCES	LODGING				R
	DEHISCENCE				R
	DROUGHT STRESS				R

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

APSOV advanced trials network (average of 24 locs 2023-24)



SORGHUM for every purpose

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



GREAT VALUE - production costs 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

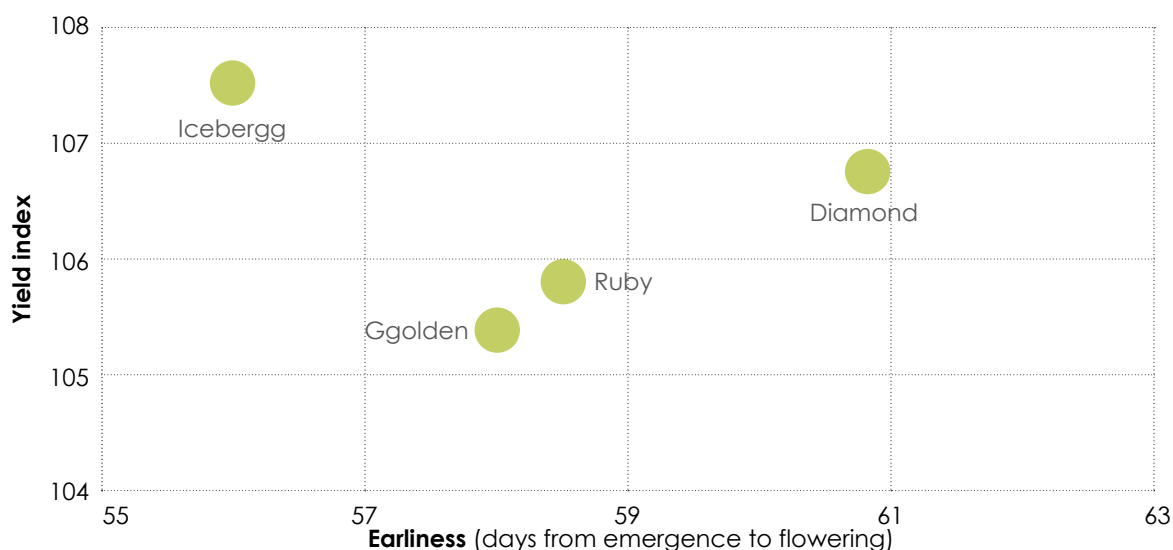
Italian official trials

Location: Oriolo (PV) - 2019

Pos.	Hybrid	Yield		Earliness emer-flow days	Height cm	Combine cm
		ton/ha	Index			
1°	Iceberg	8,78	113	54	108	13
2°	Diamond	8,72	113	59	132	17
4°	Araldo	8,44	109	54	113	8
7°	Ruby	8,32	107	54	115	15
9°	Kalatur	8,30	107	56	132	7
10°	Aberas	8,02	104	55	130	13
11°	Ggolden	7,95	103	54	113	15
12°	Es Boreas	7,87	102	55	138	15
13°	Aralba	7,83	101	56	147	13
15°	Arsky	7,79	100	53	115	8
16°	Arizona	7,76	100	54	138	12
17°	Armida	7,46	96	55	120	5
18°	Felsina	7,43	96	55	147	12
19°	Arsenio	7,35	95	56	145	10
20°	Aggyl	7,22	93	53	127	20
21°	Ardito	7,04	91	55	122	12
22°	Arabesk	6,63	86	53	132	20
23°	Gk Feher	6,27	81	61	118	13
24°	Bounty	5,34	69	61	120	13
average		7,75	100	55	126	13

Yield and earliness

Average data of 25 locations, 2016-24



GRAIN SORGHUM: crop management

SOWING

Planting 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



FEATURES

EARLINESS	medium
HEIGHT	medium
GRAIN COLOUR	pure white
PANICLE DENSITY	mid-compact
HEAD EXERTION	good

ADVICES

Planting time:
Early to mid-early

Planting rate:
35-40 seeds/sqm; 9-11 kg/ha

RESISTANCES

STOCK RESISTANCE				R
DROUGHT STRESS			MR	



Golden

Purpose: grain

FEATURES

EARLINESS	early
HEIGHT	medium-short
GRAIN COLOUR	white
PANICLE DENSITY	mid-loose
HEAD EXERTION	high

ADVICES

Planting time:
Early to mid-late

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

RESISTANCES

STOCK RESISTANCE				R
DROUGHT STRESS				R



Icebergg

Purpose: grain

FEATURES

EARLINESS	early
HEIGHT	medium
GRAIN COLOUR	pure white
PANICLE DENSITY	mid-loose
HEAD EXERTION	high

ADVICES

Planting time:
Early to mid-late

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

RESISTANCES

STOCK RESISTANCE				R
DROUGHT STRESS				R



Anggy

Purpose: grain



FEATURES

EARLINESS	medium-early
HEIGHT	medium
GRAIN COLOUR	red
PANICLE DENSITY	mid-compact
HEAD EXERTION	high

ADVICES

Planting time:
Early to mid-late

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

RESISTANCES

STOCK RESISTANCE				R
DROUGHT STRESS				R



Ruby

Purpose: grain



FEATURES

EARLINESS	early
HEIGHT	medium-short
GRAIN COLOUR	dark red
PANICLE DENSITY	mid-compact
HEAD EXERTION	high

ADVICES

Planting time:
Early to mid-early

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

RESISTANCES

STOCK RESISTANCE				R
DROUGHT STRESS				R



Sherkan

Purpose: hay, green forage and silage

Multicut BMR sorghum



FEATURES

EARLINESS	early
HEIGHT	medium-high
CUTTING NUMBER	till 4 cuttings
LEAFNESS	good

ADVICES

Planting time:
Early to late

Planting rate:
25-50 kg/ha

Cut:
Best when height gets 150 cm

RESISTANCES

LODGING					R
DROUGHT STRESS					R

NUTRITIONAL DATA

DM (%)	24-28
PROTEIN (%DM)	10-12
SUGAR (%DM)	12-14
STARCH (%DM)	3-5
NDF (%DM)	55-65
NDF AT 30 H (%DM)	53-63
UFL (n/KG DM)	0.7-0.8

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	EARLINESS	medium-early
	HEIGHT	high 220-260 cm
	LODGING	resistant
	REGROWTH	good
	WATER NEED	medium

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

PURPOSE	PRE-DRIED SILAGE	suitable
	DIRECT SILAGE	ideal
	HAY	not suitable
	WRAPPED	not suitable

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 GRASS
40%	HYBRID FODDER BMR SORGHUM

FEATURES

EARLINESS	medium-early
HEIGHT	med.-high 200-240 cm
LODGING	mid-resistant
REGROWTH	high
WATER NEED	low

NUTRITIONAL DATA

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

PURPOSE

PRE-DRIED SILAGE	ideal
DIRECT SILAGE	suitable
HAY	suitable
WRAPPED	ideal

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

Single cut sorghum



FEATURES

MATURITY	medium-early
HEIGHT	med.-high 200-240 cm

RESISTANCES

LODGING				R
DROUGHT STRESS				R

NUTRITIONAL DATA

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

ADVICES

Planting time:
Early to mid-late

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

Argensil

Purpose: whole plant silage

Single cut sorghum



FEATURES

MATURITY	medium
HEIGHT	high 220-260 cm

RESISTANCES

LODGING			MR	
DROUGHT STRESS				R

NUTRITIONAL DATA

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

ADVICES

Planting time:
Early to mid-early

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

Planting rate

SUNFLOWER

Plant/sqm	Row distance cm							
	30	35	40	45	50	60	70	75
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

SORGHUM

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

SOYBEAN

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

Aiace SU



Linoleic, Sulfo

FEATURES

EARLINESS	medium-early
HEIGHT	medium-high
HEAD SIZE	medium
ACHENES WEIGHT	good
OIL CONTENT	high

ADVICES

Planting time:
early to mid-late

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM7				R
PHOMOPSIS			MR	
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE RACES G				R

Alfeo SU



Linoleic, Sulfo

FEATURES

EARLINESS	medium-late
HEIGHT	medium-high
HEAD SIZE	high
ACHENES WEIGHT	good
OIL CONTENT	high

ADVICES

Planting time:
early to mid-early

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM7				R
PHOMOPSIS			MR	
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE RACES G				R

Xilo SU



Linoleic, Sulfo

FEATURES

EARLINESS	medium
HEIGHT	medium-high
HEAD SIZE	high
ACHENES WEIGHT	good
OIL CONTENT	high

ADVICES

Planting time:
early to mid-early

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM7				R
PHOMOPSIS			MR	
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE RACES G				R

APSF77 SU



Linoleic, Sulfo

FEATURES

EARLINESS	medium
HEIGHT	medium
HEAD SIZE	high
ACHENES WEIGHT	good
OIL CONTENT	high

ADVICES

Planting time:
early to mid-early

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM7				R
PHOMOPSIS			MR	
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE RACES G				R

Argo IMI



Linoleic, IMI

FEATURES

EARLINESS	medium-late
HEIGHT	high
HEAD SIZE	high
ACHENES WEIGHT	medium-high
OIL CONTENT	good

ADVICES

Planting time:
early to mid-early

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING			MR	
DOWNEY MILDEW RM7				R
PHOMOPSIS				R
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE RACES F				R



APSF32 IMI

Linoleic, IMI

FEATURES

EARLINESS	medium-early
HEIGHT	medium
HEAD SIZE	medium
ACHENES WEIGHT	medium-high
OIL CONTENT	high

ADVICES

Planting time:
early to mid-early

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM7				R
PHOMOPSIS		MS		
SCLEROTINIA			MR	
PHOMA			MR	
BROOMRAPE	S			



Nemo IMI



Linoleic, IMI

FEATURES

EARLINESS	medium-early
HEIGHT	medium-high
HEAD SIZE	medium
ACHENES WEIGHT	medium-high
OIL CONTENT	high

ADVICES

Planting time:
early to mid-early

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

RESISTANCES

LODGING				R
DOWNEY MILDEW RM9				R
PHOMOPSIS		MS		
SCLEROTINIA			MR	
PHOMA			MR	
BROOMRAPE	S			



Fortera

Linoleic

FEATURES

EARLINESS	medium
HEIGHT	medium-high
HEAD SIZE	high
ACHENES WEIGHT	medium-high
OIL CONTENT	high

ADVICES

Planting time:
early to mid-early

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM7				R
PHOMOPSIS			MR	
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE RACES G				R

Iolen

High oleic



FEATURES

EARLINESS	medium-early
HEIGHT	medium
HEAD SIZE	high
ACHENES WEIGHT	good
OIL CONTENT	high

ADVICES

Planting time:
Early to mid-late

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM9				R
PHOMOPSIS				R
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE	S			

Absollute CL

High oleic, IMI



FEATURES

EARLINESS	medium-early
HEIGHT	medium-high
HEAD SIZE	medium
ACHENES WEIGHT	medium
OIL CONTENT	high

ADVICES

Planting time:
Early to mid-early

Planting rate:
6-6,5 seeds/sqm

RESISTANCES

LODGING				R
DOWNEY MILDEW RM9				R
PHOMOPSIS			MR	
SCLEROTINIA			MR	
PHOMA				R
BROOMRAPE	S			



Clearfield®

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

Purpose: grain



FEATURES

EARLINESS	early
HEIGHT	medium 50-60 cm
FLOWER COLOUR	white
PLANT TYPE	branched

QUALITIES

TKW	18-20 g
DEHULLING	high

RESISTANCES

LODGING					R
COLD	S				
FUNGI DISEASES					R



Seneca

Genealogy not available - [2023]

Good quality durum wheat



FEATURES

HEIGHT	medium
EAR	hairy
AWNS COLOUR	black
EARLINESS	medium

QUALITIES

HECTOLITRIC WEIGHT	high 82-84 kg/hl
TKW	high 50-52 g
VITROSITY	high
PROTEIN CONTENT	good
GLUTEN INDEX	good 75-85
YELLOW INDEX	high 24-26

RESISTANCES

LODGING				MR
COLD				R
MILDEW				MR
LEAF RUST				R
YELLOW RUST				R
SEPTORIA				MR
FUSARIUM				MR



Menelao

D1260 x D80115 - [2024]

Good quality durum wheat



FEATURES

HEIGHT	medium-tall
EAR	not hairy
AWNS COLOUR	white
EARLINESS	medium-early

QUALITIES

HECTOLITRIC WEIGHT	high 82-84 kg/hl
TKW	medium 44-46 g
VITROSITY	high
PROTEIN CONTENT	good
GLUTEN INDEX	good 75-85
YELLOW INDEX	high 26-28

RESISTANCES

LODGING				R
COLD				MR
MILDEW				R
LEAF RUST				MR
YELLOW RUST				R
SEPTORIA				MR
FUSARIUM				MR



Kenobi

Ariosto x Torrebianca - [2012]

Good quality durum wheat

FEATURES

HEIGHT	medium-tall
EAR	not hairy
AWNS COLOUR	white
EARLINESS	early

QUALITIES

HECTOLITRIC WEIGHT	high 82-84 kg/hl
TKW	high 50-52 g
VITROSITY	good
PROTEIN CONTENT	good
GLUTEN INDEX	good 75-85
YELLOW INDEX	good 22-24

RESISTANCES

LODGING			MR
COLD			MR
MILDEW			R
LEAF RUST		MS	
YELLOW RUST			MR
SEPTORIA			MR
FUSARIUM			MR



Cartesio

Ancomarzio x Normanno - [2020]

High quality durum wheat



FEATURES

HEIGHT	medium
EAR	not hairy
AWNS COLOUR	black
EARLINESS	early

QUALITIES

HECTOLITRIC WEIGHT	high 82-84 kg/hl
TKW	high 50-52 g
VITROSITY	high
PROTEIN CONTENT	high
GLUTEN INDEX	high 85-95
YELLOW INDEX	high 24-26

RESISTANCES

LODGING			MR
COLD			MR
MILDEW			MR
LEAF RUST			MR
YELLOW RUST			MR
SEPTORIA			MR
FUSARIUM			MR



LG Auris

Genealogy not available



FEATURES

HEIGHT	medium
EARLINESS	medium-early
GRAIN COLOUR	yellow
GROWTH HABIT	alternative

QUALITIES

HECTOLITRIC WEIGHT	high
TKW	200-240 g
PROTEIN CONTENT	good
DESTINATION	grain

RESISTANCES

LODGING				MR
COLD				R
DEHISCENCE				R

Galactic

Genealogy not available



FEATURES

HEIGHT	medium
EARLINESS	early
GRAIN COLOUR	yellow
GROWTH HABIT	alternative

QUALITIES

HECTOLITRIC WEIGHT	good
TKW	200-240 g
PROTEIN CONTENT	good
DESTINATION	grain

RESISTANCES

LODGING				MR
COLD				R
DEHISCENCE				R



Peps

Genealogy not available



FEATURES

HEIGHT	medium
EARLINESS	medium
GRAIN COLOUR	green
GROWTH HABIT	spring

QUALITIES

HECTOLITRIC WEIGHT	good
TKW	200-240 g
PROTEIN CONTENT	good
DESTINATION	grain, food

RESISTANCES

LODGING				MR
COLD				MR
DEHISCENCE				R

Poseidon

Genealogy not available



FEATURES

HEIGHT	medium
EARLINESS	medium
GRAIN COLOUR	green
GROWTH HABIT	spring

QUALITIES

HECTOLITRIC WEIGHT	high
TKW	230-270 g
PROTEIN CONTENT	good
DESTINATION	grain, food

RESISTANCES

LODGING				MR
COLD				MR
DEHISCENCE				R

CHICKPEA: 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/sqm (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.

In order to speed up the process should conditions be harsh (significant nitrogen deficiency, strong run-off before sowing, crop precessions particularly exploiting), 20-30 units/ha of Nitrogen could be added.

WEED CONTROL

Pre-emergence: - pendimethalin (ex. Stomp Aqua 1,0-1,75 l/ha; Inca 1,5 -2,5 l/ha). – pendimethalin + aclonifen (Challenge 2,0 lt/ha).

Post-emergence: pyridate (ex. Lentagran 45 WP 1,2 – 1,8 kg/ha) for the dicotyledons control.

HARVEST

It is possible once 14% moisture content is reached, by using preferably axial-flow combine, with beater speed setting of 350-500 rpm, large holed sieves, maximum ventilation.



Alamo

Purpose: food



FEATURES

HEIGHT	medium 60-70 cm
PLANT HABIT	mid-erect
EARLINESS	medium
FLOWER COLOUR	white
GROWTH HABIT	alternative

QUALITIES

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

*average data based on TKW
of 420 g

RESISTANCES

LODGING				R
COLD			MR	
DEHISCENCE				R
ASCOCHYTA R.			MR	



La Torre

Selected plants from vogherese landrace - [1994]

FEATURES

PLANT	erect
HEIGHT	medium-tall
STEM DIMENSION	medium-thin
BRANCHING	high
BLOOMING	mid-early
DORMANCY	dormient (5-6)
FIRST REGROWTH	mid-early

QUALITIES

REGROWTH	very fast
STEM/LEAVES RATIO	good
LONGEVITY	high
TOLER. TO TRAMPLING	high
STRESS TOLERANCE	good
DESTINATION	hay, silage, dehydrated



Isola

Selected plants from vogherese landrace - [2001]

FEATURES

PLANT	erect
HEIGHT	tall
STEM DIMENSION	medium-thin
BRANCHING	high
BLOOMING	early
DORMANCY	dormient (5-6)
FIRST REGROWTH	mid-early

QUALITIES

REGROWTH	fast
STEM/LEAVES RATIO	high
LONGEVITY	good
TOLER. TO TRAMPLING	good
STRESS TOLERANCE	high
DESTINATION	hay, silage, dehydrated

Forage

SPECIES		VARIETIES	PLANTING RATE
OAT		Genziana	120-170 kg/ha
		Hamel	120-170 kg/ha
		Prevision	100-140 kg/ha
BLACK OAT		Luxurial 	60-70 kg/ha
FORAGE MIXTURES		Realfieno	50-60 kg/ha
RAYGRASS	Westervoldicum Tetra	Galactico	20-45 kg/ha
	Westervoldicum Diplo	Surrey Nova	20-45 kg/ha
ALFALFA		La Torre	25-30 kg/ha
		Isola	25-30 kg/ha
CLOVER	Berseem clover	Akenaton, Maremma	15-30 kg/ha
	Crimson Clover		15-30 kg/ha
	Squarrosum		15-40 kg/ha
VETCH	Sativa	Lorenzo	20-120 kg/ha
	Villosa	Villana, Villotta	10-60 kg/ha



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