

Catalog

**FIELDS
CROPS**

 **BATLLE**



Battle. From 1802.

SEMILLAS BATLLE is a family-run business founded in Bell-Lloc d'Urgel. Our activities have grown over the years.

We have used the most innovative technology to release into the market advanced, sustainable and profitable products.

OUR COMMITMENTS ARE:

Develop varieties to assure the most profitable harvest to the farmers with the best sustainable agronomic solutions.

Quality and safety labor are our priorities, promoting the professional skills and the human values to Battle's team.

Contribute to the sustainability, through the development, promotion and commercialization of natural products as well as environmental friendly production and packaging technics.

NOWADAYS WE ARE A REFERENCE COMPANY AS BREEDERS, MAINTAINERS, PRODUCERS, SEED SELECTORS AND TRADERS IN MOST OF THE EXTENSIVE CROPS:

01 BREEDING

We apply R&D plan in various species such as: alfalfa, vetch, pea, field beans, sunflower, forage crops, annual mixtures, long-term pastures, biodiverse covers, etc.



02 MAINTAINING

Every year we carry out with the maximum technical rigor the conservation program of our varieties, from the first PB5 generations (G0) to the Basic seed (G4).



03 TRIALS

Every year we carry out hundreds of comparative trials with the existing varieties on the market to ensure that our varieties are truly leaders.



05 RECEPTION & SELECTION

A chain of silos waits for seed reception. A rigorous varietal, purity and germination control is carried out when seeds enter our facilities. Once this first and basic control has been passed, we proceed to select the seeds with different machinery according to each species.



04 SEED PRODUCTION

We deliver technical seeds to our seed multipliers to produce certified seeds.



06 PACKAGING & STORING

We pack the seeds in bags and/or in big bags, ready for its sale. A powerful computer system guarantees the traceability of the seed from field production to the end customer.



MARKET

Semillas Battle activities have a global reach. Our highly-skilled sales team supports thousands of customers served across 27 countries.



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01

CEREALS

Oats

Barley

Wheat

Spelt

Triticale

Rye



Common oats

Avena sativa

COMMON OATS is one of the most interesting crops for our climatic and edaphic conditions due to its excellent adaptation. Oats are grown either for grain or for forage. The large size of some of our varieties, together with an abundant and broad leaf, make it a great choice for feeding livestock.

Its excellent resistance to drought and its great tillering capacity guarantee excellent yields even under the most difficult conditions. Oats can be used as an independent crop or associated with legumes such as peas or vetches, in forage mixtures.

Very high forage capacity.

High hardiness.

Great adaptability.

THOUSAND KERNEL WEIGHT (TKW)

35-60 grams

SOWING SEASON

Mid-October to Mid-January

SOWING RATE

100-150 Kg/ha

Forridena



- Mid-late cycle
- White grain
- Extra Forage suitability
- Height: 1.50 to 1.90 m
- Leaf Blade long and broad

Kbira



- Early cycle
- White grain
- Dual purpose: Forage & Grain
- Height: 1,20 to 1,40 m
- Thin stem

Rapidena



- Extra-early cycle
- Dual purpose: Red Grain & Forage
- Very big seed (TK W 55 to 60 g.)
- Height: 0.90 to 1.10 m

M77



- Medium cycle
- White grain
- Dual purpose: Forage & Grain
- Height: 1.50 m
- Compact panicle



Previsión

- Medium cycle
- Red grain
- Dual purpose: Forage & Grain
- Height: 1.20 to 1.30 m



Strigosa oats

Avena strigosa

STRIGOSA OATS (BLACK OATS) are the most recent agronomic alternative to common oat, very interesting for our Iberian climatic and edaphic conditions due to its excellent adaptation. It is a species that stands out for its forage aptitude, large size and its capacity for regrowth.

Black oats can be used as an independent crop or in association with various annual legumes such as peas, vetches, or clovers in forage mixtures.

Small seed size.

Low sowing rate.

For high-yield and high energy forage productions.

THOUSAND KERNEL WEIGHT (TKW)

15-40 grams

SOWING SEASON

Mid-October to Mid-January

SOWING RATE

50-60 Kg/ha

Saia 6

- Mid-Early cycle
- Forage purpose
- Height: 1.20 to 1.50 m
- Thin stem

Panache

- Mid-Late cycle
- Forage purpose
- Height: 1.20 to 1.50 m
- Thin stem





Barley

Hordeum vulgare

BARLEY is a major cereal grain grown in temperate climates. Very rustic and adaptable, it has been used as animal fodder, as a source of fermentable material for beer and certain distilled beverages and as a component of various health foods.

High Yield.

Extraordinary adaptability.

High hardiness.

THOUSAND KERNEL WEIGHT (TKW)	SOWING SEASON	SOWING RATE
30-40 grams	Mid-October to February	140-220 Kg/ha

2-ROW BARLEY

2-Row Barley is the most productive and cultivated type of barley, mainly used for malting and animal grain-feed.

Rubiana



- Mid Cycle
- Very high malting quality
- High alternativity
- Very high productive potential

Leandra

- Mid-Early Cycle
- Very high malting quality
- High alternativity
- "Flexi-malt quality"

Fatima

- Mid-Early Cycle
- Very high malting quality
- High alternativity
- "Flexi-malt quality"

Skyway

- Mid Cycle
- Excellent malting quality
- Excellent productivity in different environments
- High alternativity

Rubiales



- Early Cycle
- High malting quality
- High alternativity
- Well adapted to second harvests

CIB 777



- Mid Cycle
- Autumn-Winter sowing
- Very high productivity
- Good protein level for animal feeding industry

6-ROW BARLEY

Known for being highly rustic, 6-rows barley are used mainly for grain-feed or forage due at its higher protein content. Our varieties are generally suitable for fall-winter sowing with excellent yields.

Doblona



- Extra-early cycle (Unbeatable!!)
- Excellent choice for second harvest
- Double aptitude: forage and grain
- Very high hardiness



Doña Pepa



- Mid-Cycle
- Excellent tillering
- Double aptitude: forage and grain
- High resistance to lodging

Mochina 5



- Mid-Cycle
- Awnless variety which favours its aptitude for animal intake
- Excellent for forage production
- High nutrient value

Mochina 9



- Early Cycle
- Awnless variety which favors its aptitude for animal intake
- Excellent for forage production
- High nutrient value

HEALTHY BARLEY

Those varieties represent a new generation of barley developed by Semillas Batlle, focused to help food industry to create healthy food for human consumption. They differ from others barley for its high of Beta-glucans content (8 to 10%), antioxidants, phenols, etc.

Kamalamai



- 2-Row Barley
- Mid-Cycle
- “Waxy” starch
- Very high Yield



Rajapani



- 6-Row Barley
- Mid-late Cycle
- Unhulled
- Grain has a characteristic green colour

Annapurna



- 2-Row Barley
- Mid-Cycle
- Unhulled
- “Waxy” starch





Common wheat

Triticum aestivum

COMMON WHEAT, also known as bread wheat, is the most widely grown of all crops and the cereal with the highest monetary yield. Its use is very widespread, from flour manufacture either for bakery, biscuit & pastry industry or as animal feed.

Semillas Batlle works to offer varieties that meet the needs of industry and farmers, improving both yield and health offering the maximum resistance to diseases, minimizing phytosanitary products application, thereby guaranteeing environment respect, and lowering the farmer's expenses.

It is the basis of the European diet.

Flours with many uses.

THOUSAND KERNEL WEIGHT (TKW)

30-50 grams

SOWING SEASON

According to cycle

SOWING RATE

200-250 Kg/ha

Tribat



- Mid-Cycle. Awned. Winter wheat
- Extraordinary grain yield potential
- Excellent health vs rust and septoria
- Medium alternativity



Jabalcon



- Extra-Early cycle. Awned. Spring wheat
- High yield potential
- Excellent health
- High alternativity

Rumario



- Early cycle. Awnless. White grain. Spring wheat
- High yield potential
- Excellent health
- High Alternativity

Kilopondio



- Mid-Early Cycle. Awned. White grain
- Outstanding grain yield potential
- Good septoria and rust resistance
- Mid-high alternativity

Rebelde

- Mid-late Cycle. Awned. Winter wheat
- Excellent grain yield potential
- Well balanced and strong wheat
W: 340- 400, P: 70-80, L: 100-110, P/L: 0.6
- Mid-low alternativity

Capuchón 4



- Forage type
- Awnless variety which favors its aptitude for animal intake
- Medium cycle and high alternativity
- Plant with high productive capability

Alfarras



- Short-medium cycle
- Extraordinary productive potential
- Good flour quality
- High disease resistance
- Mid-high alternativity



Durum wheat *Triticum durum*

DURUM WHEAT varieties from **Semillas Batlle** are specially adapted to our Mediterranean climate, characterized for, so often, short springs and dry conditions, and are ideal to be used for semolina and pasta production.

Our durum wheats have a high added value for the industrial and for the farmer. Exceptional health, short adapted cycles and drought tolerance allow very high and stable yields.

Semolina & pasta high quality:

High protein content.

Good colour index.

High vitreousness.

Boniduro



- Extra Early Cycle
- First semolina quality level, light Brown awns
- Extra-high vitreousness, excellent grain colour
- High protein content, Quality group index IGC: 112z.



Arcobaleno



- Mid-early cycle, high alternativity
- Outstanding yield potential, dark-brown awned
- Medium high vitreousness, Excellent grain colour
- Medium-high protein content, Quality group index IGC: 100

Guadix



- Early cycle, high alternativity
- High productive potential, dark-brown awned
- Medium-high vitreousness, excellent grain color
- High protein content, Quality group index IGC: 108

Trimulato



- Mid-cycle, medium alternativity
- Extraordinary yield potential, black awned
- High vitreousness, Excellent grain colour
- Very high protein content, Quality group index IGC: 106

Grador



- Early Cycle. High alternativity
- Excellent yield potential, Brown awned
- High vitreousness, Excellent grain colour
- Very high protein content, Quality group index IGC: 108

THOUSAND KERNEL WEIGHT (TKW)

45-55 grams

SOWING SEASON

Mid-October to Mid-December

SOWING RATE

180-260 Kg/ha



Spelt

Triticum espelta

SPELT, or **DINKEL WHEAT**, is a species of the wheat family cultivated for millennia with greater hardiness and resistance to diseases.

Despite being less productive than common wheat, its interest lies in a high profitability due to an increasing demand from bakery industry for the extraordinary aptitudes that its flour has for a healthier diet.

High quality flour.

It has all the essential amino acids, including Lysine.

Soluble fiber, minerals and vitamins in high levels.

THOUSAND KERNEL WEIGHT (TKW)

35-50 grams

SOWING SEASON

From October to December

SOWING RATE

180-220 Kg/ha

Espritu



- Mid Cycle
- High grain production, taking into consideration the specie
- Short stem that allows intensive crop
- Autumn-Winter sowing

Benedetto

- Mid-Early Cycle
- High yield potential
- Baking's quality standards
- High alternativity





Triticale

Triticosecale

TRITICALE is a cross between wheat and rye. It is characterized by having the best qualities of both species. On one hand, its great vigor, large leaves and thick, which endow it as excellent aptitudes for forage. On the other hand, it produces spikes of great length, good fertility, and good grain filling, producing excellent cost effectiveness.

Also, its excellent hardiness and adaptability will allow to obtain stable yields over time.

Fast forage production.

High hardiness.

Great adaptability to different soil conditions.

THOUSAND KERNEL WEIGHT (TKW)	SOWING SEASON	SOWING RATE
40-60 grams	Mid-October to Mid-January	220-240 Kg/ha

Zuhat



- Extra-Early Cycle
- Grain & forage suitability
- Outstanding grain yield production
- Average height 0.9-1.2 m

Forricale



- Very Early Cycle
- Forage & grain suitability
- Outstanding forage yield
- Average height 1.6-1.8 m

Talavera



- Mid-Early Cycle
- Forage & grain suitability
- Very high forage yield potential
- Average height 1.4-1.5 m

Títère



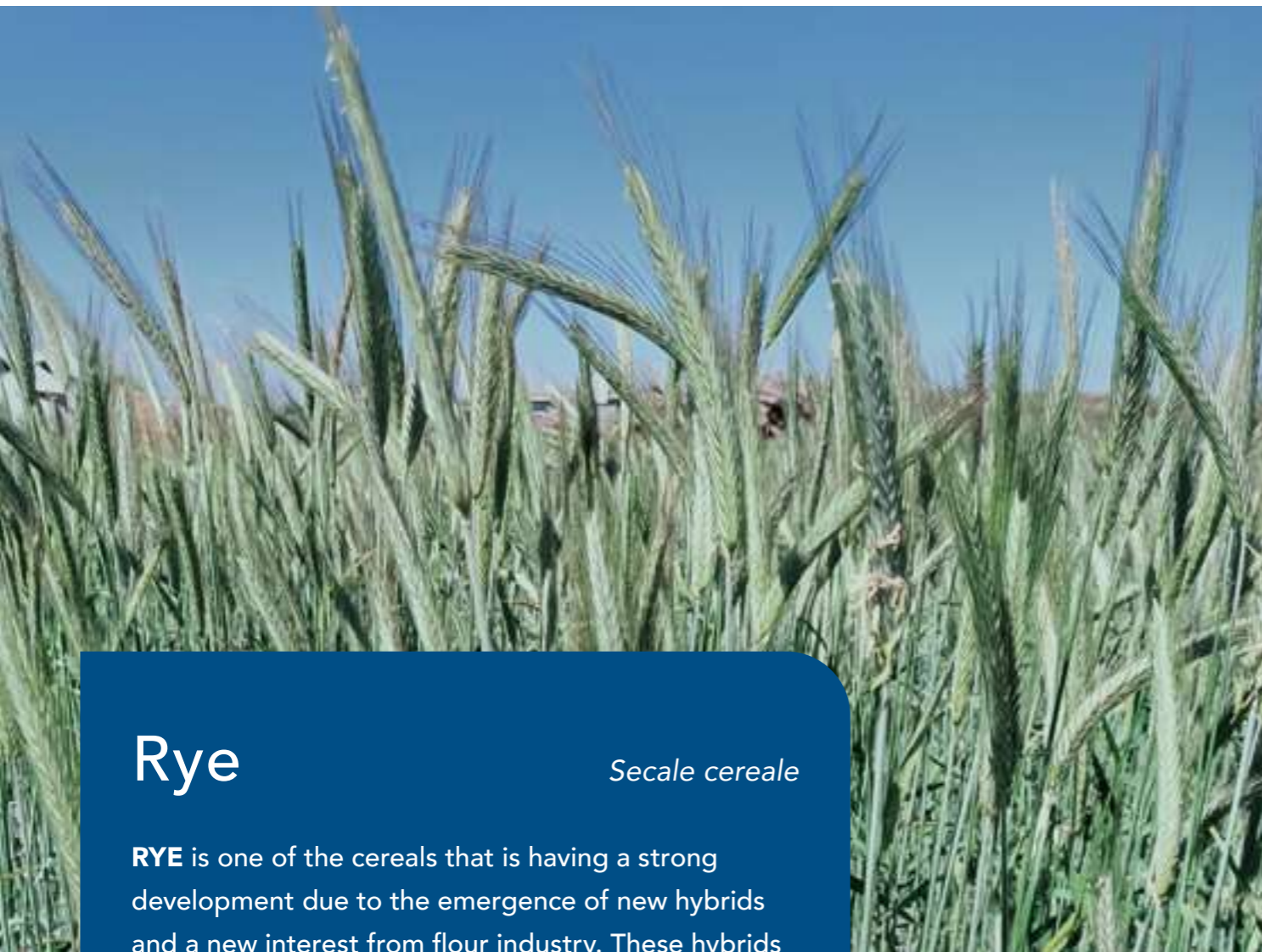
- Mid-late Cycle
- Forage & grain suitability
- High grain yield
- Average height 1.4-1.5 m



Titinio



- Mid Cycle
- Forage & grain suitability
- High grain yield
- Average height 1.4-1.5 m



Rye

Secale cereale

RYE is one of the cereals that is having a strong development due to the emergence of new hybrids and a new interest from flour industry. These hybrids provide excellent vigor, high tillering, high hardiness, and a remarkable resistance to diseases.

Low sowing rate.

Excellent general health.

High adaptability to poor soils.

THOUSAND KERNEL WEIGHT (TKW)

35-55 grams

SOWING SEASON

End of September to beginnings of November

SOWING RATE

160-180 Kg/ha
2 doses ha for hybrids

Stannos F1

- Mid-Cycle hybrid rye
- Outstanding grain & forage yield
- High quality flour
- Excellent tillering capacity
- 140-200 seeds/sqm according to sowing date

Petkus

- Mid-early Cycle. Non hybrid
- Good grain & forage yield
- Very suitable for mixtures with legumes
- Good tillering capacity





02

LEGUMES

Vetches

Forage peas

Field beans

Bitter vetch

Chickpeas

Lupins

Yellow lupins



Common vetch *Vicia sativa*

COMMON VETCH is an annual legume sowed in autumn or spring. It is mainly used for high quality forage production due to its high protein content.

Its climbing ability and nitrogen fixation make it perfect to mix it with a cereal such as triticale or oats. They adapt to all types of soils and semi-arid areas, humid and even irrigated. Slow initial growth, but in spring, when temperatures are adequate, it grows very fast.

Common vetch is recommended instead of hairy vetch in dryer and warmer areas.

It can be sown in late summer, after cereal, to obtain forage to before winter.

THOUSAND KERNEL WEIGHT (TKW)

65-85 grams

SOWING SEASON

September to November

SOWING RATE

80-120 Kg/ha

Maxivesa



- Mid-Cycle
- High forage & grain production
- TKW medium

Prontivesa



- Extra Early Cycle
- High grain & forage production
- Medium-high TKW

Gravesa 81



- Mid-Cycle
- High forage & grain production
- Medium-low TKW

Urgelba



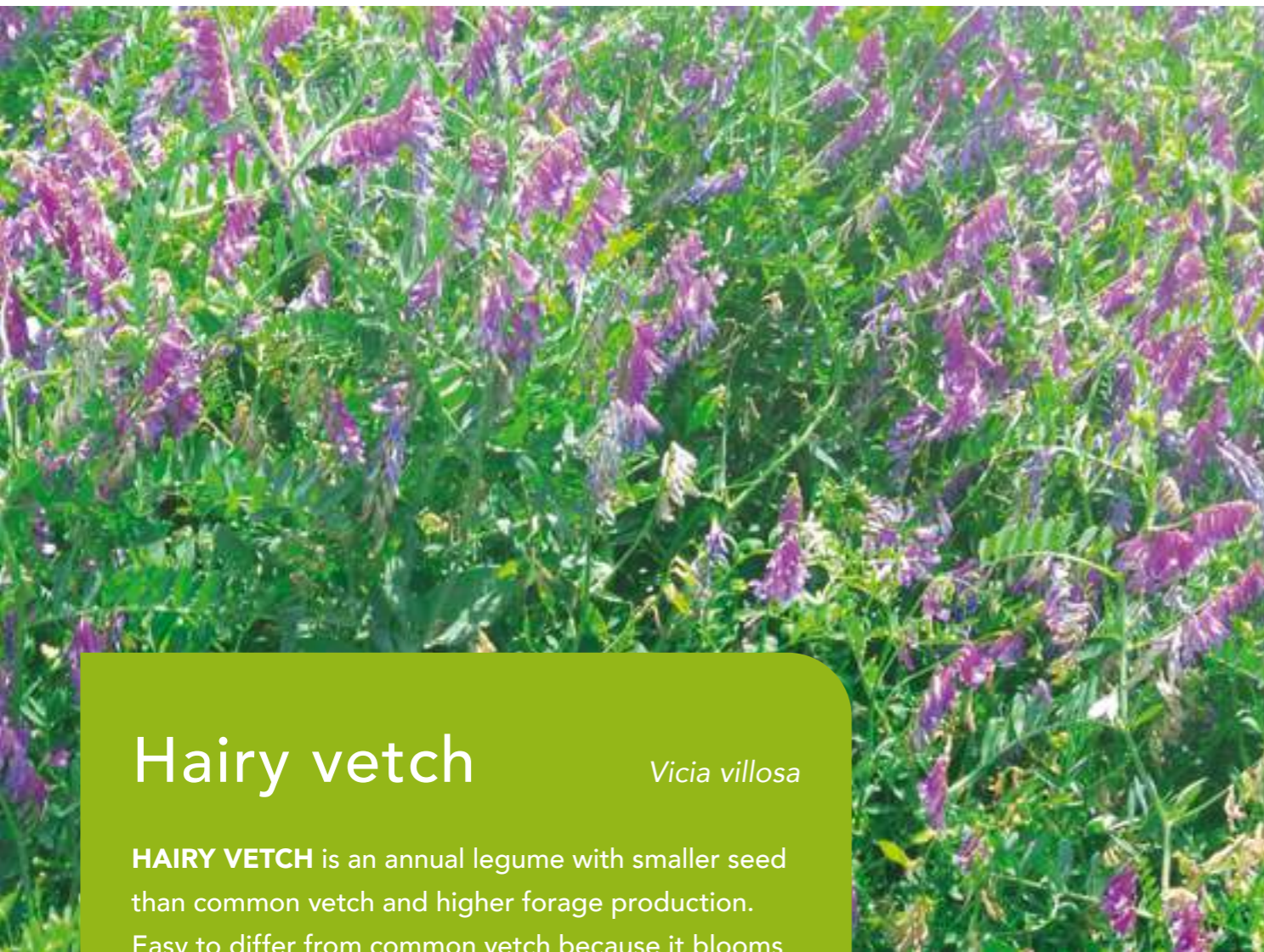
- Early Cycle
- High grain & forage production
- Medium TKW



Rueda



- Mid-Cycle
- High forage & grain production
- Medium TKW
- New Batlle genetics



Hairy vetch

Vicia villosa

HAIRY VETCH is an annual legume with smaller seed than common vetch and higher forage production. Easy to differ from common vetch because it blooms in clusters, hairy vetch is the most winter-hardy of the commercial vetches, although it prefers wetter conditions.

Produces a good quality forage. Very adapted to wet drylands and temperate areas with long springs.

In cold winter areas where springs are longer and wetter.

For higher forage production and lower grain production.

THOUSAND KERNEL WEIGHT (TKW)

30-45 grams

SOWING SEASON

September to November

SOWING RATE

50-60 Kg/ha

Villana



- Mid-Cycle
- Outstanding forage production
- Mid-low TKW
- Very high cold tolerance

Villota



- Early Cycle
- Outstanding forage production
- Mid-low TKW
- High cold tolerance

Villegas



- Mid-late Cycle
- Unbeatable forage production
- Mid-low TKW
- High rusticity and frost resistance
- New Batlle genetics





Forage peas

Pisum sativum

FORAGE PEAS are the most widespread protein seed legume in Europe. Protein crops are very important in the European Union due to our shortage of vegetable protein, and this is demonstrated by the EU agricultural policy.

Our R&D programs, sometimes in collaboration with other organizations such as ITACYL, have allowed us to offer you protein peas that are fully adapted to our growing conditions, both in cycle and in drought tolerance.

It is better to wait for late sowings to avoid competition with weeds and sanitary problems.

They must be sown in well-drained, light soils.

THOUSAND KERNEL WEIGHT (TKW)

160-250 grams

SOWING SEASON

From October to February according to variety

SOWING RATE

150-225 Kg/ha

Forrimax



- Mid-Cycle, Purple flower
- Outstanding forage yield
- Mid-low TKW (150-180g)
- Very high height

Guifilo



- Early Cycle, White flower
- Very high grain yield
- High TKW (210-250g)
- Mid-low height

Guinda



- Early cycle
- High grain yield
- High TKW (200-220g)
- Average height

Guinorme



- Mid-Early Cycle
- High grain yield
- Mid-low TKW (160-170g)
- High height



Guimas

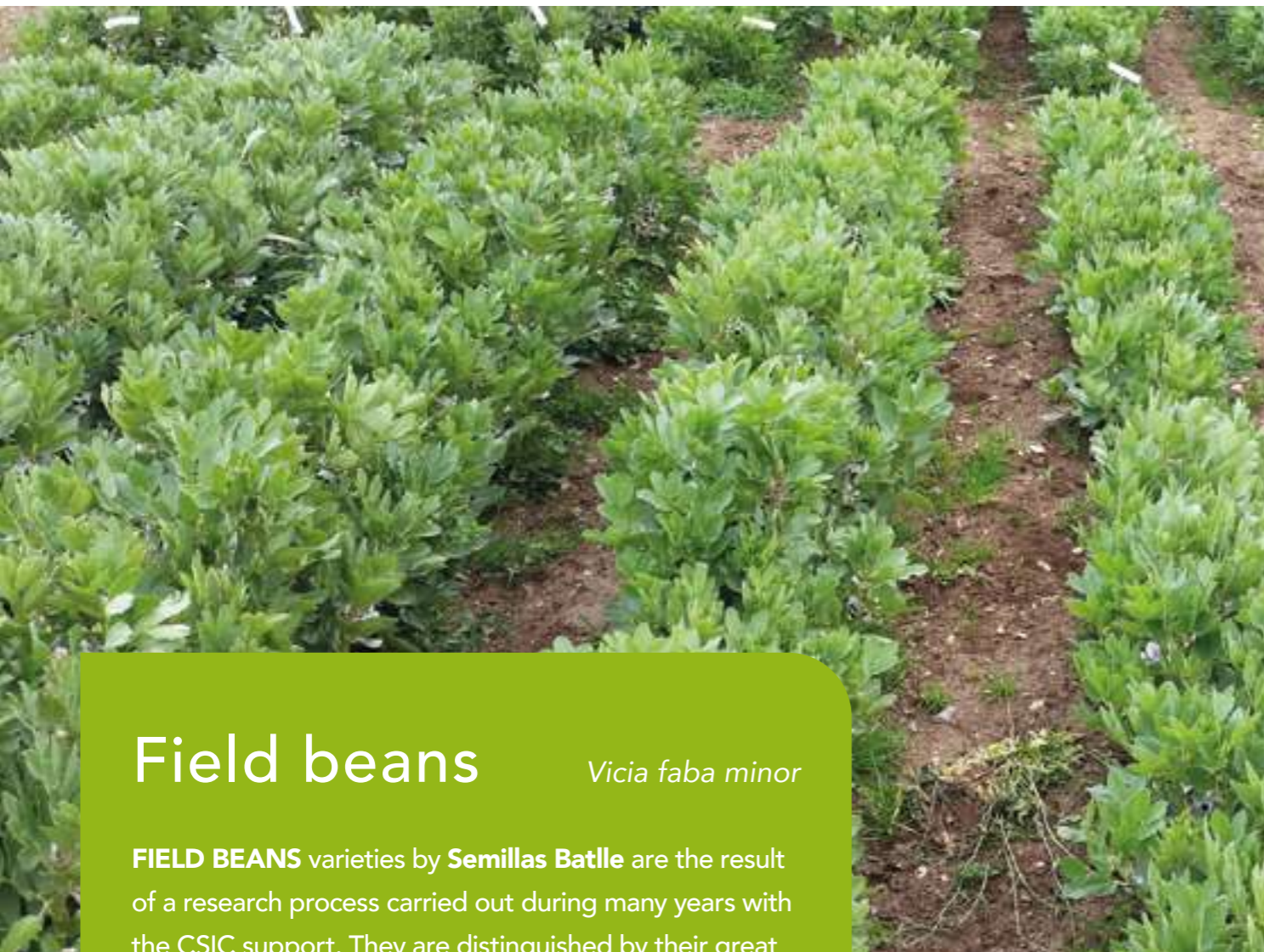


- Mid Cycle
- Autumn-Winter sowing
- High grain yield
- Mid TKW (180-200g)

Chicarron



- Mid-Early Cycle, white flower
- High grain & forage yield
- Mid-low TKW (160-180g)
- Medium-high height



Field beans

Vicia faba minor

FIELD BEANS varieties by **Semillas Batlle** are the result of a research process carried out during many years with the CSIC support. They are distinguished by their great productivity, matching the profitability of wheats in many cases, along with a high protein content.

High cold resistant and perfectly adapted to mechanization, field beans grow very well especially on loamy soils and clay loam, where most of protein crops fail to develop. It can be used for grain production for animal fodder and are frequently used as green manure. It is an ideal alternative in nitrogen rotations leaving in the soil between 60 and 120 units.

It can be sown in heavy soils, where other legumes do not develop.

High protein content per hectare.

THOUSAND KERNEL WEIGHT (TKW)

450-700 grams

SOWING SEASON

End of October to early January

SOWING RATE

150-200 Kg/ha according to variety

Tavira



- Early Cycle
- High grain yield
- Mid TKW
- Broomrape resistance

Prothabon 101



- Mid-Early Cycle
- High grain yield
- Low TKW
- Excellent health

Prothabat 69



- Mid-Early Cycle
- High grain yield
- Low TKW
- Excellent health

Vitabón



- Mid-Cycle
- Very high grain yield
- Low TKW
- High protein content



Borjana



- Mid-Early Cycle
- Very high grain yield
- Medium-high TKW
- Broomrape resistance

Vinicius



- Mid Cycle
- High rusticity
- Mid-low TKW
- High productive potential



Bitter vetch

Vicia ervilia

BITTER VETCH is one of the legumes traditionally grown in the Mediterranean basin for its high hardiness and its good adaptation to our agroclimatic conditions.

Like the rest of legumes, its main characteristic is the nitrogen contribution to the soil, favoring later crops, generally in cereal rotations. In Spain, it is a species grown mainly in the south of Aragon and in Castilla la Mancha. Like forage peas, horse beans and vetches, their surface have been increased due to the EU plant protein needs and the consequent incentive for its cultivation.

Well adapted species to poor and arid soils.

High cold tolerance, it is suitable to grow in areas where forage peas have problems.

THOUSAND KERNEL WEIGHT (TKW)

30-40 grams

SOWING SEASON

October to early December

SOWING RATE

100-150 Kg/ha

Moro Da 5

- Medium Cycle
- Yellowish grain color
- White flower
- High rusticity and good productive potential

Hully

- Medium cycle
- Yellowish grain colour
- White flower
- Excellent grain yield potential in rain feed areas





Chickpeas

Cicer arietinum

CHICKPEA or **GARBANZO BEAN** is a legume very well adapted to Mediterranean basin, traditionally grown in poor soils, with a great alternative sowing date. Usually used for human consumption, very linked to the Mediterranean diet, recently it has experienced a high market demand due to its properties and.

Rustic plant.

Well adapted to light soils and well drained soils.

THOUSAND KERNEL WEIGHT (TKW)

250-500 grams

SOWING SEASON

From November to January in warm areas and from January to February in cooler areas

SOWING RATE

100 Kg/ha

Garpedro



- Mid-Early Cycle
- Extraordinary productive potential, adapted to culinary use
- Excellent health, Ascochyta blight resistance
- Brown seed, average-small size
- Caliber 8 mm, TKW of 345 g

Garbelo



- Mid-Early Cycle
- Extraordinary productive potential, with high quality
- Excellent health, Ascochyta blight resistance
- Brown seed, average-small size
- Caliber 8,5 mm, TKW of 360 g

Garsuco



- Early Cycle
- Extraordinary productive potential, with high quality
- Excellent health, Ascochyta blight resistance
- Brown seed, average-large size
- Caliber 10 mm, TKW pf 470 g

Badil

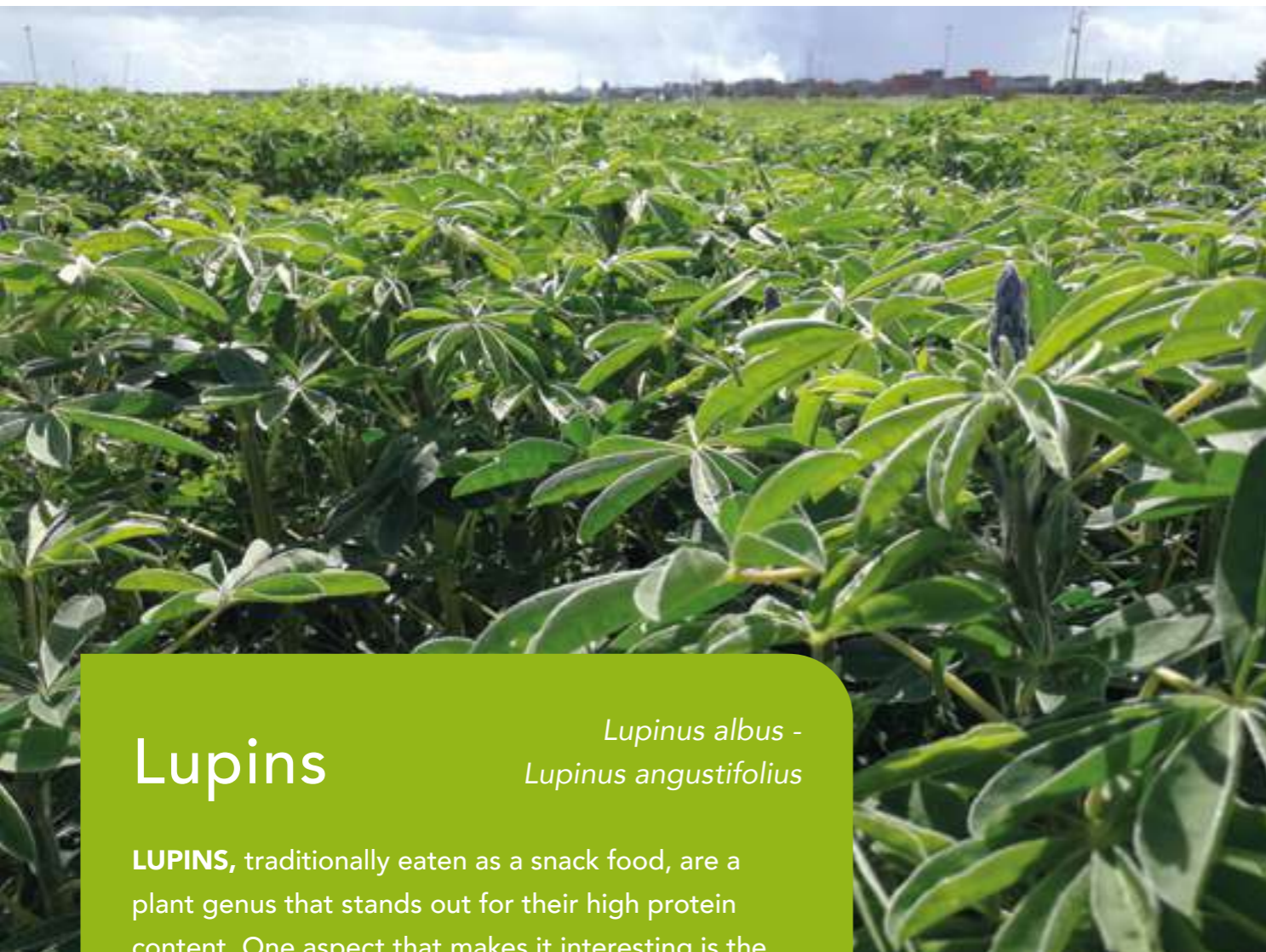
- Mid-Early Cycle
- High productive, thin skin
- Excellent health, Ascochyta blight resistance
- Brown seed, average-small size
- Caliber 8 mm, TKW of 350 g

Garbiñe



- Mid-Early Cycle
- Very high productive potential, with high quality
- Excellent health, Ascochyta blight resistance
- Brown seed, medium-large size
- Caliber 9,5 mm, TKW of 420 g





Lupins

*Lupinus albus -
Lupinus angustifolius*

LUPINS, traditionally eaten as a snack food, are a plant genus that stands out for their high protein content. One aspect that makes it interesting is the great adaptation to acid soils which are very common in the west of the Iberian Peninsula.

Lupins includes various species, all of them cultivated around the world for human and animal food (i.e. some varieties have a high content of carotenes, very interesting for animal feed), although they are also used in various industrial processes.

Crop able to recover poor forest soils with a low level of organic matter where weeds and shrubs must be eliminated.

Lupins

KEY BENEFITS

- High capacity for atmospheric nitrogen fixation
- Erect growth reaching 90-120 cm



FEATURES

- Well adapted to acidic to neutral soils.
- Well drained soils are required.
- Fertility forerunner with high hardiness.
- Rusticity.
- Fertility starter of poor organic matter soils.
- Requires low soil pH.



OUR VARIETIES

RUMBO BAER: white flower (*albus*)
LILA BAER: purple flower (*angustifolius*)
AZURO: purple flower (*angustifolius*)

DALBOR: purple flower (*angustifolius*)
KARO: purple flower (*angustifolius*)

THOUSAND KERNEL WEIGHT (TKW)

190-380 grams

SOWING SEASON

End of October to mid December

SOWING RATE

100-150 Kg/ha



Yellow lupins *Lupinus luteus*

YELLOW LUPINS is a fertility forerunner which stands out for its hardiness and high protein content.

Another aspect that makes it interesting in the Mediterranean basin is its adaptation to acid soils with a low level of organic matter.

It is a traditional species of the Iberian pasture lands.

Crop used to recover forest soils with a low level of organic matter. Very suitable for removing weeds and shrubs.

THOUSAND KERNEL WEIGHT (TKW)	SOWING SEASON	SOWING RATE
70-200 grams	End of October to mid December	70-120 Kg/ha

Yellow lupins

KEY BENEFITS

- High capacity for fixing atmospheric nitrogen
- Erect carriage with 90 to 120 cm



FEATURES

- Well adapted to poor soils, with acidic to neutral pH.
- Well drained soils are required.
- Fertility forerunner with high hardiness.



OUR VARIETIES

MISTER: early cycle
BARYT: early cycle

COMÚN: mid-late cycle



03

SUMMER CROPS

Forage sorghum

Sudangrass



Forage sorghum

SORGHUM is used for both grain and forage. While some varieties are grown solely for grain, others have been developed for forage production, and some varieties are dual-purpose.

FORAGES SORGHUM is a valuable fodder: it is relished by ruminants; it is outstandingly drought resistant and grows where maize is not able to grow because of high temperatures or dry conditions. Forage sorghum can be grazed (young or as deferred fodder), cut fresh, made into hay, ensiled, or used as biomass.

Lower water needs than maize.

More drought tolerant than maize, it can compete with dry matter production.

THOUSAND KERNEL WEIGHT (TKW)

25-35 grams

SOWING SEASON

April - May. Temperature of minimum soil of 10°C

SOWING RATE

20-30 Kg/ha



Nutrihoney

- Sorghum bicolor X Sorghum sudanese
- Very Early and highly productive
- High regrowth capacity, thin stem, médium broad leaf
- 2-4 cuts depending on sowing date
- 18-20 Tm/ha Yield potential

Forrigrano



- Sorghum bicolor
- High adaptability and hardiness
- Drought tolerance
- Balanced energy-protein forage
- Highly recommended for silage

Sordan

- Sorghum bicolor x Sorghum sudanense
- Early variety very productive
- Very high regrowth capacity
- 2 to 4 cuts depending on the sowing season
- Productivity: 17 to 19 ton/ha of DM

Latte

- F1 Sorghum bicolor X Sorghum sudanese
- The hybrid leader in production
- Broad leaf, médium broad stem with a height until 3 m
- 1-2 cuts. 20-25 Tm/ha yield potential

Monster

- Sorghum bicolor X Sorghum bicolor
- Unbeatable biomass production (25-30 Tm/ha)
- 3 to 4 m. height
- Photoperiod sensitive variety
- Do not head until autumn



Sudangrass

*Sorghum
sudanense*

SUDANGRASS is well known for its drought tolerance as well as its high adaptability to different soil and weather conditions. It has a very appreciated thin stem and high regrowth capacity.

Highly recommended for extensive systems, even those with low water availability. Its low hydrocyanic acid content makes it highly recommended for grazing.

Drought tolerance.

High regrowth capacity.

Low hydrocyanic acid content.

**THOUSAND KERNEL
WEIGHT (TKW)**

10-15 grams

SOWING SEASON

From April with soil
temperatures > 10°C

SOWING RATE

25 Kg/ha

Piper

- Very high regrowth capacity
- Excellent adaptability and drought tolerance
- Thin stem with a thin leaf
- Ideal for grazing systems





04

OILSEEDS & INDUSTRIAL CROPS

Sunflower

Rapeseed

Soybean

Cotton



Sunflower

Helianthus annuus

Semillas Batlle presents a wide range of varieties to meet any farmer needs.

High oil content, broomrape resistance and downy mildew resistance are key benefits of our varieties reducing the farmer's risk. Linoleic and high oleic varieties are displayed as well as varieties resistant to the main groups of herbicides currently on the market.

An excellent choice in crop rotations.

Environmentally sustainable crop.

THOUSAND KERNEL WEIGHT (TKW)

60-100 grams

SOWING SEASON

End of February to end of June

SOWING RATE

60.000-90.000 seeds/ha

HYBRIDS



Seguiriya



- Linoleic type
- Early cycle, Broomrape F + Downy mildew resist
- Sulfonylureas resistance
- High performance and hardiness

Clarasol CL



- Clearfield High Oleic
- Very Early cycle
- Broomrape F + downy mildew resistance
- Quick transition from blooming to maturity



Bonasol JMR



- Linoleic type. Early cycle
- Broomrape F + Downy mildew resistance
- Outstanding % oil content with 54% average

Petenera



- Linoleic type
- Early cycle
- Broomrape G + Downy mildew resistance

Buleria



- Linoleic type. Early cycle
- Broomrape G + Downy mildew resistance
- Very high performance in fertile soils and excellent % oil content

Fortasol



- Linoleic type. Early cycle
- Broomrape F + Downy mildew resistance
- Sulfonylureas resistance
- New Batlle genetics

Kostasol



- Clearfield high oleic. Early variety
- Broomrape G + Downy mildew resistance
- Very high productive potential
- New Batlle genetics



Piponero



- Sunflower for human consumption
- White color seed XL
- Medium cycle, Broomrape G + Downy mildew resistance
- High rusticity

NO HYBRIDS

Peredovick is a well-known no hybrid variety for its toughness and adaptability to low fertile soils. Often used in hunting grounds or as bee pollination, it is an excellent choice for forage mixtures and other agronomic uses.



Peredovick

- Linoleic type
- High adaptability to all conditions
- 40 to 45% oil content
- Medium-late cycle



THOUSAND KERNEL WEIGHT (TKW)

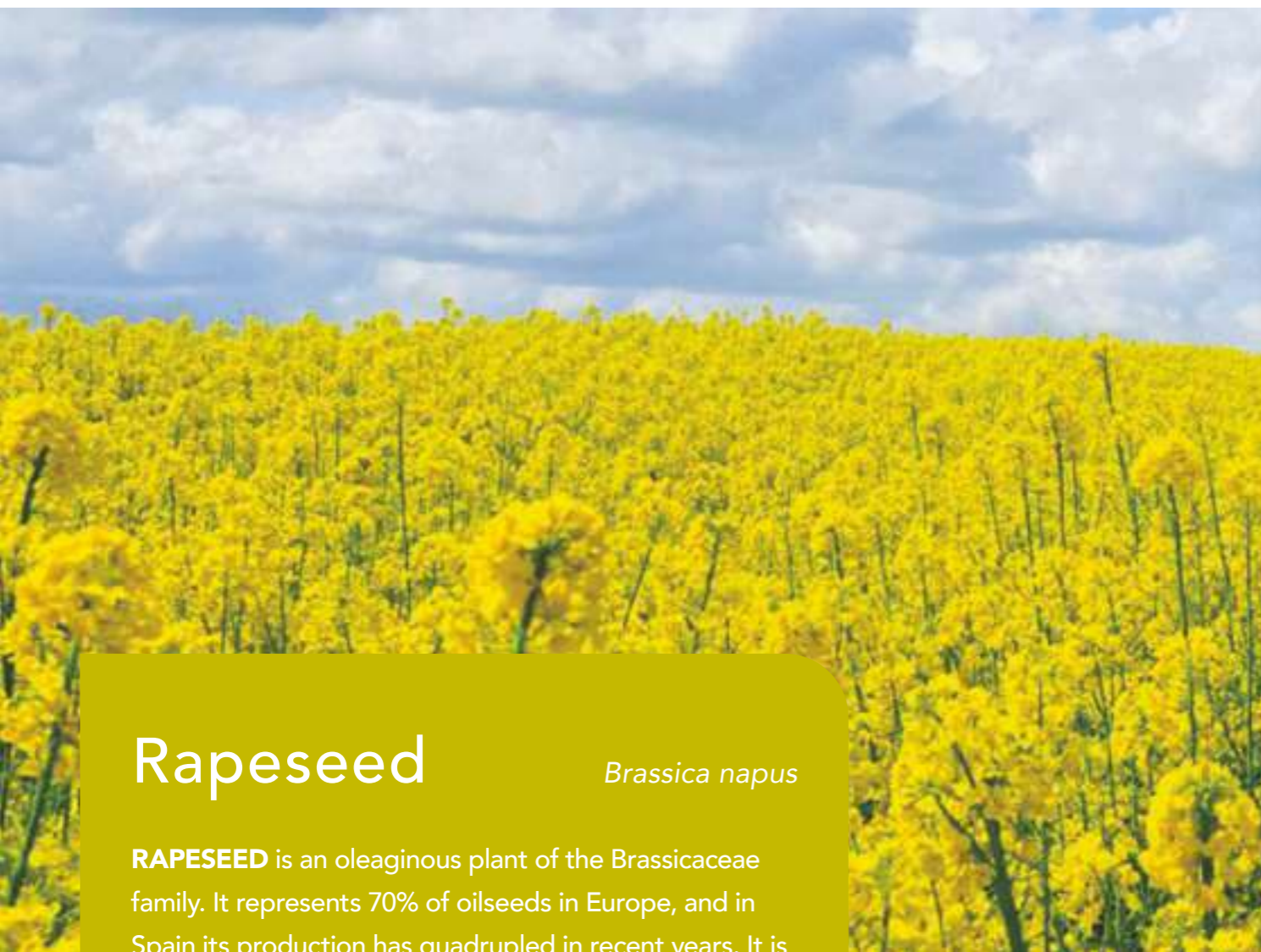
60-100 grams

SOWING SEASON

End of February to end of June

SOWING RATE

4-7 kg/ha



Rapeseed

Brassica napus

RAPESEED is an oleaginous plant of the Brassicaceae family. It represents 70% of oilseeds in Europe, and in Spain its production has quadrupled in recent years. It is a crop of growing interest due to its high profitability, its low production cost since it requires few plant protection products and its low demand in cultivation. It is perfectly adapted to our edaphic and climatic conditions, especially in interior areas. Rapeseed has a taproot that improves the soil structure and therefore provides great benefits in crop rotations. This same root allows rapeseed to better reach water and take advantage of the nutrients provided, where other crops are not able to reach.

An excellent choice in crop rotations.

It is a soil improver plant.

THOUSAND KERNEL WEIGHT (TKW)

3-5 grams

SOWING SEASON

End of October to half of February

SOWING RATE

3-9 Kg/ha pure lines
750.000-900.000 hybrid seeds/ha

Valle de Oro



- Spring type. High alternativity for late sowings
- Early cycle
- Good hardiness and high performance



Fricola



- "00" type, no hybrid
- Medium cycle
- Winter type

Trust Cl

- Clearfield hybrid
- Medium cycle
- Winter type

Shreck

- Hybrid variety
- Medium cycle
- Winter type





Soybean

Glycine max

SOYBEAN, is one of the world's most important crops and can provide to our farmers another high-income crop for spring/summer that they can use for crop rotation.

Last varieties with the appropriate inoculums ensure a successful crop.

With NO GMO varieties we perfectly cover the needs both for milk and animal feed.

Requires light to loamy soils.

A good inoculation with the symbiotic bacteria *Bardyrhizobium japonicum* is essential.

Sprinkler irrigation.

THOUSAND KERNEL WEIGHT (TKW)

150-220 grams

SOWING SEASON

April - May

SOWING RATE

40-50 seeds/m²

Luna

- Group 1 (Medium cycle)
- Ideal for soy drink production
- High yield potential
- White strand



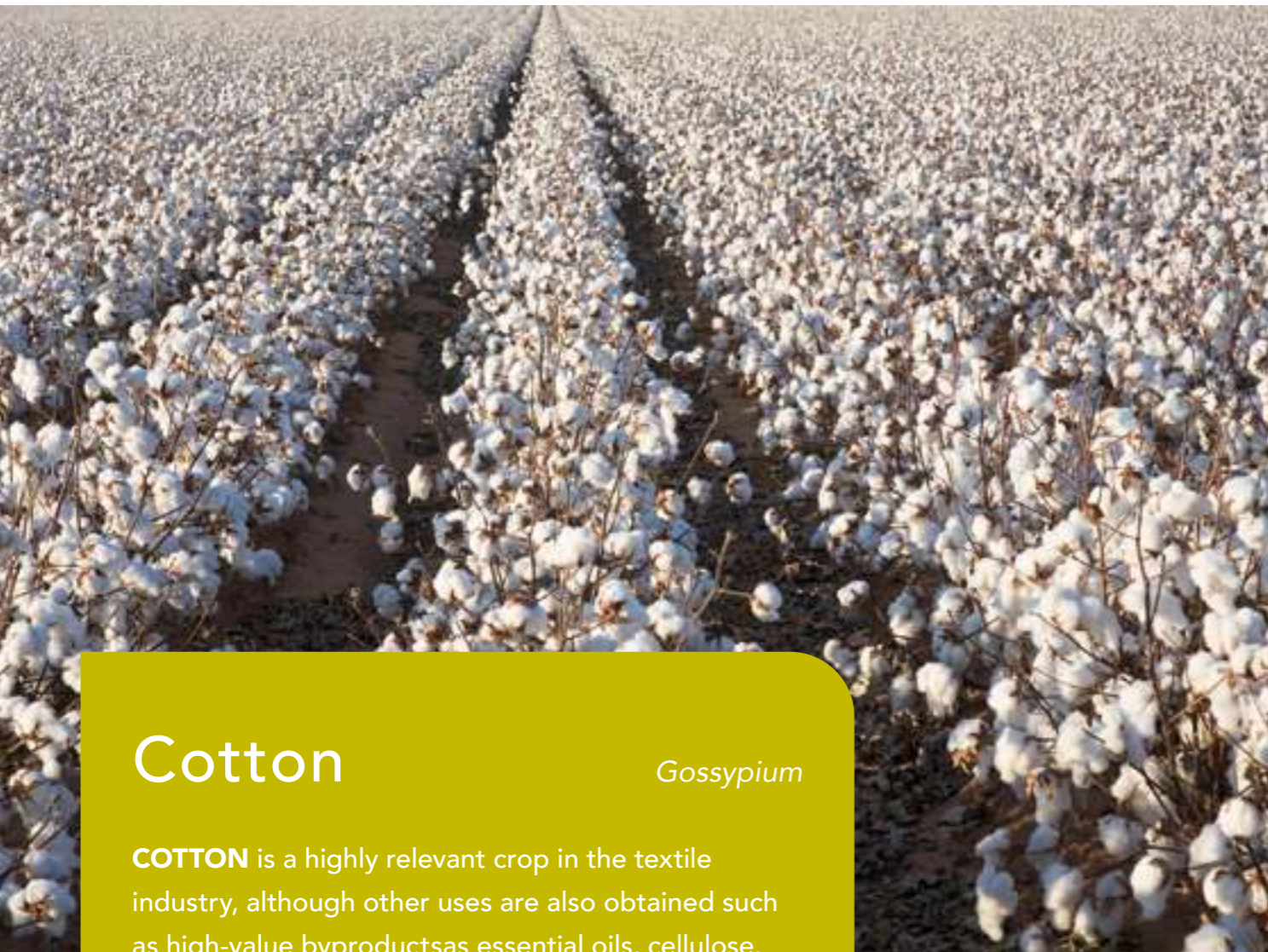
Ascasubi

- Group 1 (Medium cycle)
- Grain & forage
- High hardiness, adaptable and stable

Adonai

- Group 1 (Medium-late cycle)
- Grain & forage
- Extra high yield potential





Cotton

Gossypium

COTTON is a highly relevant crop in the textile industry, although other uses are also obtained such as high-value byproducts as essential oils, cellulose, animal feed, etc.

Adapted to the Mediterranean climate because of its of plenty sunshine and a long frost-free period. Species adapted to a wide range of soils, preferring irrigated management.

It is a crop well introduced in crop-rotation in certain areas of Andalusia and Extremadura as an alternative for spring-summer crops.

Technical crop.

Textile industry.

High yields under irrigation systems.

THOUSAND KERNEL WEIGHT (TKW)

85-140 grams

SOWING SEASON

From April to the end of May

SOWING RATE

165.000-200.000 seeds/ha

Manuela



- Early cycle
- Outstanding yields
- High response to growth regulators
- Excellent defoliation, minimal harvest losses





05

FORAGE CROPS

Annual grasses

Perennial grasses

Annual soft-seeded legumes

Annual hard-seeded legumes

Perennial legumes

Other species

Annual grasses

Westerwoldicum ryegrass
Italian ryegrass

USES AND FEATURES

In addition to some varieties of winter cereals already presented, the westerwoldicum ryegrass and Italian ryegrass are part of a set of very interesting forage species for Mediterranean conditions.

They can be used as monocultures or in mixtures with legumes, both for use in grazing and as a single cut. They are a very important contribution in fiber and energy.

Westerwoldicum ryegrass

Lolium multiflorum ssp. westerwoldicum

- **WESTERWORLD RYEGRASS** is considered the queen of forage grasses. It is a species with a very fast growth, a big amount of broad leaves and a very quick regrowth.
- It is distinguished by its great vigour, broad, glossy and dark green leaves.
- Strictly annual, up to 4 or 5 cuts can be obtained in mowing or grazing. Mainly indicated for use in green forage, hay, or silage, in rotating systems and allowing regrowth. It adapts well to cold conditions, preferring fertile soils.

Vallivert (4n)



- Medium-late cycle
- Outstanding DM production
- High protein content and balanced fiber
- Very broad leaf, good general health

Campivert (4n)



- Medium-late cycle
- Outstanding DM production
- High protein content and balanced fiber
- Very broad leaf, excellent general health

Bonivert (4n)



- Medium-late cycle
- Outstanding DM production
- High protein content and balanced fiber
- Very broad leaf, good general health
- New Batlle genetics

Allihop (4n)



- Forage and turf type
- Medium cycle
- Outstanding DM production
- New Batlle genetics

Attain (4n)

- Medium-early cycle
- Very high production
- High yield in dry matter and protein
- Large leaves with dark green color

Allisario (2n)

- Early cycle
- Very high DM productivity in the firsts cuts
- Rust resistance
- Ideal for pastures and cover crops



Italian ryegrass

Lolium multiflorum ssp. italicum

- **ITALIAN RYEGRASS** is a short-lived grass lasting for two years. With a very fast growth an excellent forage properties, 5 to 6 cuts can be obtained in good fertile soils.
- It is indicated for pastures that are mowed, either for green forage, hay, or silage. Used in grazing, it must be rotary and allow regrowth. It has long, broad, light green leaves. It is a forage that is easy to establish, appetizing and has a good nutritional value.

Vertibello (2n)



- Medium cycle
- High performance in quality and quantity
- Good general health
- Average height is medium-high (50-70 cm)

Locobello (4n)



- Medium-late cycle
- High performance in quality and quantity
- Good resistance to rusts and xanthomonas
- Average height is medium-high (60-80 cm)

Açores (2n)

- Medium cycle
- Greater grazing capacity
- Very fast regrowth and excellent quality and health
- Adapted to mild Atlantic weather



THOUSAND KERNEL WEIGHT (TKW)

1,9-2,3 grams

SOWING SEASON

From August to February according to zones

SOWING RATE

30-40 Kg/ha

THOUSAND KERNEL WEIGHT (TKW)

1,9-2,3 grams

SOWING SEASON

Fall and Spring

SOWING RATE

30-40 Kg/ha



Perennial grasses

- Tall fescue
- Hybrid ryegrass
- Perennial ryegrass
- Cocksfoot
- Brome grass
- Phalaris
- Timothy grass

USES AND FEATURES

A set of species, of which the tall fescue, hybrid and perennial ryegrass and other very interesting species for areas of high rainfall, fresh drylands and irrigated conditions stand out.

Semillas Batlle has an enormous experience in the production of fescue and hybrid ryegrass, of which it has a development plan for new varieties, which are showing excellent adaptability and production. These are the cases of the Tima & Estivalia tall fescue and the Rubrido hybrid ryegrass.

Tall fescue

Festuca arundinacea

- **TALL FESCUE** is a very rustic grass due to its adaptability, both for dry and humid soils, giving good forage productions almost all year round, but especially in cool weather.
- It is suitable for the formation of pastures, in dry areas and harsh conditions.
- It can reach up to 90 cm tall, it is recommended that it be cut or grazed when the shoots are young, 40 to 45 cm since it is more palatable for cattle.
- It has a root system that can reach 1 meter, so it is also used to fix slopes, etc.

Tima

- Medium cycle
- Unmatched durability and high production in summer
- Average height medium-high (50-70 cm)
- Excellent general health

Estivalia



- Medium cycle
- Balanced annual production with its maximum in summer
- Average height medium-high (60-80 cm)
- Increased forage palatability



THOUSAND KERNEL WEIGHT (TKW)

1,8-2,2 grams

SOWING SEASON

From August to March according to zones

SOWING RATE

30-40 Kg/ha

Hybrid ryegrass

Lolium boucheanum Kunth

- The **HYBRID RYEGRASS** is a species obtained from crossing perennial ryegrass with Italian ryegrass. It therefore has characteristics inherited from both.
- It is a fast implantation ryegrass, which lasts between 2 and 4 years. Its nutritional value is higher than that of Italian ryegrass. It is especially suitable for sowing pastures, whether for green forage, hay, or silage.
- It supports grazing quite well since it has an excellent regrowth capacity. Its excellent resistance to drought and its great tillering capacity, guarantee excellent yields even in the most difficult conditions.

Fibrido (2n)



- Mid-late cycle. More Italian type
- High productivity in dry matter
- Great nutritional value, high digestibility
- Very good persistence (3 years)
- New Battle genetics

Rubrido (4n)



- Mid-late cycle. More Italian type.
- High DM performance
- Great nutritional value, high digestibility
- Very good durability (up to 3 years)

Nadzieja (4n)

- Medium-early cycle. Medium type.
- Good aptitude for mowing, grazing and silage



Perennial ryegrass

Lolium perenne

- **PERENNIAL RYEGRASS** is a very important species in the formation of durable pastures.
- It is always found in multi-year forage mixtures, together with perennial or self-reseeding legume varieties.
- With a great vigour and resistance, it can last for 4 or 5 years.
- Due to its morphology, it is indicated mainly for grazing, although it can be used either for green forage, hay, or silage.
- However, grazing favors the implantation of this species, mainly compared to other grasses.
- Its main features are fast germination and good earliness.
- It has dark green leaves. Due to its vigor, it can reach 80 cm in height.
- Regarding climatic requirements, it prefers cool and humid climates
- It needs irrigation, however, its root system does not withstand waterlogging too much, so it needs well-drained soils.

Victorian (2n)

- Early cycle
- Excellent adaptability to different conditions, specially in low rainfall areas



THOUSAND KERNEL WEIGHT (TKW)

1,8-2,2 grams

SOWING SEASON

Fall and Spring

SOWING RATE

30-40 Kg/ha

THOUSAND KERNEL WEIGHT (TKW)

1,8-2,2 grams

SOWING SEASON

Fall and Spring

SOWING RATE

30-40 Kg/ha

Nui (2n)

- Early cycle. Intermediate between perennial and italian ryegrass
- Great regrowth, ideal for grazing

Maja (4n)

- Medium cycle, excellent spring regrowth
- Ideal for grazing and mowing, good durability

Mathilde (4n)

- Medium cycle, high Frost-resistance
- Ideal for grazing and mowing, good durability

Calibra (4n)

- Late cycle
- Excellent production, durability and general health

Cocksfoot

Dactylis glomerata

- **ORCHARD GRASS** is one of the best and more productive meadow grasses.
- Excellent aptitude for mowing and grazing.
- Highly vigorous and rustic, it produces abundant and tall grass, very palatable for cattle specially if we do not allow to get hard.
- Sow both in humid and fairly dry lands, as it has good resistance to drought due to its compact and deep root system.
- It finds its optimum performance in rich, deep, clay-humic and fairly clay soils.

Tukan

- Late cycle
- High output and excellent protein content
- Ideal for mowing but also for grazing

Swante

- Late cycle
- Great yields capacity and rusticity
- High productivity, well adapted to cut and grazing
- Ideal for mixtures

Terano

- Medium-late cycle
- Ideal for mixtures

Doimas

- Medium-late cycle
- Excellent tillering and productivity
- Ideal for mowing but also for grazing



THOUSAND KERNEL WEIGHT (TKW)

0,6-0,9 grams

SOWING SEASON

Fall and Spring

SOWING RATE

20-30 Kg/ha

Brome grass

Bromus catharticus

- **BROMUS CATHARTICUS** is a high yield potential perennial grass with good drought resistance, good yields all year long, specially in summer. Easy implantation.
- Excellent forage crop with resistance to heading.
- Excellent option for mowing and grazing. More and more appreciated by farmers
- To achieve its maximum potential, it must be planted in healthy soils. Ideal for intensive productions.

Phalaris

Phalaris aquatica

- **PHALARIS** is a perennial grass with straight stems and broad leaves. It has low frost resistance, especially in the first year. It is very suitable for grazing since it resists trampling a lot. In mild climates it grows all winter, very vigorously in spring and continues in summer. Its germination is very slow and requires great care, so you have to prepare the soil very well, sow it not too deeply (maximum 2 cm), ensure that it does not lack moisture and avoid clogged soils.
- High drought resistance, it can produce in mild winter climate, but with high temperatures growth is stopped even if it has plenty of water. It develops by rhizomes.



Jeronimo

- Medium-late cycle. Highly productive
- Excellent for mowing but also for grazing

Ombel

- Medium-late cycle. Outstanding productions
- Excellent for mowing but also for grazing

Holdfast

- High productive and durability
- Excellent seedlings vigour

Sirosa

- Excellent output and durability
- Good drought resistance and excellent germination vigour



THOUSAND KERNEL WEIGHT (TKW)

8-13 grams

SOWING SEASON

Fall and Spring

SOWING RATE

40-50 Kg/ha

THOUSAND KERNEL WEIGHT (TKW)

1,3-1,4 grams

SOWING SEASON

Fall and Spring

SOWING RATE

10-20 Kg/ha

Timothy grass

Phleum pratense

- **TIMOTHY GRASS** has a great forage value. Suitable for perennial pastures, it is a tall and rustic grass, with a great leaf production which are very desirable by cattle. Especially indicated for mowing forage mixtures, although it performs well under grazing conditions.
- It is especially adapted to cool, humid and cold climates but it has a low drought resistance.

Dorothy

- Excellent spring production, high frost resistance
- Ideal for high mountain areas, mowing and grazing

Timoturf

- Excellent spring production, high frost resistance
- Ideal for high mountain areas, mowing and grazing

Jumis

- Excellent spring production, high frost resistance
- Ideal for high mountain areas, mowing and grazing



**THOUSAND KERNEL
WEIGHT (TKW)**

0,5 grams

SOWING SEASON

Spring-Fall

SOWING RATE

10-12 Kg/ha



Annual soft-seeded legumes

Persian clover
Berseem clover
Squarrosum clover
Crimson clover
French Serradella

USES AND FEATURES

A set of clover species and other soft-seeded fertility precursors are guarantors of high forage production, nutritional quality, and adaptability to the different regions of the Iberian Peninsula.

Semillas Batlle has a strong knowledge in this range of seeds, due to its experience in the most different agronomic conditions of the Mediterranean basin.

Persian clover (majus)

Trifolium resupinatum ssp. majus
(o *suaveolens*)

DESCRIPTION

- Erect plants with thin, hollow, branched stems that can be about 80 to 150 cm tall.
- Large, highly digestible stem with trifoliate leaves.
- Flores Pink to violet flowers, with a very characteristic smell.
- The seeds have variable color depending on the variety, with a TKW from 1.25 to 1.70 grams.



FEATURES

- Species adapted to a wide range of soils, except for sandy and acid ones.
- Excellent tolerance to waterlogging and tolerant to medium salinity conditions.
- High palatability and digestibility, with high forage production.
- Without hard seeds, it has low persistence.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 15 – 20 kg/ha.

Mix: 2 – 8 kg/ha, depending on the species.

Compatible species: other legumes and annual grasses.

Inoculant: group C.

VARIETIES

LIGHTNING: medium cycle

LASER: medium cycle

RUSTY: medium cycle

PASAT: medium cycle

Berseem clover

Trifolium alexandrinum

DESCRIPTION

- Erect, thin, hollow, branched stemmed plants that can be about 60 to 80 cm tall.
- Trifoliate leaves, and pale yellow (almost white) flowers.
- Oval shaped seeds, yellow to red-brown, with a TKW around 3.30 grams.



Squarrosun clover

Trifolium squarrosun

DESCRIPTION

- Annual plant, with a stem length from 60 to 80 cm, erect, and alternate leaves with large leaflets.
- Flowers with a pink initial color that end up presenting white color.
- Smooth, yellowish seeds with a TKW from 4.00 to 5.25 grams.



FEATURES

- Well adapted to neutral to alkaline soils, with a water pH between 6.0 and 8.5.
- It can be mowed or grazed up to 2 to 5 times in dry land and up to 6 times in irrigated conditions.
- Active plant in mild winter conditions and resistant to flooded soils. Has some tolerance to saline soils.
- No regeneration for the following years due to low% of hard seeds.
- Low frost resistance.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 20 – 25 kg/ha.

Mix: 4 – 10 kg/ha, depending on the species.

Compatible species: other annual clovers, oats, wester ryegrass.

Inoculant: group C.

FEATURES

- It is a single cut plant since it does not have regrowth capacity, with a high size.
- Tolerant to acid soils, it prefers medium, heavy and cool texture, but also grows well in limestone and clay soils.
- The most suitable use for this legume is a single cut forage, with the optimum in full bloom. It is also very suitable for the sidereal compost.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 30 – 40 kg/ha.

Mix: 4 – 12 kg/ha, depending on the species.

Compatible species: legumes and annual grasses, with potential for a single cut forage production..

Inoculant: group C.

VARIETIES

ALEX: medium-late cycle

AXI: medium-late cycle

ELITE: medium-late cycle

VARIETIES

SQUARROSA: medium-late cycle

QUADRIGA: medium-late cycle

Crimson clover

Trifolium incarnatum

DESCRIPTION

- Winter prostrate plant, producing erect stems up to 60 cm tall in spring.
- Trifoliate leaves, covered with fine hairs on both surfaces.
- Very spectacular bright red flowers.
- Oval shaped seeds, bright yellow coloured with a TKW of 3.5 grams.



French Serradella

Ornithopus sativus

DESCRIPTION

- Creeping plants with erect stem production which can reach till 60 cm height in spring.
- It expands by propagation and produces pale pink flowers.
- Flattened and curved pods with a TKW of 2.85 grams.



FEATURES

- Precursor of fertility plant due to its ability to adapt to low organic matter soils, allowing the expansion of rhizobium present in the soil.
- Very adaptable to different soil conditions, it is a rustic plant with fast initial establishment and winter production capacity.
- Low durability due the lack of hard seeds.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 10 – 20 kg/ha.

Mix: 2 – 8 kg/ha, depending on the species.

Compatible species: wide range of legumes, forage grasses and pastures.

Inoculant: group C.

FEATURES

- Precursor of fertility plant due to its ability to adapt to low organic matter soils, allowing the expansion of rhizobium present in the soil.
- It grows well in deep soils with more than 60 cm, with low fertility and well drained.
- Species that supports low pH and tolerant to the presence of free aluminum in the soil.
- Low durability due the lack of hard seeds.
- Well adapted to grazing, except at blooming period.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 10 – 20 kg / ha hulled seed and 2 – 5 Kg/ha unhulled seed.

Mix: 2 – 8 kg / ha hulled seed and 0.5 – 3 Kg/ha unhulled seed, depending on the species.

Compatible species: wide range of legumes, forage grasses and pastures.

Inoculant: group G.

VARIETIES

CONTEA: early cycle

CONETE: mid-early cycle

VITERBO: late cycle

KARDINAL: late cycle

VARIETIES

ERICA: mid-early cycle

MARGURITA: mid-early cycle

EMENA: medium cycle

Annual hard-seeded legumes

Sub clover
Balansa clover
Resupinatum clover
Arrowleaf clover
Yellow Serradella
Biserrula
Annual medics

USES AND FEATURES

Those are species with a high hard seeds level, which is the main characteristic of a group of species of clover, annual medicago and other soil improver species, which gives them a high durability over time. At the same time, they are guarantors of high forage production, nutritional quality, and adaptability to the different regions of the Iberian Peninsula.

Semillas Batlle has great knowledge in this range of seeds, due to its experience in the most different agronomic conditions of the Mediterranean basin.

Sub clover

Trifolium subterraneum ssp. subterraneum
(black types)

DESCRIPTION

- It presents a strong persistence.
- Trifoliate leaves, with hairs on both surfaces.
- Small and white flowers grouped in glomeruli that tend to grow towards the ground once they are pollinated.



FEATURES

- Highly adapted to grazing.
- Vigorous seedlings which can offer nutritional quality in winter.
- High persistence in dry permanent pastures and pastures.
- Best suited to climates that mild, wet winters due its superficial roots.

Subterranean clover has three subspecies (ssp):

Trifolium subterraneum ssp. subterraneum:

- The subspecies with the most varieties available, also known as “black-seeded” types,
- Adapted to well-drained, moderately acidic (pH 4.5-6.5) sandy-loam to loamy-clay soils.
- TKW from 5.0 to 11.5 grams.
- Actively buried seed glomeruli.

Trifolium subterraneum ssp. brachycalicinum:

- Best suited to neutral-moderately alkaline (pH 6.0-8.0) cracking or stony soils.
- Their flowers are the smallest of the 3 subspecies.
- Glomeruli rest between the cracks or under stones and germinate when conditions are appropriate.
- Seeds tend to be black, purplish black or yellowish with a TKW of 8.5 to 11.5 grams.

Trifolium subterraneum ssp. yanninicum:

- Adapted to poorly drained, moderately acidic sandy loam to clay soils. Does not tolerate deep sandy soils and alkaline soils.
- Sometimes referred to as white-seeded types, due to their cream-amber colored seeds with a TKW of 8.5 to 12.5 grams.
- Glomeruli rest well buried. It has the most erect growth of the 3 subspecies.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 10 – 25 kg/ha.

Mix: 3 – 12 kg/ha, depending on the species.

Compatible species: wide range of legumes, forage grasses for dry pastures and cover crops.

Inoculant: group C.

**VARIETIES**

GERALDTON (S): early cycle

DALKEITH (S): mid-early cycle

LOSA (S): mid-early cycle

SEATON PARK (S): mid cycle

WOOGENELLUP (S): mid-late cycle

GOULBURN (S): late cycle

MOUNT BARKER: late cycle

LEURA (S): late cycle

TRIKKALA (Y): mid cycle

GOSSE (Y): mid-late cycle

ROSEDALE (B): mid-early cycle

CLARE (B): mid-late cycle

Balansa clover

Trifolium michelianum

DESCRIPTION

- Prostrate growth habit when it is isolated, becoming semi-erect in denser systems.
- Hairless and hollow stems with trifoliate leaves.
- White to purple flowers, which change to brown when seeds are formed.
- Seeds are small and colour can vary from yellow to brown, green or black with a TKW of 1.00 grams.

**FEATURES**

- It performs well in a wide pH range of soils.
- It tolerates well poorly drained soils and can accept saline soils.
- Capable of rapid growth in low relative humidity conditions.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 5 – 8 kg/ha.

Mix: 2 – 10 kg/ha, depending on the species.

Compatible species: wide range of legumes and forage grasses for different agronomic applications.

Inoculant: group C.

VARIETIES

PARADANA: mid-late cycle

BOLTA: late cycle

Resupinatum clover

Trifolium resupinatum ssp. resupinatum

DESCRIPTION

- Erect plants with a branched thin and hollow stem which can reach from 30 to 70 cm height.
- High digestibility stem and trifoliate leaves.
- Flores Flowers tend to be pink or violet and seed colour is variable depending on the variety, with a TKW from 0.80 to 1.30 grams.



Arrowleaf clover

Trifolium vesiculosum

DESCRIPTION

- Well grown plants are semi-erect with thick hollow stems.
- As the name suggests, leaves are arrowshaped with a characteristic white mark, but it can be red or light green also.
- Flowers are long and white but can turn to violet.
- Rough brown seeds with a TKW of 1.15 grams.



FEATURES

- Adapted to a wide range of soils, except for sandy and acidic ones.
- It tolerates perfectly poor drained soils.
- Tolerant to medium salinity conditions.
- High palatability and digestibility, with high forage production.
- High percentage of hard seeds which confers a high persistence.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 12 – 17 kg/ha.

Mix: 1 – 5 kg/ha, depending on the species.

Compatible species: other hard-seeded legumes, persistent grasses, and cover crops.

Inoculant: group C.

VARIETIES

PROLIFIC: mid-early cycle

KYAMBRO: mid-late cycle

FEATURES

- Adapted to most of soil pH, except for high pH clay soils.
- Low tolerance to waterlogging.
- It has a deep root system that allows to stay green and fresh more time than other common forage crops.
- It grows very well in deep sandy soils, particularly those with a water table of 1 to 2 meters.
- It has a high percentage of hard seeds which confers a high persistence.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 4 – 12 kg/ha.

Mix: 2 – 5 kg/ha, depending on the species.

Compatible species: wide range of legumes and forage grasses for different agronomic applications.

Inoculant: group C.

VARIETIES

ZULU II: late cycle

CEFALU: late cycle

Yellow Serradella

Ornithopus compressus

DESCRIPTION

- Deep root system with thin and hairy stems reaching 40 cm height.
- Yellow flowers, with thin and slightly bent pods.
- Rectangular yellow seeds with a TKW from 2,0 to 4,0 grams.



Biserrula

Biserrula pelecinus

DESCRIPTION

- With its prostrated to erect growth habit and hairy stems, it reminds to serradella.
- Small-sized purple flowers in groups of 3 to 5 and long, broad, flat pods.



FEATURES

- Soil improver plant due to its adaptation to low organic matter soils allowing the expansion of rhizobium.
- It prefers well drained acid soils with sandy to silty texture.
- Great performance in low fertility soils and well-structured. It does not tolerate waterlogging.
- High percentage of hard seeds which confers a high persistence.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 6 – 14 kg / ha hulled seed and 1 – 4 Kg/ha unhulled seed.

Mix: 1 – 4 kg / ha hulled seed and 0.5 – 2 Kg/ha unhulled seed, depending on the species.

Compatible species: wide range of legumes and forage grasses.

Inoculant: group G.

VARIETIES

CHARANO: early cycle

SANTORINI: mid-early cycle

FEATURES

- Well adapted to sandy and loamy soils with very low pH.
- Does not tolerate waterlogging.
- Good winter growth, it has a high percentage of hard seeds which confers a high persistence even under intensive grazing.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 3 – 8 kg / ha hulled seed and 1 – 4 Kg/ha unhulled seed.

Mix: 0,5 – 4 kg / ha, depending on the species.

Compatible species: legumes and pasture grasses.

Inoculant: Specific group for Biserrula.

VARIETIES

CASBAH: mid-cycle

MAURO: mid-long cycle

Annual medics

Medicago ssp

DESCRIPTION

- Same genus as alfalfa, commonly known as medick or burclover, they are annual plants with a persistence of 60 to 100 days, producing a high % of hard seeds.
- With more than 35 species, we focus on 5 for agronomic use.
- The vast majority have yellow flowers adapted to dry conditions and high pH.



VARIETIES

PARAPONTO (*rugosa*): mid-early cycle
SAVA (*scutellata*): extra early cycle
KELSON (*scutellata*): early cycle
PARABINGA (*truncatula*): early cycle
PARAGGIO (*truncatula*): mid cycle
JESTER (*truncatula*): mid cycle

CAVALIER (*polymorpha*): mid-early cycle
SCIMITAR (*polymorpha*): mid-early cycle
ANGEL (*litoralis*): mid-early cycle



FEATURES

Medicago rugosa:

- Semi-erect to erect plants.
- Large seeds with a TKW from 6.5 to 12.5 grams.
- Well adapted to heavy soils and alkaline pH, loamy to clayey.
- Does not like waterlogging.

Medicago scutellata:

- Semi-erect to erect plants with hairy stem and leaves.
- Large yellow to brown seeds with TKW from 7.5 to 16.5 grams.
- Well adapted from medium to heavy soils, neutral to alkaline.
- Good producer of high-quality hay.

Medicago truncatula:

- Semi prostrate plant with tillering capacity.
- Barrel-shaped pod with thorns, producing light yellow seeds with a TKW of 4.0 grams.
- It prefers neutral to alkaline soils.
- Excellent performance in dry pastures with low pluviometry.

Medicago polymorpha:

- Prostrated plant producing many branches, with a hairy stem.
- Kidney-shaped and yellowish seeds with a TKW of 3.5 to 4.0 grams.

- Well adapted to clay loam soils and tolerates well waterlogging. Australian books describe it as not tolerant to acid soils, however, tested in several places in western Iberia under low pH conditions with excellent results proves that it does tolerate well acid soils.
- Well adapted to grazing and dry pastures.

Medicago litoralis:

- Prostrate plants with hairy stem and leaves.
- Kidney-shaped and yellowish seeds with a TKW of 2.25 grams.
- It prefers neutral to alkaline soils, low tolerance to aluminum.

SOWING

Sowing date: september to november.

Sowing rate:

Pure: 4 – 12 kg / ha.

Mix: 1 – 4 kg / ha, depending on the species.

Compatible species: legumes and pasture grasses.

Inoculant: AM group.

Perennial legumes

Alfalfa
Alfamed
White clover
Red clover
Strawberry clover
Birdsfoot trefoil
Sainfoin
Sulla



USES AND FEATURES

A set of species where we highlight Alfafa, clovers and some other species which are very interesting for areas of high pluviometry or under irrigation conditions.

Semillas Batlle has a strong knowledge in alfalfa production and develops a R&D program for new varieties which already have excellent results as is the case of our variety Alfamed. **Semillas Batlle** has a huge knowledge working with clovers and other species here described in all the Iberian Peninsula and the Mediterranean basin.

Alfalfa

Medicago sativa

DESCRIPTION

- The most widely sown forage legume in the world with a deep root system.
- Trifoliate leaves slightly toothed and that may present some white marking.
- Erect growth habit reaching till 80 to 90 cm tall.
- Inflorescence white to purple.
- The pod contains one to five small yellow heart-shaped seeds with a TKW from 2.00 to 2.25 grams.



FEATURES

- UA deep root system which can arrive to deep water tables allows a high persistence.
- It shows its full potential under sunny and irrigated areas, deep and well-drained soils, preferably neutral to alkaline.
- High nutritional value for mowing or grazing uses.
- Tolerant to a big range of winter-weed herbicides and very competitive against summer weeds.
- Persistence is determined by the variety chosen, existing pests and weeds, soils and climatic conditions and uses.

SOWING

Sowing date: In autumn from september to november and from march to may in spring.

Sowing rate:

Pure: 20 – 40 kg / ha.

Mix: 2 – 10 kg / ha, depending on the species.

Compatible species: grasses and legumes for pastures under irrigation. Mainly used as unique culture.

Inoculant: Al group.

Alfamed



- Dormancy 8.5.
- Latest “multileaf” genetic development from Semillas Batlle.
- High precocity and excellent regrowth ability which allows cuts every 25-30 days.
- Strong persistence with a profitable management for at least 4-5 years.
- Very resistant to pests and diseases.



Siriver

- Dormancy 9

Aragón

- Dormancy 7,5-8

Capitana

- Dormancy 7-7,5

Victoria

- Dormancy 6-6,5

Campera

- Dormancy 6

Tierra de campos

- Dormancy 5,5-6



White clover

Trifolium repens

DESCRIPTION

- Prostrate plant with highly branched stems, smooth and hairless.
- White to violet flowers with trifoliate leaves.
- Very small brown to yellow seeds, with a TKW of 0.625 grams (more than 1.6 M./Kg).



Red clover

Trifolium pratense

DESCRIPTION

- Perennial plant with erect stems, establishment and regrowth are very fast.
- Trifoliate leaves and large, lance-shaped leaflets with hairs on both surfaces.
- Violet or pink flowers, ending brown when seeds are mature.
- Yellow to purple seeds with a TKW of 1.80 grams.



FEATURES

- Used under irrigation or where the rainfall allows it, it is adapted to a huge range of pH and different soils.
- Good alternative to alfalfa for more acidic pH conditions and waterlogged soils.
- High nutritional value for animal feed, tolerates grazing very well.
- Very resistant to harsh winters, but more susceptible to heat and drought.

SOWING

Sowing date: In autumn from September to November and from March to May in spring.

Sowing rate:

Pure: 5 – 10 kg / ha.

Mix: 0,5 – 8 kg / ha, depending on the species.

Compatible species: grasses and perennial legumes. It has multiple uses, including gardening.

Inoculant: B group.

FEATURES

- It prefers well-drained soils, and pH from acidic to neutral.
- It has better performance in fresh drylands, having a good tolerance to low temperatures.
- It shows its full potential during spring and summer.
- It can be used in permanent dryland pastures, but it is more adapted to mixes with Italian or hybrid ryegrass for short-term crops.

SOWING

Sowing date: In autumn from September to November and from March to May in spring.

Sowing rate:

Pure: 4 – 8 kg / ha.

Mix: 1 – 4 kg / ha, depending on the species.

Compatible species: legumes and grasses for permanent dry pastures, and especially for short-term multi-year crops.

Inoculant: B group.

VARIETIES

HUIA: dwarf type

HAIFA: intermediate type

SUDUVIALI: intermediate type

APIS: giant or ladino type

VARIETIES

ROZETA: diploid

ALTASWEDE: diploid

START: diploid

RAUNIS: diploid

Strawberry clover

Trifolium fragiferum

DESCRIPTION

- Prostrate plant, hairless and with a very deep root system.
- Trifoliate leaves with lance-shaped leaflets.
- Small white to purple flowers.
- Small egg-shaped pods containing 1 or 2 yellow to brown oval seeds with a TKW from 1.15 to 1.30 grams.



Birdsfoot trefoil

Lotus corniculatus

DESCRIPTION

- Semi-erect to erect plants, with strong stems.
- Yellow flowers and long, straight, purplish-red pods.
- Small, round to oval brown seeds with a TKW of 0.5 grams.



FEATURES

- Good results in waterlogged, poorly drained, saline soils and tolerates a long pH range.
- It survives in extreme conditions.
- Great persistence but it has a slow establishment and poor winter grow.

SOWING

Sowing date: In autumn from September to November and from March to May in spring.

Sowing rate:

Pure: 2 – 5 kg / ha.

Mix: 0,25 – 1 kg / ha, depending on the species.

Compatible species: perennial grasses and legumes, for permanent dry pastures and some cover crops. It has multiple uses, including gardening.

Inoculant: B group.

VARIETIES

PALESTINE: larger leaves and more erect growth

O'CONNORS: small leaves, more prostrate and very interesting for lawns with legumes

FEATURES

- Well adapted to different soil conditions but doesn't tolerate very well the presence of aluminum.
- It contains condensed tannins and for this reason it gives the species an unusual antitympanic capacity.
- Slow establishment and also does not tolerate excessive grazing.

SOWING

Sowing date: In autumn from September to November and from March to May in spring.

Sowing rate:

Pure: 2 – 5 kg / ha.

Mix: 0,25 – 1 kg / ha, depending on the species.

Compatible species: perennial grasses and legumes, for permanent dry pastures and some cover crops. It has multiple uses, including gardening.

Inoculant: B group.

VARIETIES

LEO

GRAN SAN GABRIEL

Sainfoin

Onobrychis viciifolia

DESCRIPTION

- Erect growth, hollow hairy stems, which can reach 1 m height and 20 cm width.
- Numerous purple flowers with long, erect stems.
- Hairy pods containing a single yellow to dark brown kidney-shaped seed with a TKW of 14.5 grams.
- Unhulled seeds are generally sold.



Sulla

Hedysarum coronarium

DESCRIPTION

- Characterized as a perennial legume, it is a clearly bi-annual plant.
- A very deep main root, succulent leaves and stems, with a hairy underside.
- Flowers are generally red or pink.
- Cream to light brown seeds, flattened and round-shaped with a TKW from 4.3 to 5.2 grams.



FEATURES

- Well adapted to neutral to alkaline well-drained soils. Does not tolerate waterlogging.
- High quality forage, very similar to alfalfa in palatability and nutritional value.

SOWING

Sowing date: In autumn from September to November and from March to May in spring.

Sowing rate:

Pure: 120 – 130 kg / ha with unhulled seed.

Mix: 5 – 12 kg / ha, depending on the species.

Compatible species: legumes and perennial grasses.

Inoculant: Specific group "Esparceta".

FEATURES

- Adapted to moderately acid soils to alkaline soils.
- Does not tolerate waterlogged or saline soils.
- It contains condensed tannins and for that reason it gives the species an unusual antitympanic capacity.
- Its deep root system allows it to be more green during the spring.
- Produces quality hay and silage, when the vast majority of leaves remain on the stem.

SOWING

Sowing date: From September to November.

Sowing rate:

Pure: 5 – 10 kg / ha with hulled seed or 20-40 kg/ha with unhulled seed.

Mix: 2 – 5 Kg/ha unhulled seed, depending on the species.

Compatible species: species for annual and perennial mixtures, grazing and hay.

Inoculant: Specific group "Zulla".

VARIETIES

ARINOA: mid cycle, high output



COMUN: mid cycle

VARIETIES

CARMEN: mid cycle
S. Omero: mid cycle

GRIMALDI: mid cycle



Other species

Pasto Siambasa
Loei
Crescent Sunn
Teff
Fodder radish
Forage Chicory
Quinoa
Mustard
Phacelia

USES AND FEATURES

According to our spirit of search for innovative and dynamic new forage solutions, **Semillas Batlle** is introducing new species to satisfy all our customer needs ranging from livestock fodder production, pest control, hydroseeding, landscape solutions or biodiverse covers for pollinators.

Pasto Siambasa



Panicum maximum

DESCRIPTION

- Belonging to the grass family with an excellent relation between productivity and quality.
- An excellent alternative both to agricultural and animal farms since it is a plant that produces with high yields with an excellent nutritional quality, reaching high protein fiber, energy and digestibility values.
- Easy to manage, it can be cut with high temperatures conditions, without losing the quality because of leaves falling.
- It has 80% of leaves and it can be used for hay, silage or grazing.



PASTO SIAMBASA



Vegetative Cycle:
Depends on the region.



High:
1,2 - 1,6 m.



Growth:
Erect and good
tillering capacity



Growth season:
Hot season.



Dissemination:
Seeds.

FEATURES

- High forage yields.
- Rustic plant.
- Tolerant to salinity conditions.
- Resistant to plagues and diseases.
- Excellent relation stem-leaves, near to 80 % of leaves.
- High digestibility "in vitro" near to 80 %.
- Protein content of 14 % to 16 %.
- Adapted to hay, silage or grazing production.

Soils: Deep, well drained. Sandy or loamy.

Drought tolerance: High.

Frozen tolerance: Low.

Salinity tolerance: High.

Waterlogging tolerance: Very low.

Total dry matter: 16.000 to 21.000 kg of DM / ha.

Palatability: Excellent.

Toxicity: Does not have.

SOWING

Sowing season: Since the beginning of the hot weather.

Sowing rate: 10 kg / ha.

Sowing profundity: 1-2 cm.

Observations: Forage production.

Loei & Crescent Sunn



Crotolaria juncea

DESCRIPTION

- Belonging to the legume family, the animal production is the animal feeding.
- The quick establishment and (48 - 72 h) growing are the main qualities that permits a good competition with weeds.



LOEI (Forage)



Vegetative Cycle:
Annual, from 8 to 10 weeks.



High:
1,8 - 2,00 m.



Growth:
Erect.



Growth season:
Hot season.



Dissemination:
Seeds.

FORRAGE USE

- High contain of protein and energy.
- Complete nutritional table.
- High plan y vegetal production.
- For silage use, preferentially.
- Low water requirement.
- Low fertilization need.
- Quick establishment.
- Excellent nutritional quality.
- Very high dry matter production.

Soils: Deep, well drained. Sandy or loamy.

Drought tolerance: High.

Frozen tolerance: Low.

Salinity tolerance: Medium - high.

Waterlogging tolerance: Very low.

Total dry matter: 8.000 - 12.000 kg of DM/ha.

Palatability: Excellent.

Toxicity: Does not have.

SOWING

Sowing season: Since the beginning of the hot weather.

Sowing rate: 30 - 40 kg / ha.

Sowing profundity: 1-2 cm.

Vegetative cycle and high:

Short cycle of 7 to 9 weeks.

Can reach 2,30 m high.

Observations: Forage production.



CRESCENT SUNN (Cover crops)



Vegetative Cycle:
Annual, from 8 to 10 weeks.



High:
1,8 - 2,00 m.



Growth:
Erect.



Growth season:
Hot season.



Dissemination:
Seeds.

COVER CROPS USE

- Nematode control of different families.
- Complete nutritional table.
- Erosion control both water and eolic.
- Bad weeds control.
- Micro porosity soil increase.
- Fungal soil attack control.
- Big quantities of nitrogen fixation, besides phosphorous and potassium.
- Organic matter incorporation, of quick mineralization type
- Auxiliar fauna increase.

Soils: Deep, well drained. Sandy or loamy.

Drought tolerance: High.

Frozen tolerance: Low.

Salinity tolerance: Medium - high.

Waterlogging tolerance: Very low.

Total dry matter: 5.000 - 7.000 kg of DM/ ha.

Palatability: Excellent.

Toxicity: Does not have.

SOWING

Sowing season: Since the beginning of the hot weather.

Sowing rate: 30 - 40 kg / ha.

Sowing profundity: 1-2 cm.

Vegetative cycle and high:

Short cycle of 6 to 8 weeks.

Can reach 1,80 m high.

Observations: Use for cover crops and forage.

Teff

Eragrostis teff

DESCRIPTION

- Annual summer grass, fast growth and with regrowth capacity.
- Also called as summer ryegrass.
- Height 70-90 cm.



Fodder radish

Raphanus sativus

Excellent specie for cover crops

DESCRIPTION

- Cruciferous of good productivity.
- Quick establishment.
- Very competitive, that permits a good control of bad weed.
- Biocide and soil structuration.



FEATURES

- Adapted to a wide range of soil conditions.
- 2-3 annual cuts depending on the sowing date. 6-10 Tm/DM Ha.
- High productive in fertile soils, but good yields can be achieved in poor soils.
- Drought tolerant although it prefers easy water availability..

SOWING

Sowing date: from April till beginning of summer. Frost temperatures should be avoided.

Sowing rate:

Pure: 6 – 10 kg/ha.

USES

- Green sideration.
- Nitrogen fixation and water cycle improvement.
- Soil structure improvement.
- Rises the organic matter level.
- Erosion protection.
- Biofumigant.

SOWING

Sowing date: from January to February and August to September in the Iberian Peninsula.

Sowing rate: 18 – 25 kg/ha

VARIETIES

HAYMORE: forage oriented, it is a high productive and resistant variety

VARIETIES

**DOUBLET
AKIRO**

Forage Chicory

Cichorium intybus

DESCRIPTION

- Perennial compositae plant and very suitable for grazing pastures.



FEATURES

- Very appetizing vegetation, with high digestibility, implantation and rapid growth.
- Plant very rich in minerals.
- It allows intensive grazing.
- Tolerates well waterlogged soils.
- Maximum production in winter and spring, it is very suitable for dairy cattle.
- We recommend to mix with fescue and ray grass to have more fiber, it also combines well with white clover.

SOWING

Sowing date: In autumn from September to November and in spring from March to May.

Sowing rate:

Pure: 6 – 8 kg/ha.

Mix: 0,3 – 0,5 kg/ha, depending on species.

Compatible species: different grasses and legumes for plurianual crops.

VARIETIES

SPADONA: mid cycle

Quinoa

Chenopodium quinoa

DESCRIPTION

- Medium-tall plant from 80 to 110 cm.
- Compact intermediate inflorescence.



FEATURES

- Pseudocereal ideal for healthy human food.
- Excellent general health.
- It responds very well to irrigation and fertile soils.

SOWING

Sowing date: february to April, depending on the area.

Sowing rate:

Pure: 8 – 10 kg/ha.

Mix: not applicable.



VARIETIES

REGALONA: mid-cycle with white grain

Mustard

Sinapsis alba

DESCRIPTION

- Medium-tall plant, 100 to 130 cm tall.
- Plant with vigorous vegetation, very easy to grow.
- Fast initial development.
- Excellent general health.



Phacelia

Phacelia tanatecifolia

DESCRIPTION

- Very adaptable to different soil and climate conditions.
- For fresh pastures and fresh drylands.



FEATURES

- It acts as a biocide against soil nematodes.
- Soil texture improver.
- As a cover crop, it prevents erosion and soils nitrogen leaching.
- Melliferous plant favors the proliferation of beneficial insects.
- Very suitable for weed control.

SOWING

Sowing time: August to September and from February to April, depending on the area.

Sowing rate:

Pure: 20 – 25 kg/ha.

Mix: 2 – 10 kg/ha, depending on the species and agronomic intention.

Compatible species: Phacelia, strigosa oat, raphanus, etc.. (Generally biocidal and melliferous species).

FEATURES

- Planta Annual plant of high melliferous value.
- Abundant and persistent flowering.
- Fast initial growing.

SOWING

Sowing time: february to April.

Sowing rate:

Pure: 8 – 10 kg/ha.

Mix: 1 – 5 kg/ha, depending on the species and agronomic intention.

Compatible species: the whole range of melliferous species (white mustard, turnips, sainfoin, vetches, etc..).



VARIETIES

PIRAT: fast initial development, medium maturation and medium-late flowering

ZLATA: fast initial development, medium maturation and medium-late flowering



VARIETIES

COMMON



06

FORAGE MIXTURES

Battle's annual

Battle's multiannual

Battle GOLD

Battle's rainfed pastures

Battle's irrigated pastures

Battle's cover crops

Battle's bioagriculture



Premium forage mixtures

GENERAL CONCEPTS

INTELLECTUAL PROPERTY

Semillas Batlle as a breeder protects its varieties **PBR's** ("Plant breeders' rights") that may be marketed or produced through a formal agreement with other entities.

This allows the use of their own differentiated, exclusive genetics adapted to the edaphoclimatic conditions found throughout the Iberian Peninsula.

HARD SEEDED PLANTS

Plants whose seeds in which the coat is hard and impervious to moisture and which therefore germinate slowly unless mechanically or chemically treated. The varieties of high hardness are agronomic alternatives for permanent rainfed pastures, plant covers and other long-term crops, which have a high persistence over the years, without the possibility of irrigation.

NUMBER OF PLANTS PER SURFACE

Thousand kernel weight (TKW) may vary for each species and can be different even between varieties. It is fundamental to ensure the number of sufficient plants per hectare, and at the same time maintain the balance between the species to allow the intended biodiversity.



ADVANTAGES OF BIODIVERSE FORAGE MIXTURES

ADAPTABILITY

Biodiversity oriented to the soil type, climate, and agronomic purpose, has a greater probability of success than a monoculture. At the same time, biodiverse mixtures are more likely to ensure satisfactory production in adverse climatic years.

SUPERIOR NUTRITIONAL QUALITY

Biodiverse mixtures present a higher quality in protein, digestibility, energy, and nutritional balance.

LEGUMES CONTRIBUION

Legumes guarantees the fixation of atmospheric nitrogen, an additional supply of protein and a forage nutritional balance. Inoculation with specific rhizobium, allows to enhance this contribution, due to the symbiosis between the plant and the bacteria.

AHORRO EN ABONO NITROGENADO

Less nitrogen fertilizer (N) is required for annual crops but in the case of rainfed pastures, pastures, irrigated land and long-term cover crops, no nitrogen fertilizer is needed. A long-term permanent crop, when in full production, can provide per hectare more than 100 units of nitrogen in dry land and more than 250 units of nitrogen in irrigated areas, always if legumes are present in sufficient quantity.



LEGUME INOCULATION IN PREMIUM MIXTURES

LEGUME INOCULATION

Semillas Batlle inoculates its legume seeds with specific strains of rhizobium, for each species. The symbiosis that is generated immediately after the germination of the plant guarantees high rates of fixation of atmospheric nitrogen. At sowing, it is recommended that the soil has a temperature above 10°C, for an effective beginning of the symbiosis.

BENEFITS OF LEGUMES INOCULATION

Improved soil fertility and structure, increased water retention capacity and high carbon sequestration, due to increased forage production.

GENERAL AGRONOMIC RECOMMENDATIONS FOR FORAGE MIXTURES

SOWING DATE

Generally during autumn, as early as possible, from September to mid-November, warm soil (recommended minimum of 10°C). Exceptions are irrigated crops that can also be sown in spring, between February and the end of April.

SOIL PREPARATION

Very superficial (maximum 15-20 cm). The soil must be well discarded and regular, to prevent the seed from being too buried.

FERTILIZATION

It depends on the type of mixture but also the soil conditions. A soil analysis is very important to make a correct fertilization plan. The main elements are nitrogen (N), phosphorus (P_2O_5) and potassium (K_2O). Exception for permanent mixtures rich in legumes, which, if sowed appropriately, do not require nitrogen (N).

SOWING RATE

Respect the recommended quantity for each type of mixture, we should avoid grasses shading legumes, which generally present a slower implantation. A correct sowing rate helps to avoid competition between different species.

SOWING METHOD

Broadcast or in lines, so that the seed is well distributed. Direct seeding, whenever possible, is a viable alternative.

SOWING DEPTH

Maximum 1.0 to 1.5 cm, seed properly covered by soil.

SOIL SCROLLING

Very important operation to cover the seed and a uniform depth. Toothed roller, with independent discs, is the recommended machine for the operation.



Batlle's annual

- Batlle's annual grazing/cutting
- Batlle's annual single cut
- Batlle's annual strigosa
- Batlle's annual forridena
- Batlle's annual triticale
- Batlle's annual barley
- Batlle annual protein

USES AND FEATURES

Semillas Batlle has a wide range of species and varieties that have made it possible to develop well-adapted annual forage mixtures in different climate and soil conditions and adapted to the different agricultural forms of use and livestock farms.

Very productive annual mixtures, of high nutritional quality and adaptation to the needs of agricultural producers, are a guarantee of excellent forage production.

Batlle's annual grazing / cutting

DESCRIPTION

- Range of mixtures based on annual grasses and legumes focused to get high performances and a fast implantation. The high regrowth capacity allows choosing between a final cut or grazing it till the end.



MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: N: 25 to 50 units; P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Top dressing: N: 40 to 60 units after each cut or grazing (between november and january).

First grazing: when the soil allows it, ryegrass should have 8 to 10 leaves.

Final cut: cattle must be removed to produce sufficient forage. The ideal date when 30 to 40% of the legumes are in bloom.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
6.000-12.000 kg the DM/ha	16-22%	0,80-0,95 kg/DM	60-80 % of the DM

AVAILABLE MIXTURES

ACID SOILS: sowing rate: 30-35 kg/ha

SANDY SOILS: sowing rate: 35-40 kg/ha

NEUTRAL/ALKALINE SOILS: sowing rate: 35-40 kg/ha

NORTHERN PENINSULA: sowing rate: 30-35 kg/ha

Battle's annual single cut

DESCRIPTION

- Range of mixtures based on annual grasses and legumes focused to get high performances and a fast implantation to get a high forage yield in final cut.



Battle's annual strigosa

DESCRIPTION

- Range of mixtures based on black oat (strigose), annual grasses and legumes focused to get high performances and a fast implantation to get a high forage yield in a final cut.



MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: N: 25 to 50 units; P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Top dressing: N: 40 to 60 units after each cut or grazing (between november and january).

Possible first grazing: when the soil allows it, only for a weed control purpose; ryegrass should have 8 to 10 leaves.

Final cut: the ideal date when 30 to 40% of the legumes are in bloom.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
6.000-13.000 kg the DM/ha	11-20%	0,60-0,75 kg/DM	55-70 % of the DM

MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: N: 25 to 50 units; P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Top dressing: N: 40 to 60 units after each cut or grazing (between november and january).

Possible first grazing: when the soil allows it, only for a weed control purpose; ryegrass should have 8 to 10 leaves.

Final cut: the ideal date when 30 to 40% of the legumes are in bloom.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
7.000-14.000 kg the DM/ha	11-16%	0,60-0,75 kg/DM	55-70 % of the DM

AVAILABLE MIXTURES

ACID SOILS: sowing rate: 35-40 kg/ha

SANDY SOILS: sowing rate: 35-40 kg/ha

NEUTRAL/ALKALINE SOILS: sowing rate: 35-40 kg/ha

NORTHERN PENINSULA: sowing rate: 35-40 kg/ha

AVAILABLE MIXTURES

ACID SOILS: sowing rate: 40-45 kg/ha

SANDY SOILS: sowing rate: 40-45 kg/ha

NEUTRAL/ALKALINE SOILS: sowing rate: 40-45 kg/ha

NORTHERN PENINSULA: sowing rate: 40-45 kg/ha

Battle's annual forridena

DESCRIPTION

- Range of mixtures based on Forridena common oat, annual grasses and legumes focused to get high performances and a fast implantation to get a high forage yield in a final cut.



Battle's annual triticale

DESCRIPTION

- Range of mixtures based on forage triticale, annual grasses and legumes focused to get high performances and a fast implantation to get a high forage yield in a final cut.



MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: N: 25 to 50 units; P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Top dressing: N: 40 to 60 units after each cut or grazing (between november and january).

Possible first grazing: when the soil allows it, only for a weed control purpose; ryegrass should have 8 to 10 leaves.

Final cut: the ideal date when 30 to 40% of the legumes are in bloom.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
5.000-12.000 kg the DM/ha	11-16%	0,60-0,75 kg/DM	55-70 % of the DM

MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: N: 25 to 50 units; P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Top dressing: N: 40 to 60 units after each cut or grazing (between november and january).

Possible first grazing: when the soil allows it, only for a weed control purpose; ryegrass should have 8 to 10 leaves.

Final cut: the ideal date when 30 to 40% of the legumes are in bloom.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
6.000-12.000 kg the DM/ha	11-20%	0,60-0,75 kg/DM	55-70 % of the DM

AVAILABLE MIXTURES

ANNUAL FORRIDENA: sowing rate: 60-70 kg/ha

AVAILABLE MIXTURES

ACID SOILS: sowing rate: 65-70 kg/ha

SANDY SOILS: sowing rate: 65-70 kg/ha

NEUTRAL/ALKALINE SOILS: sowing rate: 65-70 kg/ha

NORTHERN PENINSULA: sowing rate: 65-70 kg/ha

Battle's annual barley

DESCRIPTION

- Range of mixtures based on forage barley, annual grasses and legumes focused to get high performances and a fast implantation to get a high forage yield in a final cut.



Battle annual protein

DESCRIPTION

- Based on common vetch, hairy vetch, forage peas and different annual clovers, of quick establishment, for a high forage production to a final cut and/or cover crops for fertility recovering.



MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: N: 25 to 50 units; P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Top dressing: N: 40 to 60 units after each cut or grazing (between november and january).

Possible first grazing: when the soil allows it, only for a weed control purpose; ryegrass should have 8 to 10 leaves.

Final cut: the ideal date when 30 to 40% of the legumes are in bloom.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
6.000-12.000 kg the DM/ha	11-18%	0,55-0,70 kg/DM	55-70 % of the DM

MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Final cut: the ideal date when 30 to 40% of the legumes are in bloom.

Green sideration: to soil incorporation.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
5.000-10.000 kg the DM/ha	14-21%	0,65-0,75 kg/DM	60-75 % of the DM

AVAILABLE MIXTURES

ACID SOILS: sowing rate: 75-80 kg/ha

SANDY SOILS: sowing rate: 75-80 kg/ha

AVAILABLE MIXTURES

BATTLE ANNUAL PROTEIN: sowing rate: 75-80 kg/ha



Battle's multiannual

Battle's multiannual
Battle's forestry

USES AND FEATURES

Semillas Batlle has developed mixtures for forage uses with a persistence of 2 to 5 years and forest mixtures with a persistence of 2 to 3 years. Thus, for the first case, forage solutions are sought for grazing or cutting in the most humid areas of the Iberian Peninsula; for the second case, marginal forest soils recovery crops for those which have been deforested and we seek to improve their fertility.

Battle's multiannual

DESCRIPTION

- Range of mixtures based on annual and multiannual grasses and legumes, intended for areas with more than 800 mm of rainfall, or for irrigation. Specially elaborated for the North of the Iberian Peninsula, for a high forage production with multiple cuts and eventually grazing.



MANAGEMENT

Sowing date: at fall from september to november, and in spring from february to april.

Establishment: N: 25 to 50 units; P₂O₅: 50 to 90 units; K₂O: 50 to 90 units.

Top dressing: N: 40 to 60 units after each cut or grazing (between november and january or between may and july, depending on its performance).

First cut or grazing: when the soil allows it, ryegrass should have 8 to 10 leaves. This cut should help us for a weed control and mixture homogenization purpose.

Cuts and grazing: crop implantation occurs during the first year, and the cuts cadence may occur in intervals of 2 to 3 months with a huge sensibility of weather fluctuations.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
9.000-15.000 kg the DM/ha	16-20%	0,80-0,95 kg/DM	60-80 % of the DM

AVAILABLE MIXTURES

2 YEARS: sowing rates of 30 to 35 kg/ha

3 YEARS: sowing rates of 30 to 35 kg/ha

4 YEARS: sowing rates of 30 to 35 kg/ha

Battle's forestry

DESCRIPTION

- Range of formulas based on yellow lupin and annual legumes, fertility precursors. Those mixtures are designed for forest areas which are recovering from shrubs and weeds. Generally, after a cleaning, they allow a subsequent installation of a permanent culture.



MANAGEMENT

Sowing date: autumn, from september to november.

Establishment: P₂O₅: 30 to 50 units; K₂O: 30 to 50units.

With **annual or biannual** duration, the intention is to increase the soil's organic matter. Possibility of grazing, but preferably it should be left to rest during the first spring for green manure. Some seed produced during that period may be left for a second year.

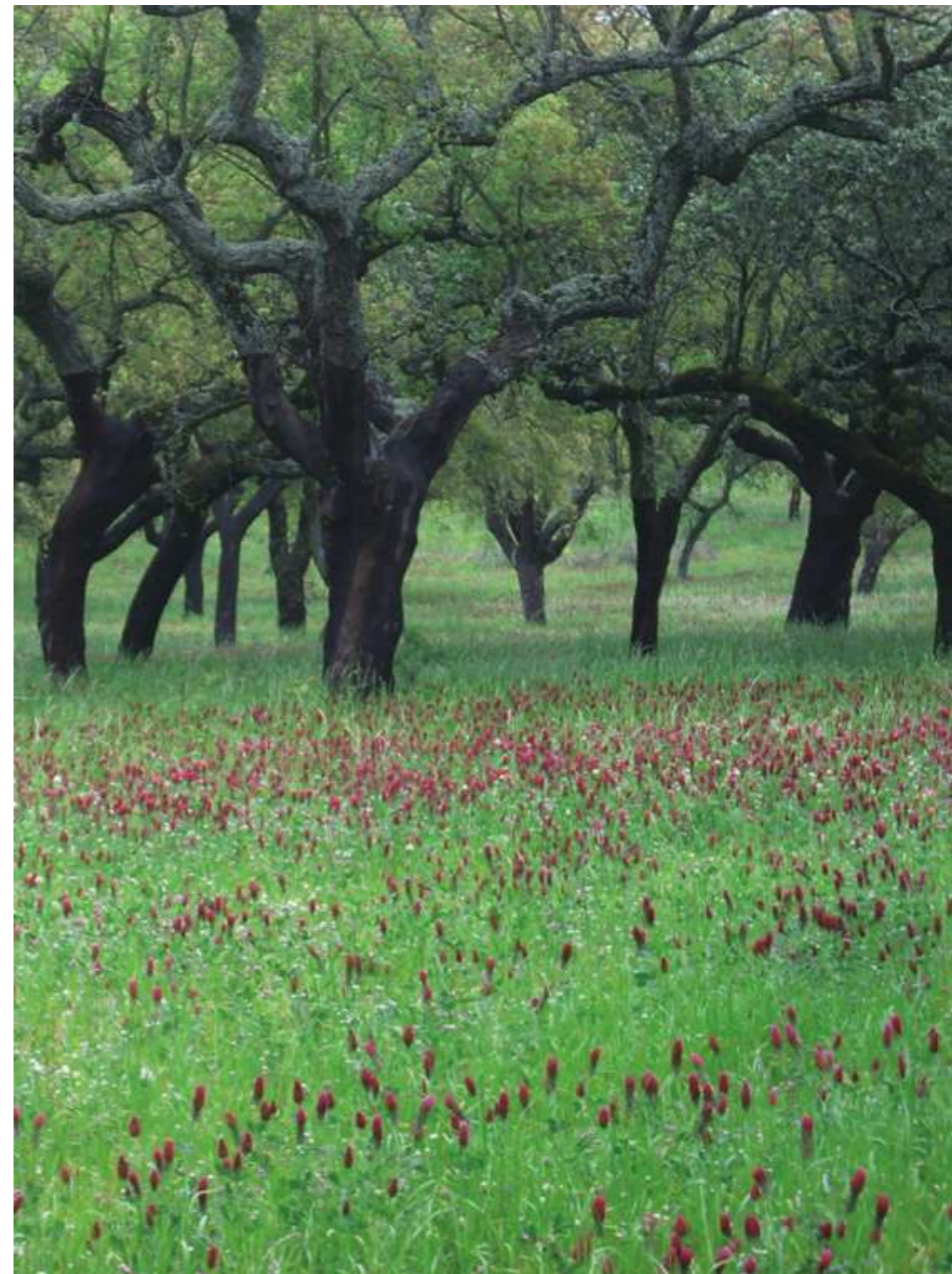
EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN
3.000-9.000 kg the DM/ha	11-15%

AVAILABLE MIXTURES

ACID TO NEUTRAL SOILS: sowing rates of 35 to 40 kg/ha

SANDY SOILS: sowing rates of 35 to 40 kg/ha





Battle GOLD

Range of forage mixtures with 100% of ryegrass

USES AND FEATURES

Based exclusively on ryegrass, at least with 2 diploid varieties and 2 other ones tetraploid for alternative use of ryegrass as extreme crop.

Battle GOLD

DESCRIPTION

– Range of mixtures based on different types of tetraploid and diploid ryegrasses, from high quality varieties, that assure high yields and quick establishment. Battle’s genetics of wester, italian and hybrid ryegrasses are the guarantee of adaptability to the different soil and climatic of the Iberian Peninsula.



MANAGEMENT

Sowing season: autumn, from september to november (exceptionally also in spring to the Battle GOLD hybrid/perennial, from february to april).

Establishment: 35 a 70 units of N; 50 a 90 units of P₂O₅; 50 a 90 units of K₂O.

Top dressing: 50 to 80 units of N after each cut and/or grazing (between november and january or between may and july, depending on the yields).

First cut /grazing: when the soil allows, with the ryegrass with 8 to 10 leaves. This cut also is used to bad weed control and mixture homogeneity.

Cuts and grazing: the crop implementation occurs during first year, and the cuts/grazing it may be made in 2 to 3 months interval, depending on the climatology evolution.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
6.000 -12.000 kg the DM/ha	10-15%	0,60-0,80 kg/DM	50-70 % of the DM

AVAILABLE MIXTURES

GOLD WESTER (2 wester ryegrass 4n + 2 wester ryegrass 2n): sowing rate of 30-40 kg/ha
GOLD WESTER ITALIAN (wester ryegrass 4n and 2n + italian ryegrass 4n and 2n): sowing rate of 30-40 kg/ha

GOLD ITALIAN HYBRID (italian ryegrass 4n and 2n + hybrid ryegrass 4n and 2n): sowing rate of 25-35 kg/ha

GOLD HYBRID PERENNIAL (hybrid ryegrass 4n and 2n + perennial ryegrass 4n and 2n): sowing rate of 25-35 kg/ha



Battle's rainfed pastures

Permanent rainfed pastures

Long-term pastures, **Semillas Batlle** offers a wide variability of mixtures, duly adapted to the different soil and weather conditions in the Iberian Peninsula.

RAINFED PASTURES it is the best solution to produce long-lasting quality grazing grass.

A rigorous choice of the most adapted, persistent, and productive varieties is the guarantee of grass of high quality, energy and digestibility, but also improving the soil structure by increasing its organic matter, reducing erosion and improving the water retention.

Battle's rainfed pastures

MANAGEMENT OF RAINFED PASTURES

- To ensure a long persistence of the rainfed pasture, the management is divided into the first year, the second year and the following years.



FIRST YEAR MANAGEMENT

Sowing date: in autumn, from september to november. The soil must maintain a temperature above 10°C for the symbiosis between the legumes and the rhizobium incorporated in the seed to be effective.

Establishment: P₂O₅: 50 to 90 units; K₂O: 50 to 90 units. Soil tests are a very important tool for a more efficient fertilization plan.

Grazing could begin in autumn: when conditions allows it, it should be short and with a large amount of livestock for weed removal.

Spring flowering: when first flowers are observed, pastures should be reserved with no animals to create all the seed necessary for the next few years. In this way, there will be an abundant seed bank that guarantees a long persistence.

Dry grass: by animal grazing, dry grass created during spring should completely disappear before the first rains of next autumn. In this way, the emergence of the new plants will not find obstacles for their development.

SECOND AND FOLLOWING YEARS MANAGEMENT

Rotational grazing: when the plants are large enough after the first autumn rains.

Dry grass removal: by animal grazing, dry grass created during spring should completely disappear before the first rains of next autumn. In this way, the emergence of the new plants will not find obstacles for their development.

Top dressing fertilization: can be done annually or every 2 years, usually with P_2O_5 20 to 40 units and K_2O 20 to 40 units annually. A long-term, permanent rainfed crop with an abundant presence of legumes can contribute at least with 100 units per hectare of nitrogen, increasing soil fertility and nutrients absorption by other species.

EXPECTED YIELD

Soil and climate conditions, as well as meadow age, greatly influence the yields and qualitative capacity of a permanent rainfed mix. The intervals presented are, for that reason, wide and diverse.

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
3.000-12.000 kg the DM/ha	7-20%	0,50-0,95 kg/DM	50-70 % of the DM

AVAILABLE MIXTURES

ACID SOILS: sowing rate of 25-30 kg/ha

BATLLE RAINFED PASTURES ACID SOILS < 550 MM

BATLLE RAINFED PASTURES ACID SOILS 550 - 850 MM

BATLLE RAINFED PASTURES ACID SOILS MORE THAN 850 MM

NEUTRAL SOILS: sowing rate of 25-30 kg/ha

BATLLE RAINFED PASTURES NEUTRAL SOILS < 600 MM

BATLLE RAINFED PASTURES NEUTRAL SOILS MORE THAN 600 MM

ALKALINE SOILS: sowing rate of 25-30 kg/ha

BATLLE RAINFED PASTURES ALKALINE SOILS < 600 MM

BATLLE RAINFED PASTURES ALKALINE SOILS MORE THAN 600 MM

PARTICULAR SOILS: sowing rate of 25-30 kg/ha

BATLLE RAINFED PASTURES SANDY SOILS

BATLLE RAINFED PASTURES WATERLOGGED SOILS

LEGUMES: sowing rate of 20-22 kg/ha

BATLLE RAINFED PASTURES ACID LEGUMES

BATLLE RAINFED PASTURES SANDY LEGUMES

BATLLE RAINFED PASTURES LEGUMES

NEUTRAL / ALKALINE

SPECIFIC AREAS

BATLLE RAINFED PASTURES CASTILLA-LEÓN: sowing rate of 30-35 kg/ha

BATLLE RAINFED PASTURES DEHESA DE SEVILLA: sowing rate of 18-22 kg/ha





Battle's irrigated pastures

Permanent rainfed pastures

Long-term pastures, **Semillas Batlle** offers a wide variability of mixtures, duly adapted to the different soil and weather conditions in the Iberian Peninsula.

MASPRADO REGADÍO it is the best solution to produce long-lasting quality grass which will be managed for grazing or combined with some cuts in certain moments in spring and / or summer.

A rigorous choice of the most adapted, persistent and productive varieties is the guarantee of grass of high quality, energy and digestibility, but also improving the soil structure by increasing its organic matter, reducing erosion and improving the water retention.

Battle's irrigated pastures

- To ensure a long persistence of the irrigated pasture, the following operations must be ensured:



Sowing time: at fall from september to november, and at spring from February to may, depending on the geographical areas. The soil must maintain a temperature above 10°C so that the symbiosis between the legumes and the rhizobium incorporated in the seed is effective.

Establishment: P₂O₅ 70 to 120 units and eventually K₂O 70 to 120 units. Soil tests are a very important tool for a more efficient fertilization plan.

Beginning of grazing at fall: When soil conditions are appropriate, grazing should be short and with a large amount of for weeds removal.

Intermittent or rotational grazing: when plants are large enough after the first autumn rains.

Top dressing fertilization: can be done annually or every 2 years, usually with P₂O₅ 30 to 60 units and K₂O 30 to 60 units annually. A long-term, permanent irrigated crop with an abundant presence of legumes can contribute at least with 200 units of nitrogen per hectare, increasing soil fertility and nutrients absorption by other species.

EXPECTED YIELD

EXPECTED YIELDS	CRUDE PROTEIN	UFL	DIGESTIBILITY
12.000-20.000 kg the DM/ha	15-25%	0,70-0,95 kg/DM	55-75 % of the DM

AVAILABLE MIXTURES. Sowing rate of 25-30 kg/ha

- BATLLE IRRIGATED PASTURES ACID SOILS
- BATLLE IRRIGATED PASTURES NEUTRAL/ALKALINE SOILS
- BATLLE IRRIGATED PASTURES MOUNTAIN AREAS
- BATLLE IRRIGATED PASTURES HORSES



Battle's cover crops

Semillas Batlle has developed a wide range of mixtures considering the benefits it can bring to a main crop.

A rigorous choice of the most adapted and persistent varieties is a guarantee that the cover crop will improve the soil structure, increase its fertility and the organic matter, reduce the erosion and improve the water retention.

Machinery access to the main crop will be improved too.

Battle's cover crops

COVER CROPS MANAGEMENT

- To ensure a long persistence of the cover crop, management is divided into the first year, the second year and the following years:



FIRST YEAR MANAGEMENT

Sowing time: in autumn, from September to November. The soil must maintain a temperature above 10°C so that the symbiosis between the legumes and the rhizobium incorporated in the seed is effective.

Spring blossom: only in the first year, cover crop should be reserved to create a seed bank, which will guarantee a long persistence.

Dry grass removal: by mechanical action, dry grass created during the spring should completely disappear, before the first rains of next autumn. In this way, the emergence of the new plants will not find obstacles for their development.

SECOND AND FOLLOWING YEARS MANAGEMENT

Dry grass removal: by mechanical action, dry grass created during the spring should completely disappear, before the first rains of next autumn. In this way, the emergence of the new plants will not find obstacles for their development.

AVAILABLE MIXTURES. Sowing rate of 20-25 kg/ha

BATLLE VINEYARD COVER CROPS
BATLLE OLIVE GROVE COVER CROPS
BATLLE FRUIT ORCHARD COVER CROPS
BATLLE FORESTRY COVER CROPS

Battle's bioagriculture

Current issues related to conserving the environment, climate change, landscape design and new agronomic technologies, bring new challenges for agriculture.

Some of the forage species that **Semillas Batlle** develops and trades have a new role in controlling pests and weeds, improving the soil's water retention, increasing the fauna and biodiversity, with special relevance for beneficial insects that are essential for pollination and pest control of our crops.

Battle's bioagriculture

- Semillas Batlle has developed a wide range of forage and pasture mixtures with the ability to provide benefits in other areas of agriculture.



Mixtures for rotations: allows rotations with main crops which may benefit from them.

Mixtures for pollinators: their main purpose is to increase the population of beneficial pollinating insects in the ecosystem.

Mixtures for pest and disease control: helps to reduce / eliminate harmful pests and diseases, favoring biological control.

Mixtures for landscaping: aimed to improve the landscape environment, both rural and urban.

Mixtures for hydroseeding: seed mixtures adapted to this technique, to achieve easier and faster sowing. They ensure greater germination and therefore more possibilities of revegetation.

AVAILABLE MIXTURES

BATLLE BIOROTATIONS: ask our technicians

BATLLE POLLINATORS: ask our technicians

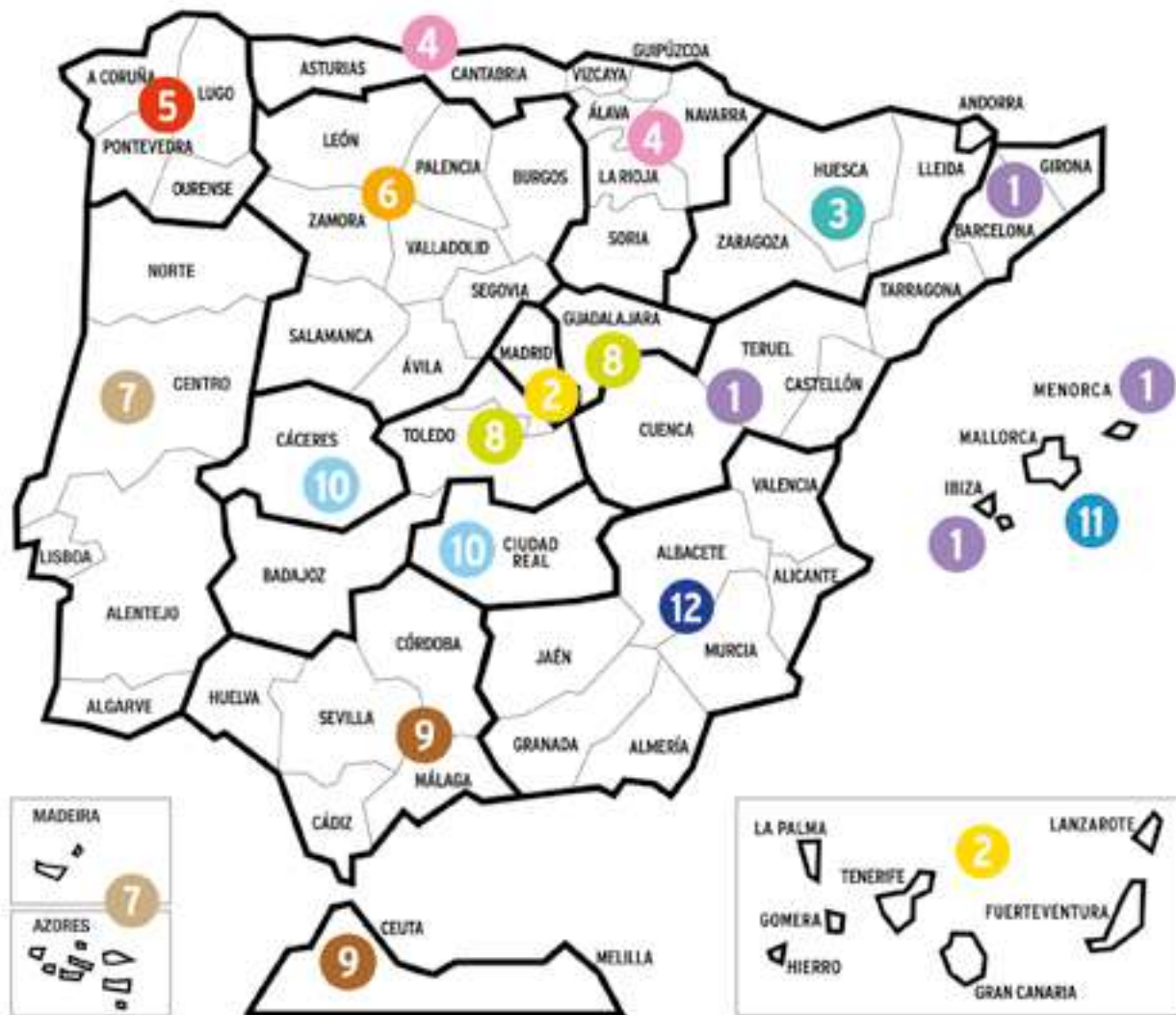
BBATLLE PEST CONTROL: ask our technicians

BATLLE LANDSCAPE: ask our technicians

BATLLE HYDROSEEDING: ask our technicians



SALES NETWORK



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