General Catalogue 2023/24

PADANA SEMENTI®

MAKING BETTER SEEDS

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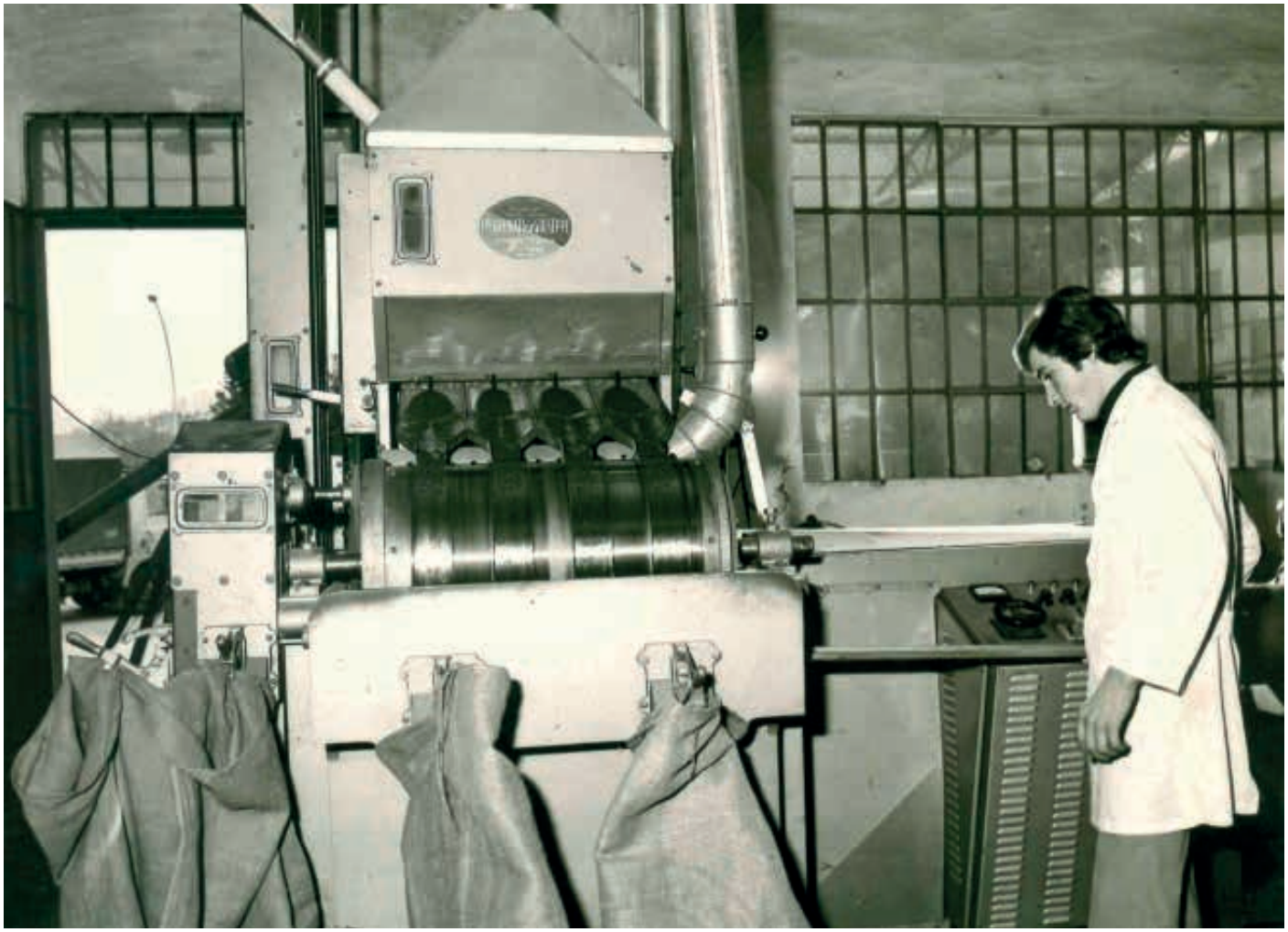


Our history…

It was the early twentieth century, when the Frigo family had the intuition that the population would need green fields and bucolic meadows. It was then that the first seed was planted. **More than a century has gone by since then, as well as four generations**.

Thanks to their constant commitment, **PADANA SEMENTI** has developed and expanded its product range over the years, promptly responding to new market needs and paying increasing attention to sustainable agricultural management.

“Making Better Seeds”

Is our daily mission to bring us into the future, to improve ourselves and the world.

Research...

We allocate constant investments to company experimentation and to collaborations with research organisations, in order to constantly improve and update our selection and our competences in every sector.

Quality control...

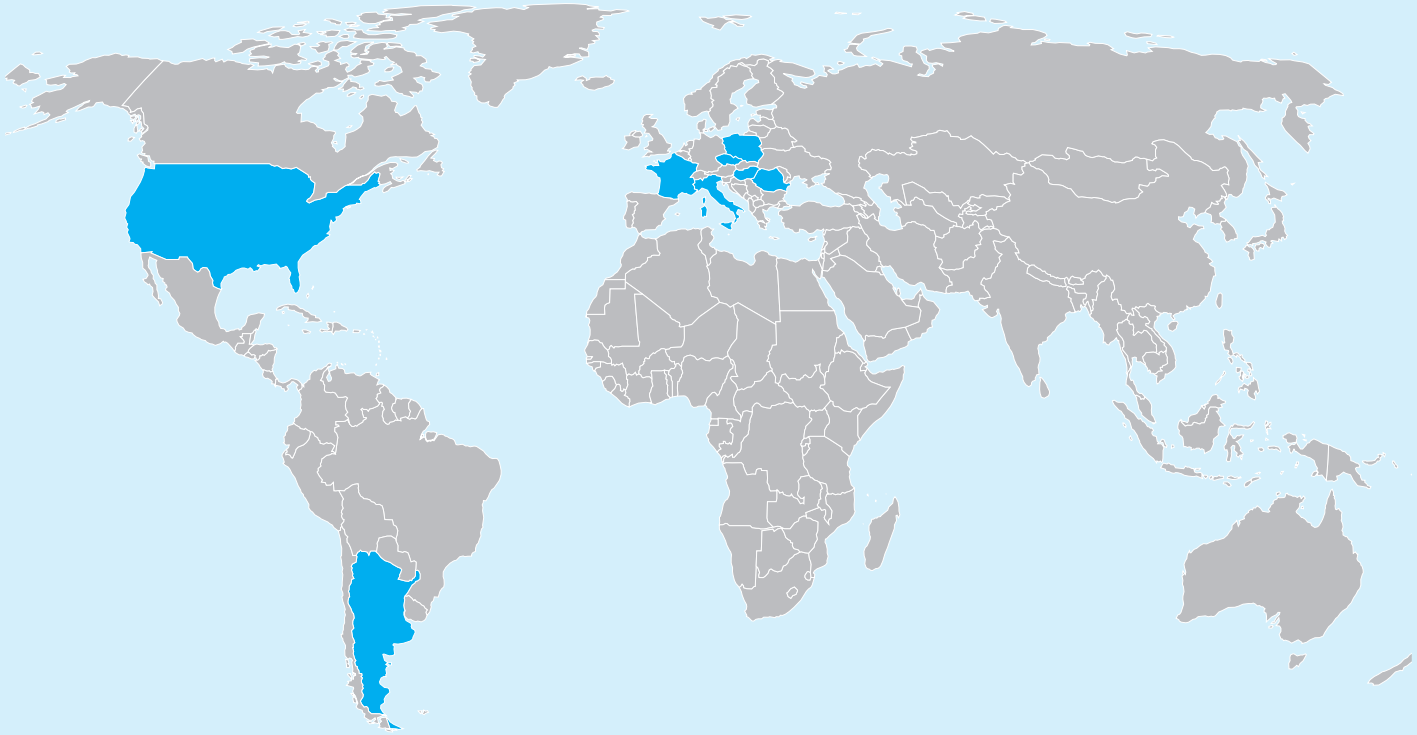
It takes place at two levels: in all production and business processes thanks to the ISO 9001 certified management system, and in every single batch of seed which enters our establishment, thanks to the internal laboratory accredited by the CREA-SCS certification body. This way, only products with the highest quality standards are supplied to the customer.

Experimentation...

Every year we carry out an important experimentation programme in our test fields created in collaboration with Agricola 2000, in order to select new varieties with better morpho-physiological characteristics, which for the agricultural sector translate into greater productivity, resistance to adversity, and high quality of the product, both for fodder and grain. In the turf sector, on the other hand, we have been collaborating since 2009 with the University of Padua, which allows us to test and select the best varieties to use for our blends.

Customer service and assistance...

Customer satisfaction is a central part of our philosophy. Daily dialogue with distributors, training through seminars and days spent in the fields, and pre- and post-sale technical assistance are just some of the ways in which we ensure the most complete service.



Collaborations and seed production

Over the years, we have created a solid network of collaborations with Italian and international organisations and companies, allowing us to access the most recent and best genetic materials to be developed and tested in our experimental programs.

More than 5000 hectares invested in seed production, which takes place in 8 countries.

5000

Seeds and solutions for **organic farming**

Organic farming is born with the objective of creating a highly sustainable development model for the protection of: environment and territory, biodiversity, consumer and animal welfare. The basis on which this method of production is based can be summarized in the following points:

- **Food safety and healthiness**, resulting from the non-use of synthetic chemicals.
- **Reducing the impact of agriculture on soil, air and water.** The biological method aims at minimizing the release of residues into the environment, loss of soil fertility, loss of biodiversity of the agroecosystem and energy consumption.
- **The total exclusion of GMO crops.**
- **Strict control and certification** of the whole production process by independent bodies to ensure maximum traceability to the consumer from the field to the point of sale.

Seeds marked with the "Organic" brand currently available are:

- **Alfalfa:** CUORE VERDE, LA BELLA CAMPAGNOLA, FRIGOS
- **Berseem clover:** LEILA
- **Persian clover:** LOGUDORO
- **Crimson clover:** ALBEROBELLO, HYKNUSA
- **Cocksfoot:** OTELLO
- **Buckwheat:** LILEJA
- **Common vetch:** MARIANNA, PIETRANERA
- **Westervold Italian ryegrass:** EXCELLENT
- **Red clover:** SPADONE GIGANTE DI SANTA MARTA
- **Black Oat:** GNIADY
- **White oat:** AVENY, INSIGNIA, PROKOP
- **Red oat:** OMBRONE
- **Triticale:** CLAUDIUS, GORILLA
- **Rye:** DUKATO
- **White mustard:** ASTA
- **Horseradish:** ROMESA
- **Forage mixtures:** SPECIAL FIENO, SPONGEBOB, CEREAL SILO
- **Forage pea:** OLYMPOS
- **Squarring clover**
- **Green manure mixes:** HUMUSFERT, HUMUSFERT KIWI, F.P. STRATUS

In addition to seeds, the company also proposes specific rizobes for various leguminous (useful for optimizing nitrogen fixation in the soil) and seeds already mixed with mycorrhizae for the benefit of greater plant rooting and healthiness.

"Biodiversity — the extraordinary variety of ecosystems, species and genes that surround us — is our life insurance, giving us food, fresh water and clean air, shelter and medicine, mitigating natural disasters, pests and diseases and contributes to regulating the climate. Biodiversity is also our natural capital, delivering ecosystem services that underpin our economy. Its deterioration and loss jeopardises the provision of these services: we lose species and habitats and the wealth and employment we derive from nature, and endanger our own wellbeing." (European Commission, 2011).

ENRICO - WHEAT FORAGE

ANDREA - ITALIAN RYEGRASS

ITAKA - WHEAT FORAGE

GORILLA - TRITICALE

KWS TONIC - BARLEY

CH CAMPALA - WHEAT FORAGE

DUBLET - TRITICALE

FROOME - TRITICALE

KWS TARDIS - BARLEY

FRIGOS – ALFALFA

COSINUS – TRITICALE

FIELD DAY

FIELD DAY

EVENT

MIX ASOLO TRIS – GOMIERO FARM

EVENT

EVENT

ALOSCA RHIZOBIUM

THE USE OF PROPERLY RHIZOBIATED LEGUMINOUS SIGNIFICANTLY INCREASES ORGANIC NITROGEN IN THE SOIL, BENEFITING THE NEXT CROP. WITH ALOSCA® RHIZOBIUM THE FARMER PRODUCES NITROGEN DIRECTLY IN THE FIELD AT A LOW COST!

ALOSCA® RHIZOBIUM: INNOVATIVE TECHNOLOGY TO GUARANTEE EXTRAORDINARY PERFORMANCE LEVELS

Padana Sementi continues to focus on innovation, proposing cutting edge technology for Italy exclusively for the bacterialization of leguminous forage crops.

WHY BACTERIALIZATION IS IMPORTANT?

Root bacterial symbiosis is fundamental for all leguminous crops for:

- Fixing atmospheric nitrogen (and consequent soil enrichment)
- Increasing plant vigour
- Healthier plants and greater resistance to environmental stress

Symbiosis is a process that happens naturally in the soil, as long as there are enough specific bacteria present for the cultivated species. In unfavourable soils (acidic, alkaline, etc.) or where the affected species haven't been grown for a long time, these microorganisms tend to diminish until they disappear.

WHAT ALOSCA® IS AND WHAT ARE ADVANTAGES OF THIS TECHNOLOGY:

Alosca inoculants comprise a substrate of bentonite granules, sized between 1 and 3 mm, inside which there are selected strains of nitrogen-fixing bacteria. This particular coating guarantees excellent protection for the bacteria both in packages (which can be kept for two years at temperatures from 0 to 60°C) and in the soil where they remain dormant until favourable environmental conditions allow the proliferation of the microorganisms in contact with the root apparatus and therefore quick and abundant nodulation.

ADVANTAGES OF ALOSCA RHIZOBIUM

- Increases nitrogen fixing up to 50% more for some species, allowing it to be made available for the next crop.
- Increases crop productivity in adverse situations (acidic soils).
- Increases the protein content of the forage
- The product maintains its potential constant for a long time (easy storage).
- Extremely simple application, which consists of mixing the granules directly with seeds or with fertilizer. Also applicable for sowing on firm ground.
- Can easily be transported and distributed even in non-optimal conditions (e.g. dry soil, high temperatures)
- Can also be mixed with seeds treated with fungicides or other pesticides, without its efficacy being compromised.

This technology has been fully validated by some important research centres:

- Murdoch University Centre for Rhizobium Studies
- Western Australia Department of Agriculture

EFFECT OF INOCULATION WITH RHIZOBIUM ALOSCA ON SOME LEGUMINOUS CROPS. (PADANA SEMENTI ELETTE DATA)

	Crimson clover VITERBO			Pink serradella EMENA		
	NT	RIZ	Increase (%)	NT	RIZ	Increase (%)
n° plants	40	40		40	40	
fresh plant weight (g)	90,3	141,6	56,8	174	341	96

	Pea AMICAL			Forage pea RHEA		
	NT	RIZ	Increase (%)	NT	RIZ	Increase (%)
n° plants	30	30		20	20	
fresh plant weight (g)	540	680	25,9	670	780	16,4
fresh seed weight (g)	190	258	35,8	200	230	15,0

Alosca rhizobia, specifically for Pink serradella and Lupin (group S), Pea, Faba bean and Vetch (group F), Annual medics (group AM), are already mixed in the following products:

FORAGE MIXTURES

Mixed in the entire
"Miscugli del sole" range
Super Five (only on request)
Genius del Sud (only on request)

MIXTURES FOR PERMANENT GRASSLANDS

Gallura super
Autoriseminanti (only on request)
Irriguo sardegna (only on request)
Asciutto Padana (only on request)
Irriguo Padana (only on request)
Prato Nuovo

INDIVIDUAL SPECIES

Specific rhizobium to be mixed when sowing available for all the species indicated by the Alosca brand

NITRO GENIUS RHIZOBIUM

THE USE OF PROPERLY RHIZOBIATED LEGUMINOUS SIGNIFICANTLY INCREASES ORGANIC NITROGEN IN THE SOIL, BENEFITING THE NEXT CROP. WITH NITRO GENIUS® RHIZOBIUM THE FARMER PRODUCES NITROGEN DIRECTLY IN THE FIELD AT A LOW COST!

WHY IN GRANULES?

For the past 10 years, Padana Sementi has been experimenting and marketing rhizobium-based inoculants in granular format. This type of product has yielded excellent results in the field, in terms of effectiveness and ease of use:

- Very high bacterial load delivered to the roots from the very first stages of growth.
- Ease of use by mixing the product directly with the seed, without the need for laborious mixing procedures for the farmer.
- Easy long-term storage and preservation of the vitality and effectiveness of nitrogen-fixing bacteria.
- Seed quality is visible, not masked by any external coatings.

WHERE IT COMES FROM

In recent years, we have worked to improve some critical points of the granular formulations available up until now, which created problems in the application onto fodder species with small seeds (alfalfa and clover). The points on which we have focused most are:

- Granules that are homogeneous in size and similar to the seeds to avoid separation in the hopper.
- More resistant granules to minimise the formation of dust during processing and sowing.

FEATURES

Associates a HIGH CONCENTRATION OF RHIZOBIUM specific for alfalfa and clovers with GROWTH-PROMOTING BACTERIA (Azotobacter, Azospirillum) and MYCORRHIZA (Glomus) which stimulate the development of the root system and increase the solubilization and absorption of macronutrients in the soil (in particular phosphorus) which the plant can use.

- EFFICIENT TRANSFER OF MICROORGANISMS to the root of the seedling in its germination phase and high nodulation as a consequence.
- HOMOGENEOUS and minimally dusty GRANULOMETRY, with size compatible with alfalfa seeds: this allows very homogeneous product mixing and, above all, regular sowing without the risk of deposits in the hopper.
- GRANULES RESISTANT to mechanical stresses, which are not split or pulverised during mixing, transport, and sowing.
- PROLONGED STORAGE: tests have shown a high vital bacterial load after more than one year of storage at room temperature.
- **ALLOWED IN ORGANIC FARMING**

ALFALFA

Rhizobium Nitro Genius, mixable with all the varieties in the catalogue.

ANNUAL AND PERENNIAL CLOVERS

Rhizobium Nitro Genius TF, mixable with all the varieties in the catalogue.

STRONGER SORGHUM WITH PROSEED MET

ORGANIC TREATMENT FOR SEEDS

FEATURES

- The symbiotic action of mycorrhizae and rhizosphere bacteria induces the activation of self-defence systems within the plant against the primary fungal pathogens, such as Fusarium, Pythium, Phytophthora, Rhizoctonia, Sclerotinia, Phoma, Verticillium, and against Agriotes (Click beetle), Diabrotica, Noctua, Mole Cricket, Beetles, Sciarids, Thrips.
- Mycorrhizae induce the plant to stimulate cell thickening, root elongation, the production of callus and lignin, as well as the production of a number of antioxidant substances such as phytoalexins and polyphenols, which help the endogenous defence of the plant.

COMPOSITION

- Simple, non-composted vegetable soil improver
- 2% mycorrhizae content (Glomus spp)
- Rhizosphere bacteria content 1x 10 9 CFU/g
- Bacillus psychrodurans
- Bacillus licheniformis
- Bacillus spp.
- Metarhizium anisopliae

Formulation: liquid, light green. Induction: activating the plant's self-defence mechanisms against various pathogens (see above). Bioavailable yield of phosphorus, iron, magnesium and manganese.

HOW TO USE

All types of seeds

DOSAGE

4 l/ton seed

ALFALFA

MEDICAGO SATIVA

FEATURES

It is the quintessential perennial forage species and undoubtedly the most common and well-known in Italy. Alfalfa adapts to all pedoclimatic conditions, but is most productive in deep, clay or medium textured alkaline soils (optimal pH 6.5 - 8). It is not adapted to waterlogging or acidic soils. The different varieties of alfalfa vary due to their dormancy.

DORMANCY

Dormancy is the period of arrested plant growth in the winter, which may last for different amounts of time according to the variety. The National Alfalfa Alliance (USA) has established a scale of dormancy classes ranging from class 1 (dormant varieties) to class 11 (non-dormant varieties). According to the dormancy, the varieties are suitable for different climatic conditions - the most dormant for harsh winter environments and the less dormant for mild winter environments. In Italy the varieties used are comprised between dormancy classes 5 and 8.

USE

The best compromise between yield and quality and the guarantee of the longest lifetime for the grassland is provided by cutting it when it starts to flower. However, often for a more intensive and higher quality use, cutting is performed earlier in the bud stage. Also in this case varieties that regrow quickly and are resistant to frequent cutting must be chosen.

STRENGTHS OF THE SPECIES

- Formations of monophyte grasslands that can be managed intensively and with high levels of mechanisation
- It combines high yield and production that is well distributed over the vegetative season, with the high quality of forage produced
- Hardy and adaptable species, relatively undemanding in terms of agronomic input
- Excellent effect of soil fertility in mid-long term rotations. Crop diversification is included in the new CAP and in ecological focus areas (EFAs).

BANAT VS

DORMANCY

Class 5 (semi-dormant)

CYCLE

Early

FEATURES

- Tall and leafy plant (50% of leaves by weight at the beginning of flowering).
- Banat VS was selected in Serbia for: high resistance to drought and low temperatures, rapid regrowth and productivity.
- Good tolerance to Verticillium.
- Suitable for intensive use, it produces high quality forage.
- Ideal for hay frequent cuts and for ensiling.
- Indicated for cold environments and mountain areas.

SOWING RATE

30 kg/ha pure.
40 kg/ha (4 doses) if mixed with Nitro Genius® rhizobium.

FRIGOS

DORMANCY

Class 6 (semi-dormant)

CYCLE

Medium

FEATURES

- Medium-tall plant with thin stalks and a good leaf-stem ratio.
- Suitable for early cutting (intensive use).
- Excellent compromise between hardiness and quality: good yield in fertile plain soils and in drier hilly areas or where the winters are colder.
- Good fibre digestibility and protein content.

SOWING RATE

30 kg/ha pure.
40 kg/ha (4 doses) if mixed with Nitro Genius® rhizobium.

LALENA

DORMANCY

Class 6.5 (semi-dormant)

CYCLE

Medium-early

FEATURES

- This variety was developed for plain and piedmont environments.
- It is characterised by good yield consistency throughout the production season, maintaining above-average levels particularly in the second and third mowing.
- Good persistence over the years.

SOWING RATE

30 kg/ha pure.
40 kg/ha (4 doses) if mixed with Nitro Genius® rhizobium.

PICENA GR

DORMANCY

Class 6.5 (semi-dormant)

CYCLE

Medium

FEATURES

- Semi-erect plant with high leaf - stem ratio.
- Suitable for hay, green forage and dehydrating.
- Also suitable for mid-high hilly areas as it has excellent resistance to winter frost.
- Very persistent, it can quickly regrow after cutting.
- High dry matter yield and protein/ha (see table A and B).

SOWING RATE

30 kg/ha pure.
40 kg/ha (4 doses) if mixed with Nitro Genius® rhizobium.

CUORE VERDE

DORMANCY

Class 6.5

CYCLE

Medium

FEATURES

- Very healthy plant, resistant to the main diseases.
- Chosen in the hilly areas of Central Italy, it therefore withstands high summer temperatures and low winter ones.
- It was particularly selected for organic farming methods, where in the official tests it was the most productive variety in the most suited locations (see table B).

SOWING RATE

30 kg/ha pure.
40 kg/ha (4 doses) if mixed with Nitro Genius® rhizobium.

VERDOR

DORMANCY

Class 8 (nondormant)

CYCLE

Early

FEATURES

- Particularly suitable variety for areas with Mediterranean climates (southern Italy and islands), where it can grow all year round, if supported by irrigation in the summer.
- Healthy and resistant to diseases.

SOWING RATE

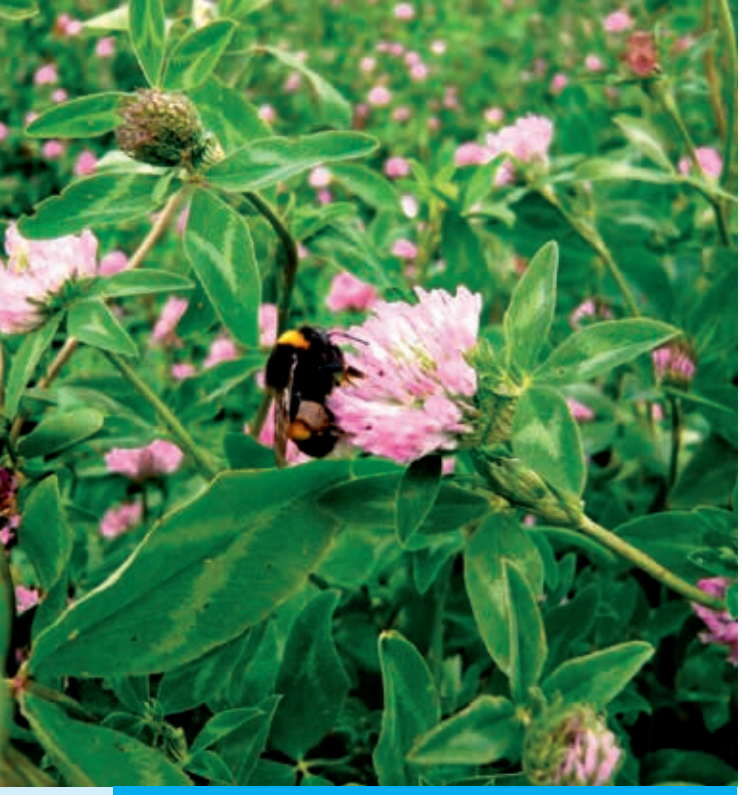
30 kg/ha pure
40 kg/ha (4 doses) if mixed with Nitro Genius® rhizobium.

TAB. A:
Crude protein production (kg ha-1) - Year 2010 Variety Innovation crops. (Padana Sementi Elette data)

VARIETY	TOTAL 2010
AUBIGNY	1688,415 B
AZZURRA	2062,465 A
CASALINA	1940,340 A
CRENO	1564,013 B
FRIGOS	1907,851 A
GARISENDA	1943,006 A
LETIZIA	1958,866 A
MINERVA	1755,284 A
MIRANDA	1432,462 C
PICENA GR	2130,084 A
POMPOSA	1928,516 A
PR57Q53	1931,286 A
PROSEMENTI	1857,535 A
VERBENA	1342,473 C
FIELD AVERAGE	**1817,328**
SIGNIFICATIVITÀ	***
C.V.	7,84

TAB. B:
Production of dry matter (t/ha) in two locations in central Italy in organic farming conditions (Data taken from I.A. 1/2013)

CULTIVAR	PERUGIA DRY MATTER 3 YEAR PERIOD	GROSSETO DRY MATTER 3 YEAR PERIOD
AZZURRA	14,97	38,86
BEATRIX	16,08	38,24
COSTANZA	12,41	31,35
CUORE VERDE	16,75	40,62
EMILIANA	14,70	37,03
LA TORRE	14,09	35,26
PALLADIANA	14,08	31,31
PICENA GR	16,47	34,57
PR57Q53	15,48	35,58
PROSEMENTI	14,79	37,36
SELENE	15,64	38,64
MIRANDA	13,12	29,91
SURIGHEDDU	16,85	35,55
MSI004	16,16	35,61
MSI006	13,48	30,67
MSI007	13,12	27,45
AVERAGE	**14,89**	**34,88**
LSD P <0,05	1,57	3,84



RED CLOVER

TRIFOLIUM PRATENSE

available with ALOSCA® Rhizobium Cgroup

FEATURES

- Leguminous perennial crop with a 3 year duration (the best yield is in the second year).
- Suitable in fertile and cool soils, but also adaptable to shallow acidic and sub-acidic soil. The best pH for the soil is between 6 and 7.5.
- It is used for producing hay, pasture, or silage, usually in intercropping with other leguminous or graminaceous crops for improving the quality and production of the grassland.

Optimal forage quality levels:
Crude protein (% dry matter): 20-23%
MFU: 0.90-0.96

SPADONE GIGANTE DI S. MARTA

TYPE

Diploid

CYCLE

Medium-early

FEATURES

- Use: pure or in intercropping in pasture lands for hay production.
- Plant with remarkable vegetative development, very leafy.
- Very adaptable variety to Italian climates, it offers the best yield in cool plain environments.

SOWING RATE

25-35 kg/ha (pure).

PASIEKA

TYPE

Diploid

CYCLE

Medium-early

FEATURES

- Use: pure or in intercropping.
- Medium-tall sized plant with excellent production potential on the first cutting.

SOWING RATE

25-30 kg/ha (pure).

SULLA

HEDYSARUM CORONARIUM

FEATURES

Leguminous perennial suitable for Mediterranean climates for the formation of short-lived monophytic lawns (2 years). Very productive in the area, especially in the second year. It is particularly suitable for deep, clayey and calcareous soils. This species performs a great improvement of the soil, even in depth, and is well suited to rotations with grain and graminaceous herbs.

BELLANTE

FEATURES

- Medium-sized, semi-sized portable plant.
- Extremely thin casings and wires, produces an appetizing, full-bodied fodder.
- Use: grazing, fen, fenced. It is advisable to use it no later than the beginning of flowering to avoid a rapid increase in the spine.
- Sowing time: spring or, in mild areas, in summer.

SOWING RATE

30-40 kg/ha of shelled seed

A SPECIFIC RHIZOBIUM FOR SULLA IS AVAILABLE:
RHIZO POWER

available with Rhizobium RHIZO POWER

WHITE CLOVER

TRIFOLIUM REPENS

available with Rhizobium NITRO GENIUS TF

FEATURES

- Perennial species that comprises different plant forms, similar in terms of pedoclimatic requirements but with different sizes and uses.
- It generally prefers cool soils with good water availability (due to the superficial nature of its root apparatus). It withstands winter cold very well, but does not withstand high temperatures and drought very well.
- It is also adapted to both acidic and alkaline soils, with soil pH between 5 and 8.
- Its creeping behaviour protects the grassland from more intensive uses and against trampling and allows excellent quality forage to be obtained as it is mainly comprised of leaves (0.96 – 1.00 MFU).

WHITE DUTCH CLOVER

TRIFOLIUM REPENS VAR. HOLLANDICUM

- It is distinguished by its average size, its resistance to cold and trampling, and by its long-term persistence.
- Excellent for pasture lands also in mountainous and hilly areas

HUIA

FEATURES

- Varietà a ciclo medio, con foglie di medie dimensioni.
- Manifesta una crescita vigorosa, formando cuscini densi, con ottima competizione nei confronti delle infestanti.
- Molto persistente, indicata per prati di lunga durata e inerbimenti tecnici.

SOWING RATE

8-10 kg/ha.

Other varieties available:

HAIFA/SW HEBE

LADINO WHITE CLOVER

TRIFOLIUM REPENS VAR. GIGANTEUM

- It is distinguished by its average size, its resistance to cold and trampling, and by its long-term persistence.
- Excellent for pasture lands also in mountainous and hilly areas - A plant that stands out due to being very tall (can reach 60 cm). - This type of clover is used pure in the well-irrigated areas of north Italy, for creating grasslands that can provide up to 8 cuts a year.

FANTASTICO

FEATURES

- Italian genetics, derived from improvement of populations of the ecotype “Gigante Lodigiano”.
- Leafy and high-size plant (40-45 cm). Medium-late maturity.

SOWING RATE

8-10 kg/ha se seminata in purezza.

BOMBUS

FEATURES

- Tall variety.
- Compared to other ladino varieties, it stands out for its greater resistance to drought.
- It adapts also to light and well draining soils.

SOWING RATE

8-10 kg/ha when pure.

COCKSFOOT

DACTYLIS GLOMERATA

FEATURES

- Of the graminaceous forage crops, this species is the one that can best combine adaptability and tolerance to stress with the quality of the forage and productivity.
- It has a long-term persistence (7-8 years), hence being suitable as a component of long duration grasslands.
- It is recommended to sow it pure in autumn, by mid-September, to allow establishment before the winter. The plant is slow to become established after sowing.

SOWING RATE

25-30 kg/ha

AMBA

CYCLE

Early

OTELLO

CYCLE

Medium

HUSAR

CYCLE

Medium

TALL FESCUE

FESTUCA ARUNDINACEA

FEATURES

- Perennial species with vigorous growth, it has a deep root apparatus and large leaves that tend to be fibrous, giving it long persistence, marked hardiness and remarkable resistance to summer drought (the most resistant of the microthermal graminaceous forage crops).
- Cutting must not be performed at the start of heading so as not to compromise the quality and palatability of the forage.
- Autumn sowing is recommended for the pure seeds (between end of August and end of September). Spring sowing can be performed when intercropping with leguminous crops and must be performed by the end of March.

SOWING RATE

30-35 kg/ha

PALMA

CYCLE

Early

KORA

CYCLE

Medium

MEADOW FESCUE

FESTUCA PRATENSIS

FEATURES

- A plant with average persistence, very resistant to cold, but sensitive to summer drought and high temperatures.
- It produces excellent quality forage that is more digestible than tall fescue.
- Used for mixed pasture lands in cool hilly or mountainous areas.

SOWING RATE

20-25 kg/ha

COSMOLIT

CYCLE

Early

PERENNIAL RYEGRASS

LOLIUM PERENNE

FEATURES

- Graminaceous forage crop suitable for cool and fertile soils.
- Average persistence, quick establishment and regrowth. Ideal plant for pasture.
- Excellent forage quality
- Like Italian ryegrass it is split into diploid and tetraploid varieties.

SOWING RATE

35-45 kg/ha

GRASSLANDS NUI

CYCLE

Early

MATHILDE

CYCLE

Medium

PASTORAL

CYCLE

Late

HYBRID RYEGRASS

LOLIUM X HYBRIDUM

FEATURES

- Interspecific hybrid (L.perenne x L.multiflorum)that combines the density and persistence of perennial ryegrass with the productivity of Italian ryegrass.
- It can form grasslands with a 3-4 year duration or even longer in optimal conditions.

SOWING RATE

35-40 kg/ha

LEONIS

CYCLE

Medium

FESTULOLIUM

X FESTULOLIUM

FEATURES

- Intergeneric hybrid between Ryegrass and Fescue that is essentially used in intercropping in mixed pastures.
- It produces more than perennial ryegrass with similar quality forage.
- Good persistence and tolerance to stress.

SOWING RATE

35-40 kg/ha

LOFA

CYCLE

Medium

LENOR

CYCLE

Medium

TIMOTHY GRASS

PHLEUM PRATENSE

FEATURES

- Productive species with long-term persistence, typical of the cool and well-irrigated environments of the plain and hilly and mountainous areas.
- Not very tolerant to high temperatures and drought.
- Excellent quality forage.
- Autumn sowing recommended in the plain, spring in cold mountain environments.

SOWING RATE

10-15 kg/ha, in purezza

ALMA/ANJO/ SWITCH

CYCLE

Medium

PEARL MILLET

PENNISETUM GLAUCUM

FEATURES

- Summer cycle species that originates from the hot-dry areas of the subtropical belt.
- Very adaptable to different soils, and very resistant to drought, it is most productive in deep soils.
- If harvested at the right time, it can provide remarkable amounts of very high quality forage in terms of protein content and palatability.
- Especially recommended for sheep, cow and horse grazing.
- Never contains toxic substances for the livestock or antinutritional factors.

DAILY DOUBLE

TYPE

Pearl millet hybrid

CYCLE

Early (heading starts 60 days after emergence)

FEATURES

- Use: pasture, hay, green forage. Provides excellent pasture before the plant starts heading.
- The plant is very vigorous with fast growth and great tillering ability.
- Sowing period: when soil temperature reaches at least 16°C

SOWING RATE

20-30 kg/ha to obtain thinner plants suitable for hay. Sowing depth: no more than 2-3 cm.

MILLETGRAZER

NEW

TYPE

Open-pollinated variety of pearl millet

CYCLE

Early (earing begins 55 days after emergence).

FEATURES

- Use: pasture, green fodder, mainly with single cutting.
- A rustic and adaptable plant, it allows to obtain a good harvest in a very short time. To be used before it reaches one meter in height to avoid a rapid loss of fodder quality.

SOWING RATE

20-30 kg/ha to obtain thinner plants.

PAMPA MIJO BMR

TYPE

Hybrid BMR pearl millet

CYCLE

Medium-late

FEATURES

- Use: hay, green forage. The first BMR pearl millet on the Italian market: top quality for summer pasture. Superior fibre digestibility thanks to its reduced lignin content.

SOWING RATE

15-20 kg/ha.
Sowing depth: not more than 2-3 cm.

PAMPA PLATINO BMR

TYPE

Hybrid BMR pearl millet

CYCLE

Medium-late

FEATURES

- Use: silage, pasture, green forage.
- Medium to high plant, with very large leaves, good yield potential.
- Excellent resistance to drought stress.
- High digestibility and high protein content
- It is recommended to harvest within the boot stage to avoid the loss of protein content.

SOWING RATE

10-12 kg/ha for silage, 15-20 kg/ha for grazing.
Sowing depth: not more than 2-3 cm.

NUTRIFAST

TYPE

Hybrid pearl millet

CYCLE

Very late

FEATURES

- High protein content and digestibility in young plants
- High resistance to temperature and drought, not subject to any particular plant disease
- Use: Pasture, green fodder, banded hay. It can be used throughout the season: it regrows without the risk of early earing and consequent loss of quality. For the first grazing, it is advisable to wait 45-50 days (well established and tillered plants). For maximum forage quality, it should be used before it reaches one meter in height. If banded, it can be used when up to 1.5 m in height and above.
- The plant can reach considerable height and biomass production if left to grow, to the detriment, however, of quality.

SOWING RATE

15-20 kg/ha to ensure a high-density planting and optimal soil coverage

FOXTAIL MILLET

SETARIA ITALICA

FEATURES

- Summer graminaceous crop with fast cycle.
- Usually used in second harvest for a single abundant hay cut.
- Withstands summer temperatures well, but needs regular watering to improve the yield.

TEFF

ERAGROSTIS TEF

FEATURES

- Teff is an annual summer species suitable for fodder mainly as pasture and to produce dry hay.
- It allows to have fodder throughout the summer, as it has a good regrowth capacity.
- Very resistant to water and thermal stress, tolerates water stagnation.
- Extremely adaptable, does not require high nutrient supply.
- Does not contain anti-nutritional substances in any growth phase.

PANORAMA GIGANTE

CYCLE

Very early (50- 60 days)

FEATURES

Tall and thin plant (quick drying)

SOWING RATE

45-50 kg/ha

MOHA

CYCLE

Very early (50- 60 days)

FEATURES

Tall and thin plant (quick drying)

SOWING RATE

45-50 kg/ha

BROWN STAR

NEW

CYCLE

Early (40-45 days from emergence to earing)

FEATURES

- Use: pasture and hay. Suitable for cattle, sheep and horses.
- Brown seed variety, good regrowth capacity.
- Suitable for grazing already in the early growth stages, to exploit the forage high quality and digestibility.

MANAGEMENT

The first cut can be done at about 40 days from sowing, while the subsequent ones should follow after approx. another 30 days. To maximise quality, cutting should be done before earing is complete and at least 10 cm from the ground to ensure optimal regrowth. After earing, regrowth is slower.

SOWING

It can be sown in late spring when soil temperatures reach 15-16° C. Since it is a tiny seed, sowing must be done on the surface, on a uniform and well-prepared seed bed.

SOWING RATE

8-10 kg/ha of non-coated seed
20 kg/ha of coated seed

PANICUM MAXIMUM

PANICUM MAXIMUM

FEATURES

- Panicum maximum is a species of sub-tropical origin with a perennial cycle, cultivated for high-quality fodder. It is managed as an annual crop in regions with cold winters to exploit the good potential yields obtainable throughout the summer.
- Does not contain anti-nutritional substances in any growth phase.

MEGAMAX

NEW

FEATURES

- Use: pasture and hay. Suitable for cattle, sheep and horses.
- Megamax was selected to produce large leaves and have excellent tillering and regrowth capacity. This allows for a high leaf/stem ratio and a consequent high forage quality.
- It has a higher production potential than old varieties.
- Highly palatable for pasture, green fodder or dry hay.
- Produces high-quality forage, with more than 15% protein if harvested before earing.

MANAGEMENT

To maximise quality, cutting should be done before earing is complete and at least 15 cm of the plant should be left after cutting or grazing to ensure optimal regrowth.

SOWING

It can be sown in late spring when soil temperatures reach 15-16° C. Sowing must be done on the surface, on a uniform and well-prepared seed bed, as it is a tiny seed.

SOWING RATE

15 kg/ha of coated seed

SIAMBASA

NEW

FEATURES

- Use: pasture, green fodder, hay. Suitable for cattle, sheep and horses.
- This variety is characterised by high genetic purity, to the advantage of optimal cutting and forage quality management.
- Siambasa surpasses other varieties in rapid growth and production capacity. It features enormous leaves and rapid regrowth.
- The plant is photoperiod-sensitive, allowing for optimal regrowth throughout the growing season without the risk of early earing and consequent loss of quality.
- Produces high-quality forage, with more than 15% protein content up to 1 meter in height.

MANAGEMENT

To avoid compromising regrowth, cutting or grazing at a height no less than 15 cm from the ground is recommended.

SOWING

It can be sown in late spring when soil temperatures reach 15-16°C.
Sowing must be done on the surface, on a uniform and well-prepared seed bed, as it is a tiny seed.

SOWING RATE

7-8 kg/ha

SORGHUM

SORGHUM BICOLOR

FEATURES

Although sorghum is a single botanic species, Sorghum vulgare (sin. Sorghum bicolor), it is marked by very great genetic variability, which has pushed botanists to split it into different sub-species. These sub-species, which can be crossbred, correspond to different morphologies and therefore different uses.

- S. bicolor ssp. bicolor. This group includes varieties for grain, generally short with strong shoots, welldeveloped panicles and that do not often lodge.
- S. bicolor ssp. sudanense. This groups together the varieties known as"Sudan grass". They have a thin, elastic stalk, a marked tendency towards tillering, fast regrowth and an early cycle. They are particularly suitable as multi-harvest summer forage crops and for hay production.
- S. bicolor ssp. saccharatum. Sweet sorghums stand out as they are tall, have large leaves, a large shoot and juicy, sugary pith, poor tillering and regrowing ability and a cycle that tends to be late.
- S. bicolor ssp. technicum. This sub-species, which is known as "broom corn" has long drooping branches, a high fibre content and therefore is not very suitable for use as forage. These plants are traditionally used for making brushes.
- Crosses and hybrids of the previous types have allowed plants to be obtained with very varied features, both from a morphological and agronomic point of view, based on the features of the types used as parental plants.

AGRONOMIC ADVANTAGES

- Reduced water requirements and greater water use efficiency due to the set of physiological and drought resistance mechanisms.
- Lower or no need for plant protection products.
- Reduced need for fertilisers.
- Great environmental adaptability: suitable for all soils, pH from 5.5 to 8.5, good salt tolerance.
- Good quality forage, in all conditions.
- High plant health: sorghum can be grown in areas affected by Pyralid borers and Diabrotica and does not present any risk of mycotoxins.

GRAIN SORGHUM

- BIANCA
- SW 2G S26
- TONKAWA

BIANCA

TYPE:

S. Bicolor hybrid

CYCLE

Medium late (60 days from emergence to flowering)

FEATURES

- Quality white grain - good calibre seeds, protein content can reach 13%, - starch 70-75%
- Stable plant, semi-open panicle.
- White grain variety, completely tannin-free.
- Plant height: 120-125 cm.
- Remarkable leaf health, thanks to the high tolerance to Anthracnose.
- Can be used for human consumption.

SOWING RATE

35-36 seeds/sqm (with precision seeding), equal to approximately 8-9 kg/ha.
TGW: 23 g

SW 2G S26

TYPE:

S. Bicolor hybrid

CYCLE

Medium late (about 55 days from emergence to flowering), FAO class 400

FEATURES

- Stable and vigorous plant with semi-open panicle.
- White grain variety, good size.
- Plant height: 125-130 cm.
- Preliminary tests carried out in the Po Valley show excellent production potential.
- Grain of homogeneous size with protein content that can exceed 12%.
- Can be used for human consumption.

SOWING RATE

35-36 seeds/sqm, equal to approximately 11-13 kg/ha.
TGW: 35 g

TONKAWA

TYPE:

S. Bicolor hybrid

CYCLE

Medium-late (about 60 days from emergence to flowering)

FEATURES

- Compact plant with semi-loose panicle.
- Red grain with low tannin content.
- Plant height: 120-125 cm.
- Excellent separation of the ears during threshing.
- Excellent resistance to environmental stress.
- Produces maximum yields in the plains of Central-Northern Italy.

SOWING RATE

33-35 seeds/sqm equal to about 11 kg / ha
TGW: 32 g

MULTI-HARVEST SUDAN GRASS

- MONARCH V
- HERMES

MONARCH V

TYPE

Sudanense x sudanense hybrid

CYCLE

Medium - early (60-62 days from emergence to flowering)

FEATURES

- Use: multi-harvest forage for producing hay, banded hay, silage and pasture. Two or three cuts can be obtained per season.
- Plant: height 2.5 m, leafy and with very thin, elastic stalks, productive in all environments (13% more than Piper). Resistant to lodging.
- Management: low antinutritional factor content. It is recommended to use it after it reaches 50 cm for the best yield and quality ratio. For producing hay the higher investment is recommended and early harvesting at 1.5 m before the boot stage.

SOWING RATE

20-30 kg/ha, narrow spacing between rows.
TGW: 13 g

HERMES

TYPE

Sudanense x sudanense hybrid

CYCLE

Medium - early 62-65 days from emergence to flowering)

FEATURES

- Use: multi-harvest forage for producing hay, banded hay, silage and pasture. Two or three cuts can be obtained per season. - HI-Gest® hybrid: expresses both the quality advantages of BMR hybrids and the yields (comparable or better) of traditional Sudan grasses.
- Plant: 2.5 m tall, thin stalks that facilitate drying, but not susceptible to lodging. Extraordinarily palatable forage.
- Management: even if it has a low antinutritional factor content, it is recommended to use it after it reaches 50 cm for the best yield and quality ratio. For producing hay the higher investment is recommended and early harvesting at 1.5 m before the boot stage.

SOWING RATE

20-30 kg/ha, narrow spacing between rows.
TGW: 14 g

MULTI-HARREST EARLY SORGHUM X SUDAN

- HAY DAY
- SUGAR GRAZE II
- PAMPA TRIUNFO XLT BMR
- MATACO
- 12 SU 9001

HAY DAY

TYPE

Bicolor x sudan hybrid

CYCLE

Medium - early (62-65 days from emergence to flowering)

FEATURES

- Use: multi-harvest forage for producing chopped forage, banded hay, silage and pasture. Three cuts per season obtainable.
- Reliable and rustic hybrid with great tillering ability and very quick to regrow.
- Tall plant (2.5-2.6 m), very elastic, with guaranteed quality: excellent protein content.
- Management: not to be used before it reaches 90-100 cm in height. Maximum quality is obtained by harvesting during the boot stage. The maximum dry matter yield is obtained when the grain is ripe.

SOWING RATE

40-50 kg/ha
TGW: 33 g

SUGAR GRAZE II

TYPE

Bicolor x sudan x sweet sorghum hybrid

CYCLE

Medium - early (62-68 days from emergence to flowering)

FEATURES

- Very leafy, three-way hybrid with great tillering ability and very quick regrowth.
- Tall (2.6-2.8 m) and productive plant: in the official tests it proves to be the most productive of the multi-harvest sorghum varieties. In just a few years it has gained the trust of the best growers.
- Use: multi-harvest forage for producing chopped forage, banded hay, silage and pasture. In favourable conditions, up to three cuts can be obtained.
- Also suitable for producing biomass when an early cycle with high yield is required (late sowing, double harvest)
- Management: not to be used before it reaches 90-100 cm in height. The best quality is obtained during the boot stage (protein 9-10%). The maximum dry matter yield is obtained when the grain is ripe.

SOWING RATE

35-45 kg/ha
TGW: 24 g

PAMPA TRIUNFO XLT BMR

TYPE

Bicolor x sudanense hybrid

CYCLE

Medium (70-73 days from emergency to flowering)

FEATURES

- The highest quality for a multi-harvest sorgum for producing chopped forage: the BMR character gives high fibre digestibility and high sugar content. The plant is 2.5 m high and with leaves, with great tillering ability. The shoots have a mean diameter. Good resistance to lodging.
- Use: production of chopped forage, banded hay, even with multiple cuts. It's suitable to produce silage with late sowing.
- Management: not to be used before 90-100 cm in height. The maximum quality is obtained during the boot stage (protein over 10%).

DOSE DI SEMINA

10-15 kg/ha (the lowest dose is recommended for production of chopped forage).
TGW: 31 g

MATACO

TYPE

Bicolor x sudan hybrid

CYCLE

Medium early (65 days from emergence to flowering)

FEATURES

- Rapid growth, multi-cut hybrid Very stable plant with stem rich in soluble sugars. Good Leafiness.
- Use: production of chopped forage, haylage. Up to three cuts can be obtained per season. It's suitable to produce silage with late sowing.
- Use: multi-harvest forage for producing chopped forage, banded hay, silage and pasture. In favourable conditions, up to three cuts can be obtained.
- Management: not to be used before 90-100 cm in height.

SOWING RATE

30-35 kg/ha (the highest dose is recommended for production of haylage).
TGW: 21 g

12 SU 9001

TYPE

Bicolor x Sudanese hybrid

CYCLE

Medium-early (approximately 65-68 at earing)

FEATURES

- Plant with broad leaves, medium diameter stems and large size (it can reach 3 m at earing).
- Stems with juicy and sugary pith.
- Excellent energy content due to the good sugar content.
- Use: Suitable for silage with direct cut or for banded hay, even with multiple cuts.

MANAGEMENT

For single cut silage, optimal harvesting at full earing (approximately 115 days from emergence). For banded from multiple cuts, harvest no earlier than 120-140 cm in height.

SOWING RATE

30-35 kg/ha for silage, 40-45 kg/ha for banded.
TGW: 24 g

SINGLE HARVEST LATE SORGHUM

- BIG DRAGOON BMR
- SWEET BETTY

SWEET BETTY

TYPE

Sugary x sugary hybrid.

CYCLE

Late, (90 days from emergence to flowering)

FEATURES

- Vigorous plant that easily reaches 3 m, leafy and with thick stem.
- High content in soluble sugars (reaching over 20%).
- Lower lignin content average.
- Excellent digestibility of the organic substance.

SOWING RATE

20-24 seeds/sqm (with precision sowing),
equal to about 5-6 kg / ha
TGW: 17 g

BIG DRAGOON BMR

TYPE

Bicolor x sudanense hybrid

CYCLE

Very late, photoperiod sensitive hybrid, in the North it often does not come to full flowering.

FEATURES

- Use: single harvest silage, biomass.
- Large wide leaves and the good tillering ability.
- Great quality of the fibre: BMR 6 hybrid always produces a forage very appetizing and digestible.
- In the trials it showed a better resistance to lodging than other BMR forage hybrids.
- Guaranteed productive potential: exploiting the whole growing season with early sowing, it can exceed 4 m in height.
- Suitable for producing large quantities of forage as a base for the feed ration.
- Management: optimal harvesting in September or at the beginning of heading.

SOWING RATE

20-22 seeds/sqm (with precision sowing),
equal to about 6-7 kg/ha.
TGW: 27 g

SINGLE HARVEST SILAGE SORGHUM

- LITTLE GIANT BMR
- CENTURION BMR ELITE
- SWEET CAROLINE
- ZUMBA BMR
- BIG TEXAN BMR

CENTURION BMR ELITE

TYPE

NEW

Bicolor x bicolor hybrid

CYCLE

Medium (78 days from emergence to flowering)

FEATURES

- New sterile-male hybrid, allowing great flexibility of use according to the desired quality, with excellent yields:
- Brachytic dwarf-type plant (shortened interior and large leaves), good size (up to 2.5 m tall), tolerant to aphids.
- BMR type fibre (low lignin content)
- Sterility prevents grain maturation, but maintains energy in the stem and leaves, slowing down the ageing of the plant and the loss of quality and extending the harvest window to the maximum.
- Great energy content thanks to the accumulation of sugars in the pith.
- To obtain grain and starch, combining with another sorghum to obtain pollination is sufficient.
- Use: high-quality single-cut whole shredded crop. Also suitable for late sowing.
- Optimal harvest at full earing or at milky maturation, in case of combination with other hybrids (90-105 days from emergence).

SOWING RATE

20-22 seeds/sqm (with precision sowing),
equal to approximately 7-8 kg/ha.
TGW: 35 g

LITTLE GIANT BMR

TYPE

AVAILABLE NON-TREATED SEED

Bicolor x bicolor hybrid

CYCLE

Medium - late (82 days from emergence to flowering).

FEATURES

- Use: silage production with direct cut harvest.
- Suitable instead of corn in 2nd harvest or in difficult areas (dry areas or with pyralid borers or Diabrotica).
- Brachytic dwarf plant (short internodes and large leaves), plant height (1.8 - 2 m), does not lodge.
- BMR fibre (low lignin content).
- Well developed white panicle without tannin.
- High energy content.
- Management: optimal harvest when milky-dough stage.

SOWING RATE

32-35 seeds/sqm (with precision sowing),
equal to about 10-13 kg/ha.
TGW: 30 g.

SWEET CAROLINE

TYPE

BIO ENERGIES

AVAILABLE NON-TREATED SEED

Bicolor x bicolor hybrid

CYCLE

Medium -late (82 days from emergence to flowering)

FEATURES

- Use: silage production with direct cut harvest.
- Suitable in difficult areas or to replace corn (dry areas or with pyralid borers or Diabrotica, etc.).
- Size: 1.8 - 2.5 m, with thick stalks and wide leaves for excellent row coverage.
- Well-developed panicle that produces good quantities of red grain.
- Good green matter and grain ratio for digestible silage, with excellent protein content.
- Management: optimal harvest when milky-dough stage, in which there is no tannin.

SOWING RATE

32-35 seeds/sqm (with precision sowing),
equal to about 10- 13 kg/ha.
TGW: 30 g

ZUMBA BMR

NEW

TYPE

Bicolor x bicolor hybrid

CYCLE

Medium-late (85 days from emergence to flowering)

FEATURES

- Use: single-cut whole shredded crop. Suitable as a replacement for corn in challenging second harvest areas
- Medium-sized plant (1.8 m) with resistant stems, short internodes and highly developed leaves.
- BMR type fibre (low lignin content)
- High sugar content in pith.
- Very developed panicle for an excellent energy content.
- Pink grains with low tannin content.
- Optimal harvest at milky-waxy maturation (approximately 110 days from emergence), corresponding to S.S. of 27/28%.

SOWING RATE

32-35 seeds/sqm (with precision sowing) equal to 7-8 kg/ha.
TGW: 21 g

BIG TEXAN BMR

AVAILABLE NON-TREATED SEED

TYPE

Bicolor x sudanese hybrid

CYCLE

Medium, (70 days from emergence to flowering).

FEATURES

- Use: chopped for direct harvesting.
- Very leafy and compact plant, with short internodes (brachytic dwarf), medium panicle.
- Excellent digestibility and energy content, thanks to the BMR fibre.
- High resistance to lodging
- Suitable for short harvest windows, especially with late sowing (by July).
- Indicative height at earing: 200 cm.
- Management: optimal harvest from earing to milk-waxy maturation (about 90 days from emergency).

SOWING RATE

12.5 kg/ha, equal to about 40 seeds/sqm
TGW: 31 g

SUMMER FORAGE

ASOLO TRIS

AVAILABLE NON-TREATED SEED

BIO ENERGIES

TYPE

Balanced mixture of three forage sorghum hybrids

CYCLE

Raccolta a 110 giorni circa dall'emergenza (maturazione latteo- cerosa del sorgo da trinciato).

FEATURES

- Use: single harvest silage both for forage and biogas
- Balanced mixture of three forage sorghum hybrids:
  - Silage sorghum: strong plant that has a support function. Gives the chopped forage starch and protein.
  - Sweet sorghum: guarantees productivity and high sugar content.
  - BMR forage sorghum: contributes to lowering the lignin content and in - creasing fibre digestibility.
- Compared to sowing a single variety, this mixture guarantees:
  - high productivity
  - excellent compromise between yield and quality
  - simplified management (low risk of lodging)

SOWING RATE

20-24 seeds/sqm (with precision sowing),
equal to about 5-6 kg/ha.
Recommended spacing between rows: 50 to 75 cm
TGW: 25 g

QUALI TRIS

NEW

BIO ENERGIES

TYPE

Mix of 3 fast cycle BMR sorghums for high-quality silage

CYCLE

Medium, approximately 85 days from emergence to harvest

FEATURES

- Use: silage.
- Composed exclusively of BMR type hybrids, allowing the production of top quality silage with very digestible fibre and high energy content.
- Good precocity: it is suitable for late sowing (until the second half of July) or when it is necessary to shorten harvesting times.
- Good balance between precocity and productivity: compared to a single hybrid from early shredded crop, it is possible to increase yields by 15/20%
- Easy management: the hybrids have a perfectly overlapping vegetative cycle, allowing the harvesting of all hybrids at the optimal stage of maturation, which corresponds to the milky-waxy maturation of the two sorghums from shredded crops (approximately 25-26% of dry matter).
- Great adaptability: the mixture allows to obtain quality forage even in marginal soils.

SOWING RATE

20-22 seeds/sqm (with precision sowing)
equal to 6-6.5 kg/ha.
TGW: 29 g

ASOLO BIS

BIO ENERGIES

TYPE

Mixture consisting of two highly digestible BMR hybrids, designed to give stability and high yields.

CYCLE

Late, approximately 115 days from emergence to harvest.

FEATURES

- Use: single harvest silage both for forage and biogas
- Balanced mixture of three forage sorghum hybrids:
  - Silage sorghum: strong plant that has a support function. Gives the chopped forage starch and protein.
  - Sweet sorghum: guarantees productivity and high sugar content.
  - BMR forage sorghum: contributes to lowering the lignin content and in - creasing fibre digestibility.
- Compared to sowing a single variety, this mixture guarantees:
  - high productivity
  - excellent compromise between yield and quality
  - simplified management (low risk of lodging)

SOWING RATE

18-20 seeds/sqm (with precision sowing),
equal to about 6 kg/ha.
TGW: 28 g

SUMMERFOR

TYPE

Mixture consisting of Hybrid pearl millet, sorghum and cowpea.

CYCLE

Early. It can first be used just 50-60 days after sowing (forage height less than 100 cm.

FEATURES

- Use: Pasture, green forage (in 2 or 3 cuts), banded hay. Important to harvest or graze before it reaches 1 m in height for the best quality.
- High quality: in optimal conditions it is possible to have up to 17% protein in the green forage.
- Total absence of cyanogen compounds.
- Management: When sowing, the seeding machine must be carefully calibrated.
- It is recommended to sow on soil that is as free as possible from weeds.

SOWING RATE

25-30 kg/ha, with soil temperature always greater than or equal to 16°C.
Avoid sowing too early.

ITALIAN RYEGRASS

LOLIUM MULTIFLORUM

FEATURES

Italian ryegrass is one of the most common and important types of forage in advanced zootechnics. It is a marked microthermal species with reduced temperature requirements for germination and vegetation, used for monophyte pastures and as a component in mixed pastures. Although it is very adaptable to different environmental conditions and soils, it gives the best of its potential in cool environments, with deep soils rich in nutritional elements. In these conditions it shows very rapid and vigorous growth, with a high ability to compete and control weeds. It does not withstand high temperatures or drought.

THERE ARE TWO SUB-SPECIES

Lolium multiflorum ssp. Italicum:
usually has low alternativity (low ability to produce head in the sowing year), very resistant to winter frost, can form two- or three-year pastures.
Lolium multiflorum ssp. westewoldicum: annual plant, with high alternativity and fast establishment speed. Due to these features, in regions with mild winters it can be grazed with optimal yields all winter, during which it maintains constant vegetative activity.

SPECIES SELECTION ACTIVITY HAS THERE ARE TWO SUB-SPECIES ENABLED US TO GENERATE VARIETIES WITH DIFFERENT NUMBERS OF CHROMOSOMES

Diploid varieties:
normal chromosome set. They have an early cycle, smaller seeds, thinner stalks and leaves and lower water content in the forage. They are particularly suitable for hay production.
Tetraploid varieties:
double the number of chromosomes as diploids. They have high production potential, larger seeds, are taller, have larger leaves and higher water content in the forage. They are very suitable for ensilage.

STRENGTHS OF THE SPECIES

Simple agronomic management associated with high production potential and high nutritional value of the forage (high fibre digestibility, high sugar content, high metabolizable energy).

- Highly flexible to use during the production cycle: pasture, hay, silage, green forage.
- Excellent ability to exploit nitrogen-based fertilizers and reduction in the risk of nutrient leaching and polluting groundwater ("catch crop").

THE PADANA SEMENTI RANGE

- The range of varieties offered by Padana Sementi is the result of many years' research and experience in the field. The in-depth knowledge of the vegetative behaviour of every single variety allows targeted solutions to be offered for all requirements, geographical areas and for every zootechnical use.

JAKO

TYPE

Diploid, Italian

CYCLE

Early, heading 8 days before Excellent

FEATURES

- Only autumn sowing period.
- Use: Hay, with very high yields in the first spring cut.
- In favourable conditions it provides various cuts.
- Tall and erect plant with longer leaves than the test varieties.
- Quick drying to produce high quality hay.

SOWING RATE

35-40 kg/ha

ANDREA

TYPE

Diploid, Westervold (alternative)

CYCLE

Medium -early, heading 4 days before Excellent

FEATURES

- Autumn and spring sowing period.
- Use: Mainly hay in various cuts, but also silage and pasture.
- This variety with Dutch genetics is now well known in the fertile areas of central-northern Italy as a production guarantee, thanks to its abundant leaves and tall height.
- Tall and erect plant with longer leaves than the test varieties.
- Excellent ability to regrow.

SOWING RATE

35-40 kg/ha

MC LAREN PSE

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Medium, heading 5 days before Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage, haylage, winter pasture - Very leafy and tall plant: excellent leaf-stem ratio.
- After winter grazing, it produces a very yielding cut, and is particularly recommended for Mediterranean or warmer areas with mild winter.
- Good fiber digestibility.

SOWING RATE

45-50 kg/ha

MAGNUM

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Medium - early, heading 4 days before Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage, hay (in drier areas), winter pasture.
- Very leafy plant with a good size.
- Multi-purpose variety particularly suitable in central-southern Italy where the autumn-winter pasture offers an abundant cut. It has excellent quality parameters such as the sugar content and palatability.

SOWING RATE

45-50 kg/ha

LINOS

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Medium, heading 2 days before Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage, winter pasture, hay only in the drier areas.
- Plant that establishes quickly, with an excellent leaf-stem ratio.
- Excellent regrowing ability, allows various spring cuts to be provided in good conditions.

SOWING RATE

45-50 kg/ha

BIG BANG

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Medium, heading 1 days before Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage, winter pasture.
- Very recent genetics, selected in Holland.
- Tall, great production potential, very healthy plant.

SOWING RATE

45-50 kg/ha

EXCELLENT

TYPE

Tetraploid, Italian (not alternative)

CYCLE

Medium

FEATURES

- Only autumn sowing period.
- Use: silage, but also hay in favourable conditions.
- Erect plant not susceptible to lodging, tall.
- Thin stem and leafy, compared to other tetraploids it allows fast drying for good quality hay.
- Variety developed in our breeding program, which guarantees good adaptability and very high yields in the various areas.

SOWING RATE

45-50 kg/ha

ADRENALIN

TYPE

Tetraploid, Westervold

CYCLE

Medium, earing one day before Excellent

FEATURES

- Sowing period: autumn and spring
- Use: Pasture, silage
- Rapid settlement
- Tall plant
- Very fast regrowth
- High dry matter production

SOWING RATE

45-50 kg/ha

AUBADE

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Medium - late, heading 2 days after Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage and winter pasture.
- The plant stands out due to its very wide leaves and good resistance to lodging.
- From a quality point of view the high digestibility of the fibre is underlined and the protein content that leads to a high MFU content.

SOWING RATE

45-50 kg/ha

EXTREM

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Medium - late, heading 3 days after Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage, winter pasture. With early sowing, a good autumn cut can be obtained.
- Vigorous plant and productive with quick establishment.
- It has obtained excellent results in central-southern areas of Italy susceptible to spring drought and adapts very well to the cooler northern areas.
- PSE genetics: it highlights good digestibility and a low lignin content compared to average.

SOWING RATE

45-50 kg/ha.

DANERGO

TYPE

Tetraploid, Italian ryegrass (not alternative)

CYCLE

Medium -late, heading 4 days after Excellent

FEATURES

- Autumn sowing.
- Use: silage, haylage.
- Erect plant that facilitates mowing.
- Guaranteed productivity: it was one of the varieties at the top of the official tests in Italy.
- High resistance to leaf rusts and to Fusarium and good tolerance to mildew, guarantee a highly palatable healthy fodder.

SOWING RATE

45-50 kg/ha

DUKAT

TYPE

Tetraploid, Italian (not alternative)

CYCLE

Medium - late, heading 4 days after Excellent

FEATURES

- Only autumn sowing period.
- Use: silage or banded hay. Hay only in optimal conditions.
- Tall, semi-erect plant.
- It has highlighted high production potential and a great tillering ability. For this reason it maintains high yields even in multiple cuts management.
- Variety of Polish genetics recently constituted.

SOWING RATE

45-50 kg/ha.

BORMITRA

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Medium - late, heading 4 days after Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage, winter pasture, green forage.
- Plant with balanced leaf-stem ratio, good tolerance to rust.
- Recently developed variety, suitable for management in various cuts.
- Great palatability observed in pasture and green forage due to the high sugar content.

SOWING RATE

45-50 kg/ha.

EMMERSON

TYPE

Tetraploid, italic (non-alternative)

CYCLE

Late, earing 5 days after Excellent

FEATURES

- Autumn sowing period.
- Use: silage, wrapped hay, green fodder.
- Plant with high leafiness and excellent tolerance to the main pathologies, in particular to rust even in humid environments. Quick establishment after sowing and rapid spring vegetative recovery.
- Low in NDF content and high in metabolizable energy.

SOWING RATE

45-50 kg/ha.

LOLAN

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Late, earing 5 days after Excellent

FEATURES

- Sowing period: autumn and spring.
- Use: silage, wrapped hay, winter pasture.
- Number one variety for productivity!
- Ratio between leaves and stem higher than the average of normal Westervolds.
- Quick recovery: it adapts to allow more cuts in suitable environments.
- The slow maturation allows a wide harvest window, without the risk of compromising quality.

SOWING RATE

45-50 kg/ha.

BARTIGRA

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Late, heading 5 days after Excellent

FEATURES

- Autumn and spring sowing period.
- Use: silage, winter pasture, green forage.
- Fast establishment, adaptable both in the north and the centre-south.
- Resistant to lodging, great tillering ability, and soil coverage in spring.
- Suitable for harvesting in various cuts considering its regrowing ability.

SOWING RATE

45-50 kg/ha.

BARSUTRA

TYPE

Tetraploid, Westervold (alternative)

CYCLE

Late, heading 5 days after Excellent

FEATURES

- Sowing period: autumn and spring.
- Use: silage, haylage, green forage.
- Variety with great production potential.
- Tall, leafy plants, always reliable.

SOWING RATE

45-50 kg/ha.

WHEAT FORAGE

TRITICUM AESTIVUM

FEATURES

- Over recent years soft wheat has become increasingly common as a forage plant both for producing silage and for producing hay, thanks to the excellent quality features of the green plant.
- To use wheat successfully as forage, the variety must be chosen carefully, especially so as to maximise yields.
- The desired features are above average height, excellent tillering ability, very leafy, very healthy plant, short awned spikes.
- Wheat forage is harvested from the start of heading (hay) to the milky-dough stage (chopped forage).

STRENGTHS OF THE SPECIES

- High green matter production levels in more favourable conditions.
- High protein content, good fibre digestibility and high MFU content.
- Lignin content lower than rye and triticale.

	MINIMUM	AVERAGE	MAXIMUM
Dry matter (%)	20,1	20,7	21,4
Protein (% dry matter)	11,6	13,0	14,4
Lipids (% dry matter)	2,2	2,3	2,5
NDF (% dry matter)	57,0	61,0	64,3
ADF (% dry matter)	34,5	37,3	39,7
ADL (% dry matter)	2,9	3,4	4,0
% dry matter	4,7	8,5	10,9
digNDF (% NDF	57,7	62,8	68,3
MFU	0,64	0,69	0,75

Average analyses on green plants in the heading stage (source: Padana Sementi tests)

WHEAT FORAGE	AVERAGE HEIGHT (CM)	BIOMASS PRODUCTION T/HA
CH CAMPALA	110	15,6
ENRICO	120	15,7
ITAKA	120	18,3
KWS CARUSUM	110	20,5
KWS SCIROCCO	100	16,5
KWS STARLIGHT	120	17,8
LISKAMM	120	17,2
LUDWIG TEST.	**100**	**15,7**

SOURCE: Agricola 2000 tests (2022, Lodi)

CH CAMPALA

CYCLE

Early, alternative

FEATURES

- Autumn and spring sowing period.
- Use: forage and grain.
- Plant of good size, short awned spike and good tillering ability.
- Good tolerance to Oidium, Fusariosis and brown rust.
- Excellent resistance to lodging.
- High production potential in both forage and grain.
- It produces good quality grain.

SOWING RATE

In case of autmn sowing 180 kg/ha.
In case of spring sowing 210-220 kg/ha.

ITAKA

CYCLE

Medium early, alternative

FEATURES

- Autumn and spring sowing period.
- Use: forage and grain.
- Tall, leafy plant with awned ear. Excellent resistance to lodging.
- Brand new variety characterised by high biomass production potential, as emerged from the first tests carried out in the Po Valley.
- Excellent health profile: high tolerance to take-all, powdery mildew, leaf rust, good tolerance to Fusarium head blight.
- Produces good quality grain (superior bread making) with high specific weight.
- Extremely adaptable variety, can be successfully cultivated in many areas of central and southern Italy

SOWING RATE

170-180 kg/ha with autumn sowing.
In case of late or spring sowing, 200 kg/ha.

KWS CARUSUM

CYCLE

Medium, alternative

FEATURES

- Sowing period: Autumn and spring
- Use: Forage and grain
- Alternative variety.
- Good size plant, with awnless ear and good tillering capacity.
- Excellent leaf health: tolerance to powdery mildew and yellow rust. Low susceptibility to fusarium and septoria
- Excellent resistance to lodging
- Produces very high-quality grain (high gluten grain)
- Grain with high specific weight.

SOWING RATE

170-180 kg/ha with autumn sowing.
In case of spring sowing, 200 kg/ha.

KWS SCIROCCO

CYCLE

Medium, alternative

FEATURES

- Autumn and spring sowing period.
- Use: forage and grain.
- Plant of good size, short awned spike and good tillering ability.
- Good tolerance to Oidium, Fusariosis and brown rust.
- Excellent resistance to lodging.
- High production potential in both forage and grain.
- It produces good quality grain.
- Its precocity makes it suitable also for many areas of the Center-South.

SOWING RATE

170-180 kg/ha with autumn sowing. In case of spring sowing 200 kg/ha.

LISKAMM

CYCLE

Medium- late, alternative

FEATURES

- Autumn and spring sowing.
- Use: silage or grain.
- Leafy and tall plant with big awnless ear.
- Good tiller production and good stability in relation to the height reached. - Excellent staygreen - The variety stands out for its health and tolerance against leaf rust. For this reason it is recommended for organic farming.
- Produces high quality grain.

SOWING RATE

160-170 kg/ha. In case of spring sowing 180-190 kg/ha.

KWS STARLIGHT

CYCLE

Medium-late, alternative

FEATURES

- Sowing period: Autumn and spring.
- Use: Forage and grain.
- Plant of impressive size, with broad leaves and awnless ear. Excellent tillering potential.
- Good tolerance to septoria and leaf rust.
- Good ear health.
- Excellent resistance to lodging.
- Suitable for silage and hay.
- Produces good quality grain (superior bread making).

SOWING RATE

170-180 kg/ha with autumn sowing.
In case of spring sowing, 200 kg/ha.

KWS FERRUM

CYCLE

Medium- late, not alternative

FEATURES

- Sowing period: autumn.
- Use: silage for zootechnical and bioenergy use.
- Plant with medium-high size, mutical ear and pronounced tillering capacity.
- High plant and ear health
- Excellent resistance to allurement.
- Stable and high yields in the most suitable soils, with good green hold.

SOWING RATE

170-180 kg/ha.

ENRICO

CYCLE

Late, not alternative

FEATURES

- Autumn sowing period.
- Use: forage and grain.
- Brand new variety of Austrian genetics . Tall plant with awnless spike, and biomass yields potential.
- Plant resistant in particular to leaf rusts and Septoria, guarantees the production of healthy and quality fodder.
- High baking quality grain.

SOWING RATE

160-170 kg/ha.

AUGUSTUS

CYCLE

Late, not alternative

FEATURES

- Autumn sowing period.
- Use: forage (silage and hay).
- Tall variety (110-120 cm), short awned spike, erect leaves and great resistance to lodging.
- Very healthy leaves: good resistance to Fusarium and tolerant to rust.
- The plant remains leafy until harvest and guarantees excellent fibre digestibility.

SOWING RATE

160-180 kg/ha.

EDIKT

CYCLE

Late, non-alternative

FEATURES

- Autumn sowing.
- Use: forage and grain.
- Recently established Austrian variety.
- Tall plant with awnless ear. Excellent tillering capacity and broad leaves.
- Excellent fusarium wilt and yellow rust tolerance, good tolerance to powdery mildew.
- Produces high-quality grain (high gluten content) with high specific weight.

SOWING RATE

160-180 kg/ha.

SPELT

TRITICUM SPELTA

FEATURES

- Spelt is a cereal of ancient origins, probably the progenitor of modern soft wheat. Always cultivated to produce flour for bread-making, it has recently been rediscovered, together with other farro species, for its organoleptic and qualitative characteristics in baked products.
- The very adaptable and rustic plant is characterised by a medium-tall size and a long, thin ear (awnless or aristate), which easily fractures on threshing, leaving the seeds enveloped in spikelets.
- Some peculiarities of this species, including its tall size, extraordinary foliage and significant health and resistance, make it potentially an excellent forage crop for intercropping in hay or silage Westervoldicum grass fields.
- A careful choice of variety is, once again, essential to obtain the best qualitative and quantitative forage results.

STRONG POINTS OF THE SPECIES

- When harvested before earing, it provides palatable forage with good fibre quality and a protein content of 12-14%.
- The thin stem makes it suitable for producing quality hay. However, given its impressive size (up to 140 cm at the start of earing), intercropping in grass beds is recommended to reduce the risk of lodging.

EBNERS

CYCLE

Very late, non-alternative.

FEATURES

- Autumn sowing period.
- Use: grass beds for silage and hay. The optimal cutting time is from the boot stage to the start of earing.
- Tall variety (120-140 cm at earing), awnless ear, leafy and with great tillering capacity.
- Pronounced green stability that allows for a wider harvest window than other cereals.
- Good resistance to winter cold and water stress and to common leaf diseases.

SOWING RATE

180-220 kg/ha of un-hulled seed.

SM ORKUS

CYCLE

Very late, non-alternative

FEATURES

- Autumn sowing period.
- Use: grass beds for silage and hay. The optimal cutting time is from boot stage to the start of earing.
- Tall plant (125-135 cm at earing), with broad leaves and awnless ear. Medium-thin stem.
- The abundant foliage allows for good protein content in the forage (up to 14% at boot stage) and good fibre digestibility.
- Good resistance to winter cold and leaf rust.

SOWING RATE

180-220 kg/ha of un-hulled seed..

SPELT	BIOMASS YIELD D.M. (T/HA)	AVERAGE HEIGHT (CM)
EBNERS	21,6	155
SM ORKUS	17,6	145

SOURCE: Agricola 2000 tests (2023, Lodi).

BARLEY

HORDEUM VULGARE

FEATURES

- A cereal traditionally used for forage crops, it is especially suited to pasture, green forage or silage.
- The harvesting stage is extremely important as it must be harvested before the heading stage so that the quality is not lost.

STRENGTHS OF THE SPECIES

- Barley produces high quality forage, with a high energy content (see table).
- Compared to wheat and oats, it is earlier.
- Excellent adaptability to lean or loose soils and to those that tend to be salty.

	MINIMUM	AVERAGE	MAXIMUM
Dry matter (%)	22,8	24,3	25,8
Protein (% dry matter)	12,1	12,4	12,8
Lipids (% dry matter)	1,5	1,6	1,6
NDF (% dry matter)	56,2	57,3	58,5
ADF (% dry matter)	32,7	33,7	34,8
ADL (% dry matter)	3,4	3,4	3,5
Sugar (% dry matter)	8,7	9,2	9,6
digNDF (% NDF)	63,7	65,0	66,3
MFU	0,75	0,74	0,76

Average analyses on green plants in the heading stage (source: Padana Sementi tests)

Northern italy:

BARLEY	PRODUCTION INDEX (GRAIN YIELD)
KWS TARDIS	116
KWS TONIC	106
Average	100 (7,8 t/ha)

Centre italy:

BARLEY	PRODUCTION INDEX (GRAIN YIELD)
KWS TARDIS	108
Average	100 (5,4 t/ha)

SOURCE: Informatore Agrario, 26/2022

BARLEY	BIOMASS YIELD D.M. (T/HA)	AVERAGE HEIGHT (CM)
KWS ORBIT	18,2	108
KWS TONIC	15,9	105
SENTA	14,6	108

SOURCE: Agricola 2000 tests (2022, Lodi)

MOCHINA 9

NEW

CYCLE

Very early, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: forage.
- Multi-rowed variety with ear without bristles, which guarantees a wider harvest window.
- Tall, leafy plant with a high tendency to tillering and excellent green stability. The absence of bristles allows for more palatable forage even after earing. It is suitable for winter pasture
- Excellent plant health: good resistance to powdery mildew, rhynchosporiosis, helminthosporiosis and leaf rust.

SOWING RATE

130-140 kg/ha, depending on sowing time.

LEANDRA

CYCLE

Early, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: grain and forage.
- Two-row barley variety selected for malt production.
- Medium-sized plant with good stability.
- High production potential.
- Excellent stability and resistance to lodging.
- Produces grain of excellent calibre and high specific weight, with excellent parameters for malting.

SOWING RATE

140-150 kg/ha, depending on sowing time.

KWS TONIC

CYCLE

Medium, non-alternative.

FEATURES

- Autumn sowing period.
- Use: forage and grain.
- Multi-rowed variety, medium-tall size, vigorous growth.
- Great productivity: in the official tests it competes with the best hybrid rice.
- Excellent resistance to lodging.
- High specific weight and good caliber grain, suitable for zootechnical use.

SOWING RATE

140-150 kg/ha.

SENTA

CYCLE

Medium-Early, non-alternative.

FEATURES

- Autumn sowing period.
- Use: dual use for grain and forage.
- Multi-rowed barley variety with excellent size and broad leaves.
- Good biomass production potential.
- Excellent stability and resistance to lodging.
- Good resistance to powdery mildew.
- High yield potential also in grain, with good calibre seeds.

SOWING RATE

130-140 kg/ha.

KWS ORBIT

CYCLE

Medium, non-alternative.

FEATURES

- Sowing period: Autumn.
- Use: Forage and grain.
- Multi-rowed variety.
- Medium-high size plant with excellent tillering capacity.
- Great production potential for both grain and silage.
- Excellent stability despite its large size.
- Grain with high specific weight and good calibre, suitable for zootechnical uses.

SOWING RATE

130-150 kg/ha.

HEIDI

CYCLE

Medium - early, not alternative.

FEATURES

- Autumn sowing period
- Use: forage and grain
- Multi-rowed variety, tall size, vigorous growth.
- Very good grain quality and specific weight
- Excellent resistance to lodging.
- Optimum harvest for forage from pre-spreading to no later than milk maturity.

SOWING RATE

150-160 kg/ha.

KWS TARDIS

CYCLE

Medium, non-alternative.

FEATURES

- Autumn sowing period.
- Use: forage and grain.
- Medium-high size two-row barley.
- Good resistance to lodging.
- Favourable health profile: resistant to yellow mosaic virosis, good tolerance to Rhynchosporium, brown rust, powdery mildew and helminthosporiosis.
- Very high production potential: in favourable conditions it competes in yield with multi-rowed barleys.
- Very high specific weight and good calibre.

SOWING RATE

140-150 kg/ha.

TRITICALE

X TRITICOSECALE

FEATURES

- Cereal that originates from a cross between wheat and rye, initially selected as a grain cereal.
- This cereal is becoming increasingly important for the production of green matter and for zootechnics and bioenergy.
- Padana Sementi Elette has been promoting this species for a long time and it is among the first Italian companies to focus on its potential for pure forage and in forage crop intercropping.
- The company is also making investments for the selection in Italy of new varieties, to extend its already wide range of varieties.

STRENGHTS OF THE SPECIES

- More hardy, adaptable and productive species than wheat and higher quality compared to rye (see table).
- Crop that is suited to being managed sustainably, with low agronomic input (fertilizers, plant protection products).
- Very healthy plant, which is naturally less susceptible to fungal diseases compared to the other cereals. In unfavourable years (damp, mild winters), any fungal attacks can be easily contained with a targeted treatment if extensive symptoms present.

	MINIMUM	AVERAGE	MAXIMUM
Dry matter (%)	18,3	21,1	24,3
Protein (% dry matter)	9,9	10,9	11,5
Lipids (% dry matter)	1,6	2,1	2,6
NDF (% dry matter)	65,5	67,7	71,1
ADF (% dry matter)	38,5	40,6	43,2
ADL (% dry matter)	3,2	4,1	4,8
Sugar (% dry matter)	2,3	5,1	8,9
digNDF (% NDF)	53,9	59,6	66,7
MFU	0,59	0,64	0,69

Average analyses on green plants in the heading stage (source: Padana Sementi tests)

FROOME

CYCLE

Very early, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: silage.
- Brand new variety, with tall plant and well developed ear.
- It adapts to all Italian conditions, but it is particularly indicated in areas with a Mediterranean climate where it can exploit at best the mild winters and short springs, avoiding the effects of anticipated droughts.
- Resistant to lodging.

SOWING RATE

180-200 kg/ha.

GRIFONE

CYCLE

Early, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: silage.
- Italian genetics, selected by CREA (national institute for agricultural research) in collaboration with Padana Sementi for precocity and complete alternativity.
- Good plant size, suitable for cultivation in all Mediterranean areas and where the earliest harvest is needed.
- Plant adaptable and lodging resistant.

SOWING RATE

180-200 kg/ha.

DUBLET

CYCLE

Medium -early, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: silage, biomass, hay.
- High plant, high leafiness.
- It is distinguished by its excellent health and resistance to Septoria and brown rust, even in tough years.

SOWING RATE

160-180 kg/ha.

COSINUS

CYCLE

Medium late, not alternative.

FEATURES

- Autumn sowing period.
- Use: silage for zootechnical and bioenergetic use.
- Impressive size plant with great lodging resistance.
- High and stable production in all areas, with good green colour reten - tion.
- Good health of the plant.

SOWING RATE

150-160 kg/ha.

GORILLA

CYCLE

Medium early, alternative.

FEATURES

- Autumn and spring sowing season.
- Use: recommended both for silage and grain production.
- New variety developed by CREA (national institute for agricultural research) in collaboration with Padana Sementi.
- Plant with good size and excellent tiller production, very reliable and adaptable to different areas.
- It is distinguished by its high health and resistance to fleaf diseases and in particular to rusts.
- Lodging resistant.

SOWING RATE

160-180 kg/ha.

TRIMONDO

CYCLE

Medium-late, non-alternative

FEATURES

- Sowing period: autumn.
- Use: silage and grain
- Medium-high size variety, with significantly developed ear.
- Excellent tillering capacity, particularly by early sowing.
- Marked resistance to lodging.
- Good leaf health, particularly against powdery mildew, brown rust and yellow rust.
- Tests in Northern Italy have shown higher than average biomass yields.

SOWING RATE

170-180 kg/ha.

CLAUDIUS

CYCLE

Medium, not alternative.

FEATURES

- Autumn sowing period.
- Use: silage, biomass, grain.
- Tall plant, not very susceptible to diseases.
- Completely new in 2015: all the potential of this variety has emerged from the official Austrian tests.

SOWING RATE

160-180 kg/ha

TRIMAXUS

CYCLE

Late, not alternative.

FEATURES

- Sowing period: autumn.
- Use: biomass.
- New Austrian variety expressly selected for high biomass production.
- Very tall plant with good tillering capacity.
- Perfect balance between the length of the stem and the size of the ear which allows to combine yield and stability.
- High health and resistance, particular against yellow rust and Septoria.

SOWING RATE

170-180 kg/ha.

LEONTINO

CYCLE

Late, not alternative.

FEATURES

- Autumn sowing period.
- Use: silage for zootechnical and bioenergetic use.
- Impressive size plant with great lodging resistance.
- High and stable production in all areas, with good green colour reten - tion.
- Good health of the plant.

SOWING RATE

170-180 kg/ha.

TRITICALE	BIOMASS YIELD D.M. (T/HA)	AVERAGE HEIGHT (CM)
EXP. 13 GSTR 4-5	16,8	107
COSINUS	21,9	118
EXP. DL 702/16	14,4	118
FROOME	18,6	122
GORILLA	17,3	115
GRIFONE	17,4	123
TRIMONDO	20,1	102

SOURCE: Agricola 2000 tests (2023, Lodi).

OATS

AVENA SATIVA

FEATURES

- Among the cereals it is probably the one that lends itself best to forage production and the one that is most often used for this purpose.
- The different types of oats are traditionally distinguished by the colour of the grain: white oats, mainly used for producing grain, black oats that are more leafy and suitable for forage, red oats particularly suitable for the hot and dry climates of central-southern Italy.
- The careful choice has led to the resolution of some limiting factors of this plant; resistance to lodging, and resistance to winter cold also in northern Italy.
- Confirming the attention that goes into the selection of our range of varieties, some have been at the top of the official tests for a number of years now.

STRENGTHS OF THE SPECIES

- Multi-functional forage cereal: pasture, hay, green forage, grain
- Suited to all Italian environments, it expresses its potential best in the central-southern areas with a mild winter.
- Compared to other cereals, oats allow a distinctly wider harvesting window, with a very slow deterioration of the forage quality as it ripens further.
- The quality of the forage produced is very high: low lignin content, high fibre digestibility (similar to ryegrass), and MFU yield higher than any other cereal (see table).

	MINIMUM	AVERAGE	MAXIMUM
Dry matter (%)	16,0	18,3	20,2
Protein (% dry matter)	10,1	11,6	12,8
Lipids (% dry matter)	1,8	2,2	2,5
NDF (% dry matter)	48,6	55,7	66,2
ADF (% dry matter)	32,4	36,5	41,9
ADL (% dry matter)	2,1	2,7	3,8
Sugar (% dry matter)	4,3	8,8	13,1
digNDF (% NDF)	61,9	71,4	77,2
MFU	0,68	0,77	0,82

Average analyses on green plants in the heading stage (source: Padana Sementi tests)

INSIGNIA

CYCLE

Early, semi-alternative.

FEATURES

- Sowing period: preferably autumn.
- Use: forage crops, grain.
- Variety with white grains, minimally prone to lodging, with medium-tall height and medium stems. Suitable for haymaking.
- High yield potential in quality grain, with high protein content and high specific weight. Reference variety in the official tests conducted in Spain.
- Tolerant to leaf rust and resistant to powdery mildew.
- Excellent adaptability throughout Italy.

SOWING RATE

130-150 kg/ha.

PREVISION

CYCLE

Early, alternative.

FEATURES

- Autumn and spring sowing period
- Red grain variety, with thin plant suitable for hay, medium-tall.
- Use: winter pasture and hay, forage crops.
- Perfect variety for central-southern Italy, where it is shown to be very hardy and reliable.

SOWING RATE

130-150 kg/ha.

PROKOP

CYCLE

Medium -early, alternative.

FEATURES

- Autumn and spring sowing period.
- Usage: forage (silage, banded hay) and grain.
- New white-grain variety, with medium-high size and good resistance to lodging.
- Good tolerance to rust and Oidium.
- It produces grain of good specific weight.

SOWING RATE

130-150 kg/ha.

OMBRONE

CYCLE

Medium, alternative.

FEATURES

- Sowing period: autumn or spring.
- Use: winter pasture and hay, forage crops.
- Red grain variety, tall in size.
- The excellent tillering capacity, the medium-fine stems and the excellent leaf / stem ratio make this variety suitable for haymaking and the formation of early cycle weeds.
- Variety adaptable to all Italian areas and particularly indicated in areas characterised by mild and dry springs.

SOWING RATE

130-150 kg/ha.

EDDY

CYCLE

Medium-late, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: forage (silage, banded hay, grass mix) and grain.
- Recently established Austrian variety.
- Good size plant with huge leaves and sturdy stem.
- Excellent stability and resistance to lodging
- Produces good quality grain and specific weight, suitable also for human consumption.
- High resistance to diseases.

SOWING RATE

130-140 kg/ha.

BERDYSZ

CYCLE

Medium-late, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: grain and forage (silage, bonded hay).
- Yellow grain variety.
- Average size plant, not susceptible to lodging, optimal leaf/stem ratio.
- Resistant to Oidium and Septoria.

SOWING RATE

140-150 kg/ha.

AVENY

CYCLE

Late, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: dual use for grain and forage (in intercropping and pure).
- White grain variety, tall.
- Very resistant to lodging compared to all other oat varieties.
- Resistant to winter frost.
- Stands out due to its very high production potential as shown and every year confirmed by the results of the tests coordinated by CRA.
- Very high performance levels in central-northern Italy.
- Very healthy plant even in difficult years.

SOWING RATE

130-150 kg/ha.

GNIADY

CYCLE

Late, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: dual use for grain and forage (in intercropping and pure).
- Black grain variety, medium-tall and with wide and healthy leaves.
- High resistance to lodging.
- Resistant to winter frost.
- Still in the official tests, it is currently the most productive black oat variety in Italy, particularly in the central-northern areas.

SOWING RATE

130-150 kg/ha.

FORRIDENA

CYCLE

Late, alternative.

FEATURES

- Autumn and spring sowing period.
- Use: forage (silage, bonded hay), pure or in intercropping.
- White grain variety.
- The plant can be clearly distinguished by its imposing size (up to 170 cm) and abundant leaves. Therefore intercropping guarantees the lowest risk of lodging and the best performance levels in the field.
- Allows very high quantities of top quality green matter to be produced (above average digestibility for oats).

SOWING RATE

110-130 kg/ha.

BRISTLE OAT

AVENA STRIGOSA

STRENGTHS OF THE SPECIES

- Cereal with an early cycle, adaptable and not demanding in terms of agronomic input.
- Suitable for marginal soils, also in cold or mountainous areas.
- Allows good grain or forage yields, with low production costs.

IAPAR 61

CYCLE

Medium, alternative.

FEATURES

- Use: Hay and pasture. However, it is recommended to use it in intercropping to reduce the risk of lodging and improve yields.
- Tall plant, very healthy and not susceptible to particular diseases.
- Tolerant to leaf rust
- Excellent adaptability throughout Italy, it also adapts well to less fertile soils and the difficult central-southern areas with the risk of spring drought.

SOWING RATE

70 kg/ha.

CADENCE

NEW

CYCLE

Late, alternative

FEATURES

- Autumn and spring sowing period.
- Use: hay, pasture, forage crops, cover crop.
- Given its low resistance to frost, it is suitable for use as a frost-susceptible autumn cover (with sowing at the end of summer).
- Great tillering capacity and leaf health make it perfect for high-quality forage.
- Rapid establishment and initial development, allowing abundant winter grazing.

SOWING RATE

60 kg/ha

RYE

SECALE CEREALE

STRENGTHS OF THE SPECIES

- Cereal with an early cycle, adaptable and not demanding in terms of agronomic input.
- Suitable for marginal soils, also in cold or mountainous areas.
- Allows good grain or forage yields, with low production costs.

BORFURO

CYCLE

Medium, not alternative.

FEATURES

- Autumn sowing period.
- Use: grain or biomass (also in intercropping).
- Tall variety with good quality grain for bread flours.

SOWING RATE

160-170 kg/ha.

DUKATO

CYCLE

Medium, not alternative.

FEATURES

- Autumn sowing period.
- Use: forage (silage) and grain.
- Medium-sized plant with discrete lodging resistance.
- Affordable in all environments.
- Good tolerance to major cereal diseases.
- Produces grain to make into bread.

SOWING RATE

160-170 kg/ha.

POWERGREEN

NEW

CYCLE

Medium-early, non-alternative

FEATURES

- Autumn sowing period.
- Use: silage, biomass
- Medium-high size plant, rapid and vigorous spring growth.
- Good resistance to lodging.
- Specifically selected for biomass production.
- Better quality characteristics compared to traditional varieties, in particular in terms of protein content
- Also suitable for challenging terrains.

SOWING RATE

160-170 kg/ha.

Heading period of the different varieties

CRIMSON CLOVER

TRIFOLIUM INCARNATUM

available with Rhizobium NITRO GENIUS TF

FEATURES

- Annual clover that can be used both in areas with mild climates and in more northern areas, considering its good resistance to cold (up to -20°C).
- Can be used both pure and in mixtures for pasture meadows, hay and green manure.
- In spring it provides a single cut and if sowed early in autumn it provides an excellent pasture for the whole winter.
- The green forage does not cause meteorism.
- Suitable for loose to clay soils, with pH between 5.5 and 7.5.

SOWING RATE

30-35 kg/ha pure seeds or 2 dosages of 20 kg/ha seeds mixed with rhizobium.

ALBEROBELLO

CYCLE

Early.

FEATURES

- Excellent for abundant hay harvest, can be grazed in winter.
- Great production potential, both for formation of forage mixtures and for early production of green manure for nitrogen soil enrichment.

PIER

CYCLE

Early.

FEATURES

- Very leafy and resistant leaves after cutting.
- Use: hay, forage, pasture.

OPOLSKA

CYCLE

Medium-late.

FEATURES

- Very leafy and resistant leaves after cutting.

HYKNUSA

CYCLE

Very late.

FEATURES

- Obtained by Padana Sementi Elette starting from Sardinian ecotypes.
- Great regrowing ability, extended period of use which allows yields to be maximised.
- Use: particularly suitable for good quality pasture, followed by the spring cut.

BERSEEM CLOVER

TRIFOLIUM ALEXANDRINUM

available with Rhizobium NITRO GENIUS TF

FEATURES

- Annual clover generally used pure, but that can be used for intercropping in forage crops.
- Remarkable resistance to spring drought, it adapts well to Mediterranean conditions.
- Poor resistance to winter frost: in northern Italy it can be sowed in spring where it can provide two or more cuts.
- In mild climates it can be cut various times from autumn until spring.
- Suitable for grazing, green forage and hay.
- It adapts to various types of soil, but prefers clay and alkaline soils. optimal pH between 6 and 8.

SOWING RATE

20-30 kg/ha pure seeds or 2 dosages of 20 kg/ha seeds mixed with rhizobium.

LAURA

CYCLE

Medium-late.

FEATURES

- Variety with good tillering and regrowing ability.
- Average tolerance to the cold, it is more productive in central-southern areas.

MARIO

CYCLE

Medium-late.

FEATURES

- Two-colour seed variety, with decent tolerance to the cold.
- Good resistance of the leaf after cutting and high leaf/stem ratio.
- Use: hay, forage, pasture.

LEILA

organic

CYCLE

Medium.

FEATURES

- Selected variety in Central Italy, with good resistance to water stress.
- Medium-sized plant with vigorous growth.
- Use: hay, pasture.

PERSIAN CLOVER

TRIFOLIUM RESUPINATUM

available with Rhizobium NITRO GENIUS TF

FEATURES

- Annual clover suitable for producing hay or for grazing, pure, or in a mixture with graminaceous crops.
- It prefers clay or medium textured soils with pH between 5.5 and 8. Not suitable for sandy and very acidic soils.
- Produces very palatable and high quality forage: the stalk is thick, but hollow inside and very soft.
- It is sowed in the autumn in the central-southern areas and in the spring in the north.

SOWING RATE

8-10 kg/ha pure seeds or 2 dosages of 20 kg/ha seeds mixed with rhizobium.

LIGHTNING

CYCLE

Medium-late.

FEATURES

- Variety suitable for strong and alkaline soils.
- Semi-erect plant, suitable for cutting and intercropping with graminaceous plants.

LOGUDORO

CYCLE

Medium.

FEATURES

- Erect plant, with vigorous and hollow stalks.
- Produces excellent, palatable and digestible forage (16-24% crude protein).
- Use: pasture, hay and silage.
- Quick establishment that makes it suitable for spring sowing with excellent production levels.

MOA

CYCLE

Late.

FEATURES

- Thanks to slow maturation, it maintains the forage quality for a long time.
- High production potential thanks to the long vegetative period in areas with fresh soil or supplemental irrigation.
- Use: pasture, hay and silage. Its upright habit makes it particularly suitable for inclusion in grass beds with pasture grasses.
- Rapid regrowth after cutting or grazing.
- Good adaptability to different types of soil and good resistance in soils subject to water stagnation.

LASER

CYCLE

Late.

FEATURES

- Very flexible use: good winter growing and extended season of use for pasture, rapid regrowth for green forage or hay.
- Stalk has good tolerance to rust and Phytophthora.

COMMON VETCH

available with ALOSCA® Rhizobium Fgroup

VICIA SATIVA

FEATURES

- Annual climbing species, mainly used in intercropping for the formation of autumn-spring forage crops along with other leguminous or graminaceous plants, to increase the protein content.
- Very hardy and adaptable plant: grows in light and clay soils, not very susceptible to waterlogging with pH comprised between 5.5 and 8.0.
- Excellent green manure species due to its great nitrogen fixing ability and its great ability to cover and suppress weeds.
- Sowing rate: 90-120 kg/ha.

PIETRANERA

organic

CYCLE

Early.

MARIANNA

organic

CYCLE

Early.

ALEXANDROS

CYCLE

Medium-early.

NIKIAN

CYCLE

Medium.

GRAVESA 81

CYCLE

Late.

HAIRY VETCH

available with ALOSCA® Rhizobium Fgroup

VICIA VILLOSA

FEATURES

- Climbing species which, compared to the common vetch, is very hardy and resistant to cold, even in mountainous areas.
- It can regrow if it is cut before flowering, whereas if it is harvested later it quickly loses its quality as the fibres get harder.
- It withstands saline soils and drought, adapting to acidic and sandy soils as well as heavy soils susceptible to waterlogging.
- Excellent for green manure, thanks to its aggressive spring growth, It is recommended always to bury it before the seeds ripen.
- Sowing rate: 75-100 kg/ha.

RM4

CYCLE

Medium-early.

CAPELLO

CYCLE

Medium.

NAMOI

CYCLE

Medium-late.

PURPLE VETCH

available with ALOSCA® Rhizobium Fgroup

VICIA BENGHALENSIS

FEATURES

- Species with a late cycle, suitable for central-southern Italian environments.
- Does not withstand winter frost.
- Excellent quality forage both for hay and for silage.
- Sowing rate: 50-70 kg/ha.

POPANY

CYCLE

Late.

HUNGARIAN VETCH

available with ALOSCA® Rhizobium Fgroup

VICIA PANNONICA

FEATURES

- Species with good resistance to cold, suitable for damp/humid environments with heavy and clay soils.
- Compared to the hairy vetch it is less aggressive in intercropping, allowing balanced mixtures to be formulated.
- Sowing rate: 80-90 kg/ha.

DETENICKA

CYCLE

Medium.

FABA BEAN

VICIA FABA MINOR

available with ALOSCA® Rhizobium Fgroup

FEATURES

- This species is suitable for sandy to clay soils with sub-alkaline reaction, and it does not withstand drought or prolonged waterlogging.
- Used pure to produce grain or, less frequently intercropped, for forage crops.
- The excellent quality grain (25-30% protein) is used in the formulation of feed.
- Excellent for improving soil due to its high nitrogen fixing ability, therefore it is suitable for green manure.

PROTHABON 101

CYCLE

Medium-early.

FEATURES

- Autumn sowing period (centre-south) or early spring in the north.
- Use: grain, green manure.
- Average-tall plant (110-120 cm), with a light grain, insertion of the first pod high off the ground (15 cm), to facilitate harvesting and prevent losses.
- Not very susceptible to lodging.
- High protein content of the grain (up to 31-33%), suitable for producing flour with high protein content.
- Constantly high production levels.

SOWING RATE

With precision sowing: 40-50 seeds/sqm, corresponding to 180-190 kg/ha.
TGW: 480 g.

SOLON

CYCLE

Medium-early.

FEATURES

- Autumn sowing period (Center-South) or early spring in the North of Italy.
- Use: grain, green manure.
- Medium size plant (100-120 cm), not very susceptible to lodging.
- Light colour grain variety.
- Good resistance to low temperatures.
- High protein content of grain (up to 31-32%), suitable for the production of protein flours and zootechnical feeding.

SOWING RATE

With precision sowing: 40 seeds/sqm, corresponding to 200-240 kg/ha.
TGW: 500 g.

PEA

PISUM SATIVUM SSP. HORTENSE

available with ALOSCA® Rhizobium Fgroup

FEATURES

- Sub-species mainly used for producing grain for human food or zootechnics. It is often added to forage mixtures to increase the protein content of the forage.
- Quite resistant to winter cold (maximum resistance stage at 4-5 leaves).
- Does not tolerate spring heat and drought, or waterlogging.
- Average recommended seed investment: 120 seeds/sqm.

KAMELEON

KWS

CYCLE

Early.

FEATURES

- Sowing period: Autumn and spring.
- Use: grain and forage.
- Afila-type plant, medium size with yellow grain.
- Excellent resistance to lodging and stability during threshing, without loss of pods.
- Excellent grain production potential.
- High protein content grains.

SOWING RATE

100-110 seeds/sqm.
TGW: 268 g.

TIP

NEW

CYCLE

Medium-early.

FEATURES

- Use: grain and forage.
- Semi-afila variety with yellow grain and upright habit
- Good resistance to lodging despite the medium-high size.
- Particularly suitable for intercropping in forage grass beds, with an excellent compromise between biomass and grain.
- If used for grain, it has excellent production potential and quality grain, allowing high protein yields/ha.

SOWING RATE

80-90 seeds/sqm.
TGW: 240 g.

KARACTER

KWS

CYCLE

Medium.

FEATURES

- Sowing period: Autumn and spring
- Use: grain and forage.
- Good size afila-type plant with yellow grain.
- Good tolerance to Aphanomyces.
- Grains with high protein content.
- Excellent for intercropping in forage grass beds.

SOWING RATE

100-110 seeds/sqm
TGW: 240 g.

FORAGE PEA

PISUM SATIVUM SSP. ARVENSE

available with ALOSCA® Rhizobium Fgroup

FEATURES

- Climbing plant with real leaves and greater vegetative development than the pea.
- It is exclusively used in intercropping with graminaceous and leguminous crops for producing green forage or silage.
- In areas with mild climates it can be used instead of vetch, providing forage with more sugar and less fibre.

SOWING RATE

200-220 kg/ha.

OLYMPOS

organic

CYCLE

Medium-late.

FEATURES

- Variety with excellent biomass production potential.
- Slow maturation makes it most suitable for intercropping in longer-cycle fodder grass beds without causing excessive competition.

ARVIKA

CYCLE

Early.

FEATURES

- Reference variety for forage use, with broad leaves and rapid development.
- The significant leaf content helps produce protein-rich forage.

PINK SERRADELLA

ORNITHOPUS SATIVUS

disponibile con Rizobio ALOSCA® gruppo S

FEATURES

- Annual leguminous crop for pasture, with spindly, prostrate, upward and very branched stems and composite leaves. Flowers in pale pink heads.
- Suitable for adding to autumn-spring pasture forage crops or pure.
- Provides very palatable, high quality forage (protein 19%, digestibility of dry matter 70-80%), does not cause any problems for livestock.
- Suitable for acidic soils (pH between 4 and 7), lean from sandy to silty. Not suitable for alkaline soils with pH >7.5.
- Fundamental inoculation with specific rhizobium Alosca group S.

SOWING RATE

25-30 kg/ha of un-hulled seed.

EMENA

CYCLE

Medium-early.

BLUE LUPIN

LUPINUS ANGUSTIFOLIUS

disponibile con Rizobio ALOSCA® gruppo S

FEATURES

- Species that enhances poorer and more acidic soils (pH between 5 and 6.5).
- Excellent soil improver when used as a green manure or cover crop.

SOWING

October to December or spring.

SOWING RATE

130-150 kg/ha.

BOREGINE

FEATURES

- Medium-early variety.
- Sweet variety, with a very low bitter substance content.
- Medium-high size plant with rapid initial growth
- Flower colour: white
- Can be used as a protein source for feed.

Other varieties: SONET

COWPEA

VIGNA UNGUICULATA, SIN. SINENSIS

FEATURES

- Annual leguminous crop with a summer cycle of tropical origin, marked by its fast growth and great hardiness.
- Within this species, specific varieties for grain (black-eyed pea) or for forage have been chosen, with significant development of the green mass.
- - Optimal development takes place between 20 and 30°C, with excellent resistance to high temperatures and temporary water stress.

RED CALOONA

CYCLE

Early (60 days from emergence to flowering).

FEATURES

- Use: forage (pure or in mixture), summer green manure.
- Variety specifically selected for forage use.
- Erect plant, average-tall, very leafy.
- Excellent soil coverage ability, with vigorous growth.
- Excellent forage properties, particularly due to the protein and metabolizable energy content.
- Great soil improvement effect, with low agronomic input.

SOWING RATE

25-30 kg/ha, pure.

SOWING PERIOD

Minimum soil temperature of 18°C.

CAP 312

CYCLE

Medium (70 days from emergence to flowering).

FEATURES

- Use: forage and green manure. It adapts well to intercropping.
- Plant: semi-climbing habit, indeterminate growth.
- Very resistant to water and thermal stress.
- Seed colour: light brown.
- Plant diseases: low susceptible.

SOWING RATE

40-45 kg/ha pure, equal to approximately 40 seeds/sqm.
TGW: 170-175 g

SOWING PERIOD

Minimum soil temperature of 18°C.

SUBTERRANEAN CLOVER

TRIFOLIUM SUBTERRANEUM

available with Rhizobium NITRO GENIUS TF

FEATURES

- This leguminous species, that has an autumn-spring life cycle, the best self-reseeding species thanks to the plant's peculiar feature of actively reburying the seeds and the high proportion of hard seeds (40-50%).
- It forms long-lasting pastures withstanding the dry summers of Mediterranean areas due to the substantial deposits of seeds in the soil, which germinate in the autumn in favourable conditions.
- Prostrate plant, particularly suitable for grazing.
- This species is the most suitable for the grassing of tree crops in Mediterranean areas, where it is reasonably tolerant to semi-shading and above all does not create any water competition with the crops in the summer period.
- The genetic improvement has created many varieties that stand out due to their minimum water requirements (AAP= Average Annual Precipitation) and cycle length. The precocity is classified in classes 1 to 9: Class 1 with 80 days from sowing to flowering; class 9 with 145 days.
- Sowing: recommended in the autumn at the rate of 25-35 kg/ha.

IT CAN BE SPLIT INTO THREE SUB-SPECIES

1. **SUBTERRANEAN** (ssp. subterraneum): the least sensitive to cold, suitable for acidic and loose soils, it is the most active at burying seeds. Black seeds.
2. **BRACHYCALYCINUM** (ssp. brachycalicinum): the most suitable for sub-alkaline and clay soils, not very good at burying seeds. Black or black-reddish seeds.
3. **YANNINICUM (ssp. yanninicum):** suitable for wet areas with neutral to sub-acidic soils. Light coloured seeds.

SUBTERRANEAN SUB-SPECIES

LOSA

FEATURES

- Very early cycle (class 2).
- AAP: 450 mm.
- Soil pH 5-7.

DALKEITH

FEATURES

- Very early cycle (class 2).
- AAP: 450 mm.
- Soil pH 5-7.

SEATON PARK

FEATURES

- Early cycle (class 3).
- AAP: 590 mm.
- Soil pH 5-7.

WOOGENELLUP

FEATURES

- Medium-cycle (class 5).
- AAP: 550 mm.
- Soil pH 5-7.

CAMPEDA

FEATURES

- Medium- cycle (class 5).
- AAP: 550 mm.
- Soil pH 5-7.

DENMARK

FEATURES

- Late cycle (class 7)
- AAP: 600 mm.
- Soil pH 4.5-7.

LEURA

FEATURES

- Late cycle (class 9).
- AAP: 700 mm.
- Soil pH 4.5-7

BRACHCALYCINUM SUB-SPECIES

MINTARO

FEATURES

- Medium- cycle (class 5).
- AAP: 460 mm.
- Soil pH 5-8.

CLARE

FEATURES

- Medium-late cycle (class 6).
- AAP: 550 mm.
- Soil pH 5-8.

ANTAS

FEATURES

- Medium-late cycle (class 6.5).
- AAP: 450 mm.
- Soil pH 5-8.

YANNINICUM SUB-SPECIES

MONTI

FEATURES

- Medium-early cycle (class 4): the earliest of the Yanninicum types.
- AAP: 500 mm.
- Soil pH 5.5-7.

TRIKKALA

FEATURES

- Medium- cycle (class 5).
- AAP: 620 mm.
- Soil pH 5.5-7.

GOSSE

FEATURES

- Medium-late cycle (class 7).
- AAP: 620 mm.
- Soil Ph 5.5-7.

NAPIER

FEATURES

- Late cycle (class 7).
- AAP: 600 mm.
- Soil pH 5.5-7.

ARROWLEAF CLOVER

TRIFOLIUM VESICULOSUM

available with Rhizobium NITRO GENIUS TF

FEATURES

- Annual clover suitable for the Mediterranean climate, where it reaches significant heights (over 1 m), with high yields.
- Erect plant with good quality forage which make it suitable for intercropping with graminaceous species.
- It spreads easily and lasts a long time in pasture lands.
- It is suitable for loose and not too calcareous soils, whereas it is not suitable for heavy soils or waterlogging. Optimal pH between 5.0 and 7.5.

CEFALÙ

CYCLE

Early.

SOWING RATE

10-12 kg/ha.

ZULU II

CYCLE

Medium-late.

SOWING RATE

8-10 kg/ha.

BALANSA CLOVER

TRIFOLIUM MICHELIANUM

available with Rhizobium NITRO GENIUS TF

FEATURES

- Annual clover with autumn-spring cycle, suitable for regions with a Mediterranean climate.
- It is a good self-reseeding species, thanks to its high proportion of hard seeds and the formation of substantial deposits in the soil.
- It prefers clay soils, also tolerating waterlogging. It adapts to a wide range of pH from acid to distinctly alkaline with values between 5 and 9

SOWING RATE

8-10 kg/ha, pure.

PARADANA

CYCLE

Medium.

BOLTA

CYCLE

Late.

Other available varieties: VISTA

BLURR MEDIC

MEDICAGO POLYMORPHA

disponibile con Rizobio ALOSCA® gruppo AM

FEATURES

- Annual leguminous crop common in Mediterranean pastures. Very hardy and productive, resistant to intensive grazing, then providing a good spring cut.
- Excellent self-reseeding ability, respecting the plant during flowering and seed ripening
- Particularly suitable species for technical grassing in Mediterranean areas.
- Suitable for clay soils from sub-acidic to alkaline with pH between 6 and 8.5. Tolerates slight salinity.
- It is the annual medic with the best tolerance to waterlogging.

SOWING RATE

10-15 kg/ha, pure.

SCIMITAR

CYCLE

Medium.

SNAIL MEDIC

MEDICAGO SCUTELLATA

disponibile con Rizobio ALOSCA® gruppo AM

FEATURES

- Annual cycle medic, tall and erect, large seeds and vigorous, fast growing seedlings. Suitable for central-southern areas.
- Excellent and productive for making hay, but does not tolerate intensive grazing.
- Good self-reseeding ability.
- Excellent soil improving effect, with benefits for crop rotation.
- Suitable for medium textured or moderately clay soils with optimal soil pH between 6 and 8.5.

SOWING RATE

15-20 kg/ha, pure.

KELSON

CYCLE

Medium-early.

SAVA

CYCLE

Early.

BARREL MEDIC

MEDICAGO TRUNCATULA

disponibile con Rizobio ALOSCA® gruppo AM

FEATURES

- Medic for Mediterranean climates with semi-prostrate growth, very adaptable to a wide range of soils from loose to medium texture and even clay, also in areas with not much rain in spring.
- Suitable for pastures even intensive winter and spring. Can be used for technical grassing mixed with other species.
- Does not tolerate waterlogging.
- Good self-reseeding ability, for long rotations (high percentage of hard seeds and consequent poor regeneration in the first year, but abundant from the second year). Can be used in rotations for soil improvement.
- Optimal soil pH between 6 and 8.5.

SOWING RATE

10-15 kg/ha, pure.

JESTER

CYCLE

Medium.

PARAGGIO

CYCLE

Medium.

MIXTURES FOR FORAGE CROPS

The long-standing experience of Padana Sementi in formulating and proposing forage mixtures allows customised solutions to be offered for all requirements. The mixtures can be distinguished by:

- The formulas, which are as balanced as possible by considering not only the percentages of the different species, but also through in-depth knowledge of the individual varieties used.
- The complete range for achieving the best result both in terms of quality and quantity in each area.
- The possibility to provide customised mixtures according to the customer's indications.

STRENGTHS OF FORAGE MIXTURES

- High environmental adaptability and production potential (higher than species cultivated pure).
- Lower risk of lodging.
- Extended harvest window without risk of product quality loss.
- Balanced forage with different sources of fibre and better digestibility.
- Healthier plants with less spread of diseases.
- Mixtures with leguminous crops allow the agronomic input to be reduced and contribute to an improvement in the structure and fertility of the soil.

MIXTURES	AVERAGE HEIGHT (Cm)	AVERAGE DRY MATTER	BIOMASS PRODUCTION T/HA
Cereal rapido	133,3	25,0%	16,2
Cereal silo	155,0	45,7%	21,5
Cereal silo Plus	190,0	42,5%	18,8
Spongebob	136,7	36,4%	10,6
Average	**148,0**	**35,3%**	**13,7**

(source: Agricola 2000 tests)

PERCENTAGE COMPOSITION OF DIFFERENT FORAGE MIXTURES

MIXTURE	GRAMINACEOUS										LEGUMINOUS					
	WHITE OATS	BLACK OATS	RED OATS	BRISTLE OATS	RYEGRASS	RYE	WHEAT FORAGE	SPELT	TRITICALE	BARLEY	FORAGE PEA	PEA	VETCH	CRIMSON CLOVER	SQUARROSE CLOVER	BERSEEM CLOVER
MARTE	50										15	10	25			
TRITICHELLO									40		30	30				
SPECIAL FIENO	41			20	35										4	
SUPER FIVE	20		10	10	29								15		6	10
GENIUS DEL SUD	25	10	10		30									20		5
PONTINO		20			45	15			20							
SPONGEBOB					15		40		27				18			
GREEN METHAN					15	32			53							
SILO SPEED							32		40	28						
CEREAL RAPIDO	30						40		30							
CEREAL SILO	30						40		30							
CEREAL SILO PLUS	23						30	20	27							
FIENO SPELTA	20				15		45	20								
NUTRI FIBRA	45	15			40											
PADANA 70					30									70		

PADANA SEMENTI reserves the right to make variations to the compositions of the mixtures, whenever it deems appropriate for improvement purposes or variety innovation.

MIXTURE	CYCLE	USE	DISTINCTIVE FEATURES	SOWING PEIOD	SOWING RATE (KG/ HA)
MARTE	Early	Hay, green forage, green manure	• High forage quality (14-15% protein) • High digestibility	Autumn/ Spring	140-160
TRITICHELLO	Medium	Silage, green forage	• Adaptable and productive • Good quality (12-14% protein)	Autumn/ Spring	215-225
SPECIAL FIENO	Medium	Hay, green forage	• High yields and quick drying	Autumn/ Spring	80-90
SUPER FIVE	Early	Silage, hay	• Forage with good balance between protein and sugar • Excellent fibre digestibility	Autumn	80-90
GENIUS DEL SUD	Early	Pasture, green forage, hay	• Multi-functional mix with quick regrowth • Suitable for areas with early spring drought	Autumn	80-90
PONTINO	Medium	Hay, silage	• Mix of graminaceous crops only, very productive and resistant to lodging • Possibility of second cut of ryegrass only	Autumn	70-80
SPONGEBOB	Medium- late	Silage	• Maximum yields in fertile soils • Well-balanced forage between protein and sugar and high digestibility	Autumn	145-150
GREEN METHAN	Medium- early	Silage	• Maximises biomass yields in all conditions • Harvest directly when triticale milky ripe	Autumn	145-150
SILO SPEED	Very early	Silage	• A mixture designed to maximise earliness and the possibility of having a second harvest. The mixture includes a particular variety of barley with awnless ear. Harvested with direct shredding at milky-waxy maturation.	Autumn/ Spring	160-180
CEREAL RAPIDO	Early	Silage	• Formula with very early and productive varieties (particularly wheat forage, tall oat varieties) • Harvest: direct chopping when triticale and wheat milky-waxy ripe, with pre- wilting whe.	Autumn/ Spring	170
CEREAL SILO	Medium- late	Silage	• Formula with special and productive varieties (particularly wheat forage, tall oat varieties) • Harvest: direct chopping when triticale and wheat milky-waxy ripe, with pre- wilting when heading	Autumn	170
CEREAL SILO PLUS	Medium- late	Silage, haylage	• Great yield potential, due to the performances of the varieties included in the composition. • The tall plant Spelt used increase leaf content and digestibility of forage.	Autumn	170
FIENO SPELTA	Medium	Hay, haylage	• Special composition to obtain high yield and quality thanks the high leaf content of spelt. • The spelt variety included is very resistant to the common leaf diseases and contributes to produce a healthy and palatable forage.	Autumn	125
NUTRI FIBRA	Medium	Hay, pasture. Silage, green forage	• Mix of different var of OAT and ryegrass • High fibre digestibility levels, sugar content, MFU yield. • Possibility to obtain various spring cuts of ryegrass only.	Autumn/ Spring	75-80
PADANA 70	Medium	Hay, haylage, winter grazing	• Higher protein content in hay, compared to pure ryegrass • Excellent adaptability and productivity, easy to wilt	Autumn/ Spring	45-50

MISCUGLI DEL SOLE mixtures inoculated with rhizobia

- Multifunctional mixtures suitable for winter pasture and spring harvest.
- Formulations rich in leguminous species specifically designed to maximise the quantity and quality of forage in southern environments.
- This range of products offers solutions for all zootechnical uses and for all soils, from calcareous soils rich in texture to acidic soils.

All mixtures "MISCUGLI DEL SOLE" are already mixed with rhizobium ALOSCA or NITRO GENIUS. This is to give maximum effect of nitrogen fixation and increased soil fertility. The high rhizobium leguminous content increases significantly the organic nitrogen in the soil to the advantage for the following crop.

available with ALOSCA®

available with Rhizobium NITRO GENIUS

PERCENTAGE COMPOSITION OF DIFFERENT FORAGE MIXTURES

MIXTURE	GRAMINACEOUS				LEGUMINOUS										
	WHITE OATS	BLACK OATS	BRISTLE OATS	RYEGRESS	PERSIAN CLOVER	SULLA	PURPLE VETCH	CRISMON CLOVER	SQUARROSE CLOVER	BALANSA CLOVER	BERSEEM CLOVER	ARROWLEAF VCLOVER	BURR MEDIC	BARREL MEDIC	MEDICAGO SCUTELLATA
ALTUFEN ACID				60	5		15	8	4	3		5			
ALTUFEN BASIC				40		25	12		4		6		2	11	
EXTRA BIADA	10	25	21	15			20	5				4			
LESTRUMIX				70	5			10		3	8	4			
WINTER EXPRESS				60	20						10		10		
BASIC PASTURE				30						5	20		20	15	10

PADANA SEMENTI reserves the right to make variations to the compositions of the mixtures, whenever it deems appropriate for improvement purposes or variety innovation.

MIXTURE	CYCLE	USE	DISTINCTIVE FEATURES	SOWING PERIOD	SOWING RATE (KG/HA)
ALTUFEN Acid	Early	Winter pasture and hay	• Suitable for light and not very fertile soils, optimal pH 5.0-7.5 • Guarantees different spring cuts.	Autumn	40-50
ALTUFEN Basic	Early	Winter pasture and hay	• Calcareous and clay or heavy soils, optimal pH 6.5-8.5. • Guarantees different spring cuts.	Autumn	50-60
EXTRABIADA	Early	Silage, pasture, hay	• Deep soils from loose to clay Optimal pH 5.0-7.5. • High production potential in spring cut.	Autumn	80-90
LESTRUMIX	Early	Pasture, hay, bonded hay	• Even light and not very fertile soils, optimal pH 5.0-7.5. • Guarantees different spring cuts. • Very high quality (digestibility, sugar, protein).	Autumn/Spring	40-50
WINTER EXPRESS	Medium-early	Pasture, hay, green forage	• Even not very fertile soils, optimal pH 6.5-8.0. • Quick establishment, excellent productivity and quality. • Guarantees different spring cuts.	Autumn/Spring	40-45
BASIC PASTURE	Early	Pasture and spring hay cut	• Light and lean as well as heavy soils, optimal pH 7-8.5. • Suitable for intensive grazing (annual medic). • High protein content.	Autumn/Spring	35-40


PONTINO mix


FIENO SPELTA mix


CUSTOMIZED mix


CUSTOMIZED mix


CEREAL SILO mix


NUTRI FIBRA mix


CUSTOMIZED mix


CUSTOMIZED mix


CUSTOMIZED mix


SPONGEBOB mix


CUSTOMIZED mix


GREEN METHAN mix

MIXTURES FOR PERMANENT GRASSLANDS

THE PADANA SEMENTI RANGE

- Permanent grassland is a complex system that must last a number of years. Therefore it must be chosen carefully based on the environmental conditions of the site in which it will be sowed and used, to guarantee the best result and maximum duration.
- The choice must be made with careful consideration for the plant composition and proportions between the different species.
- Padana Sementi places great attention on the choice of varieties used and their proportions, so as to obtain very productive and efficient grasslands in the various environmental conditions.
- Possibility to provide customised mixtures according to the customer's indications.

PERCENTAGE COMPOSITION OF DIFFERENT PERMANENT GRASSLAND MIXTURES

MIXTURE	GRAMINACEOUS										LEGUMINOUS											
	BROME	COCKSFOOT	TALL FESCUE	MEADOW FESCUE	RED FESCUE	RYEGRASS	PERENNIAL RYEGRASS	HYBRID RYEGRASS	TIMOTHY GRASS	COMMON MEADOWGRASS	COMMON BIRD'S-FOOT	ALFALFA	BLACK MEDIC	BURR MEDIC	COMMON SAINFOIN	HYBRID CLOVER	RED CLOVER	WHITE CLOVER	BERSEEM CLOVER	PERSIAN CLOVER	BALANSA CLOVER	SUBBTERRANEAN CLOVER
ASCIUTTO PADANA	5	17	20			13	17	5			5		3		5		5	5				
ASCIUTTO BS		12	30			31	10				3				2	3	2	2	5			
IRRIGUO PADANA		12		8		15	15	10	10	5	4					8	8	5				
IRRIGUO BS		9	18	2		25	13	5	8						5	2	5	3	4		1	
PRATO PASCOLO TUSCIA		33	45								12							10				
IRRIGUO SARDEGNA		15				17	20	15										28			5	
PRATO NUOVO		30	35			10	10										15					
GALLURA SUPER																				10	10	80
PRATO COLLINA		22	23				5				7	30					13					
GRAMINACEE ELETTE	15	25	30	15	12					3												
SPECIALE PASCOLI							65	30										5				
PASCOLO CAVALLI	18	33			22		22			5												
PERCORSO GARA CAVALLI			80				15			5												
PRATO POLI-BIO		30	35			10	10										15					

PADANA SEMENTI reserves the right to make variations to the compositions of the mixtures, whenever it deems appropriate for improvement purposes or variety innovation.

MIXTURE	USE	PRODUCTIVITY	PERSISTENCE	PROTEIN CONTENT	ENVIRONMENTAL STRESS RESISTANCE	DISTINCTIVE FEATURES	SOWING PERIOD	SOWING RATE (KG/HA)
ASCIUTTO PADANA	Hay, pasture	Medium/High	High	Medium	Medium/High	• Selected and productive varieties • Balanced forage	Early Autumn/ Spring	55-60
ASCIUTTO BS	Hay	Medium	High	Medium/ Low	Medium/High	• Great adaptability and hardiness	Early Autumn/ Spring	55-60
IRRIGUO PADANA	Hay, green forage	High	Medium	Medium/High	Medium/ Low	• Selected and productive varieties	Early Autumn/ Spring	55-60
IRRIGUO BS	Hay, green forage, overseeding	High	Medium/ Low	Medio/Alto	Medium/ Low	• Quick establishment • Balanced forage	Early Autumn/ Spring	55-60
PRATO PASCOLO TUSCIA	Hay, pasture	Medium	High	Medium	Medium/High	• Slow establishment, but long duration • Suitable for acidic soils	Early Autumn/ Spring	50-55
IRRIGUO SARDEGNA	Hay, pasture	Medium/High	Medium/ Low	Medium/High	Medium/ Low	• Excellent quality and production potential	Autumn/ Sprimg	30-35
PRATO NUOVO available with ALOSCA®	Hay, pasture	Medium/High	Medium/High	Medium	Medium/High	• Universal grassland	Early Autumn/ Spring	60-65
GALLURA SUPER available with ALOSCA®	Sheep pasture	Medium	Medium	High	High	• Leguminous	Selfreseeding Autumn	40
PRATO COLLINA	Hay, green forage	Medium/High	High	High	Medium/High	• High quality hay	Early Autumn/ Spring	45-50
GRAMINACEE ELETTE	Hay, pasture	Medium/High	Medium/High	Medium/ Low	High	• Great nitrogen use efficiency • Also excellent for horses	Early Autumn/ Spring	30-40
SPECIALE PASCOLI	Hay, pasture, overseeding	Medium/High	Medium	Medium/High	Medium/ Low	• Great resistance to cold • Quick establishment	Early Autumn/ Spring	50-55
PASCOLO CAVALLI	Hay, pasture	Medium/High	Medium/High	Medium/ Low	High	• Withstands trampling and bare pasture • Balance of structured and digestible fibres	Early Autumn/ Spring	50
PERCORSO GARA CAVALLI	Grassing	Low	Medium/High	-	High	• Low growth variety • Excellent aesthetic effect • Not suitable for pasture	Autumn/ Sprimg	90-100
PRATO POLI-BIO organic	Hay and pasture	Medium/High	Medium/High	Medium	Medium/High	• Universal meadow • Very rustic • Adaptable	Early Autumn/ Spring	50-60

INTER-ROW GRASSING FOR THE MULTIFUNCTIONAL MANAGEMENT OF THE TERRITORY

The concept of multifunctional land management starts from the idea of making modern and productive agriculture coexist with a lively and balanced environment. This is made possible by the use of suitable plant coverings which, combined with income crops or used in marginal areas, can provide numerous services to the agricultural ecosystem, increasing its sustainability and balance. The grass coverings proposed below are all specific tools for achieving these purposes.

- GRASSING FOR TREE CROPS
- GRASSING FOR SKI SLOPES AND MOUNTAIN ENVIRONMENTS
- ENVIRONMENTAL RENATURALIZATION

INTER-ROW GRASSING FOR THE MULTIFUNCTIONAL MANAGEMENT OF THE TERRITORY

GRASSING FOR TREE CROPS

- Sowing appropriate species in the space between rows of tree crops (vines, fruit trees, olive trees, etc.) is becoming an increasingly common choice with widely demonstrated agronomic and environmental advantages.
- Padana Sementi has designed a grassing program to fulfil the most common agronomic requirements in the different climatic areas: continental and Mediterranean.
- The company is also available for consultancy on the formulation of customised solutions.

BENEFITS OF GRASSING BETWEEN ROWS OF TREE CROPS

- Reduction of soil erosion caused by water and wind.
- Improvement in soil structure (better water permeability, better root aeration).
- Better soil supporting ability (facilitates human and vehicle transit in adverse conditions).
- Increase in soil fertility (better organic substance, increase in soil organisms, better root development).
- More biodiversity (activity of useful organisms for crops: pollinators, parasite predators, etc.).
- Buffer effect against chemical products used (fertilisers, plant protection products).
- Reduced use of pesticides (according to the National Action Plan).
- Improvement in the aesthetic effect and landscape.

Many leading companies have successfully used our grassing mixtures. Among these:

SOTTOFRUTTETO

FEATURES

Use: Grassing for orchards and vineyards. In the south, only in places where there are no excessive summer competition problems.

- **Establishment speed:** medium
- **Persistence:** medium-high
- **Stress resistance:** medium-high
- **Summer competition:** medium-high

Distinctive features:
- Special varieties with reduced plant development with good coverage and weed control.
- Competes less with orchard compared to spontaneous grasses.
- Excellent supporting ability and resistance to trampling and shading.

PERIOD

Autunnale o primaverile precoce

SOWING RATE

80-100 kg/ha

PACKAGE AVAILABLE

5/20 kg

COMPOSITION
Tall fescue
Perennial ryegrass
* Smooth meadow grass

SOTTOVIGNETO

FEATURES

Use: Grassing for orchards and vineyards.

- **Establishment speed:** fast
- **Persistence:** medium
- **Stress resistance:** medium
- **Summer competition:** medium-low

Distinctive features:
- Variety with reduced plant development and reduced competition.
- Good resistance to vehicle traffic.
- Limits the development of weeds and requires few cuts.

PERIOD

autumn or early spring

SOWING RATE

80-100 kg/ha

PACKAGE AVAILABLE

5/20 kg

COMPOSITION
Perennial ryegrass
Red fescue
Smooth meadow grass
White clover

*PADANA SEMENTI reserves the right to make variations to the compositions of the mixtures, whenever it deems appropriate for improvement purposes or variety innovation.

AUTORISEMINANTI

available with ALOSCA® Rhizobium

FEATURES

Use: Grassing for orchards and vineyards in Mediterranean areas.

- **Establishment speed:** medium
- **Persistence:** medium
- **Stress resistance:** medium-high
- **Summer competition:** none

Distinctive features:

- Also suitable for lean soils from sub-acidic to alkaline (pH 6-8).
- Mixture of self-reseeding leguminous crops, very adaptable.
- Respects the grassland during flowering to allow reseeding and autumn regeneration
- No summer competition and formation of a layer of mulch that stops weeds in hot months.
- Improves soil fertility and attracts useful insects.

PERIOD

Autumn

SOWING RATE

30-35 kg/ha

PACKAGE AVAILABLE

25 kg

COMPOSITION
Subterranean clover
Burr medic

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MORDENTE

FEATURES

Use: Grassing for tree crops.

- **Establishment speed:** medium-high
- **Persistence:** high
- **Stress resistance:** high
- **Summer competition:** medium

Distinctive features:

- Mix composed of varieties with high technical performance. In particular, it includes a special variety of creeping ryegrass that stands out because, unlike normal perennial ryegrass, it has the capacity for vegetative propagation via its horizontally-growing stems.
- The marked vegetative activity allows maximum grass coverage of the soil as well as its stabilization.
- Very low vertical growth with consequent reduced need for mowing and maintenance.
- Maximum treading resistance and load-bearing capacity towards the transit of vehicles.
- Effective anchoring of the soil and control of surface erosion.

PERIOD

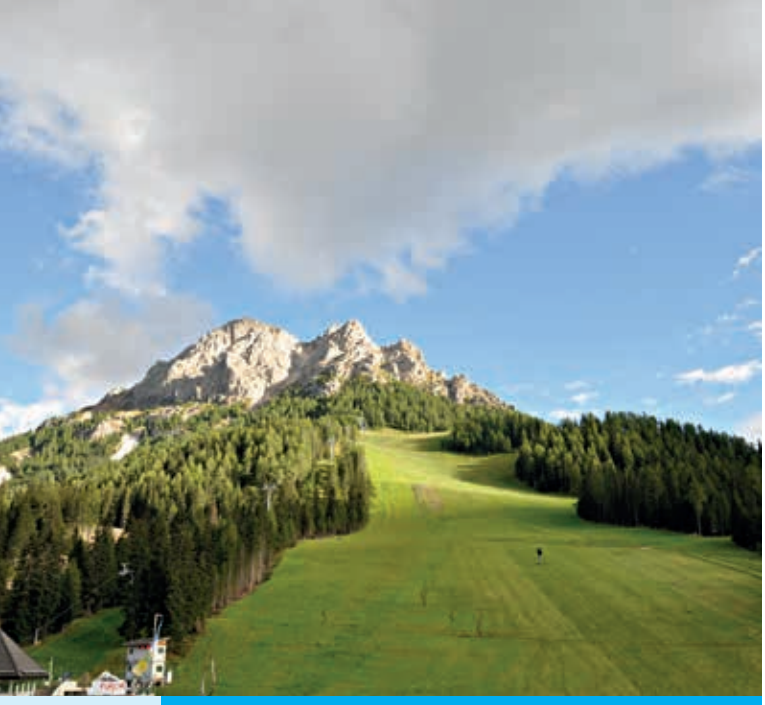
Autumn or early spring

SOWING RATE

80-90 kg/ha

PACKAGE AVAILABLE

10 kg



INTER-ROW GRASSING FOR THE MULTIFUNCTIONAL MANAGEMENT OF THE TERRITORY

GRASSING FOR SKI SLOPES AND MOUNTAIN ENVIRONMENTS

The compositions are specifically designed for grassing ski slopes, with a balanced ratio between graminaceous and leguminous species that promotes the evolution of the grassing and the renaturalisation of the grassy area. Graminaceous crops give the mixture quick establishment properties and a fast erosion containment effect, whereas the presence of leguminous crops is fundamental to balance the grassland and promote the improvement of soil with poor nutritional elements.

Padana Sementi is also able to customise the mixtures according to customer indications, also adding some spontaneous species with high natural value.

Some important steps must be taken when using thes mixtures:

- Sowing period: preferably straight after the snow has melted. For autumn sowing, especially at higher altitudes, the risk factors are higher: therefore it is recommended to sow in late autumn (dormant seeding) so as to promote the germination of the seeds after thawing.
- Preparing the soil: it is recommended to use organic fertilizers, which can be available for plants long term due to their slow release.
- At the end of the season, grazing or chopping is recommended to keep the grassland compact and strong.

Many leading companies have successfully used our grassing mixtures. Among these:

LTH La Thuile Valle d'Aosta

Funivie San Vigilio

Plose

Bormio Ski

SKI 1000

FEATURES

Use: Grassing ski slopes and environmental clean-ups at not high altitudes.

- **Establishment speed:** medium
- **Persistence:** medium-high
- **Stress resistance:** medium-high
- **Summer competition:** high

Distinctive features:
- Mixture for grassing areas form 800 to 1000 m a.s.l. (within the trees limit altitude).
- Well balanced grass/leguminous species ratio, to enable the natural ecological succession.
- Persistent species, with well developed roots and quick establishment.
- Good action against soil erosion.

PERIOD

Autumn or early spring

SOWING RATE

200-250 kg/ha. Available also in FLOWERY VERSION with wildflowers: 160 kg/ha(recommended rate for hydroseeding).

PACKAGE AVAILABLE

25 kg

COMPOSITION
Tall fescue
Red fescue
Perennial ryegrass
Sainfoin
Cocksfoot
Meadow fescue
Timothy grass
Smooth meadow grass
Hybrid clover
Red Clover
White clover
Hairy vetch

FLOWERY COMPOSITION
Tall fescue
Red fescue
Perennial ryegrass
Sainfoin
Cocksfoot
Meadow fescue
Timothy grass
Smooth meadow grass
Hybrid clover
Red Clover
White clover
Hairy vetch
Mix of wildflowers*

PADANA SEMENTI reserves the right to make variations to the compositions of the mixtures, whenever it deems appropriate for improvement purposes or variety innovation.

SKI 2000

FEATURES

Use: Grassing ski slopes and environmental clean-ups at high altitudes (beyond the trees limit altitude).

- **Establishment speed:** medium
- **Persistence:** medium-high
- **Stress resistance:** high
- **Summer competition:** medium

Distinctive features:
- Mixture suitable for use in difficult and limiting conditions from a pedological, climatic and altimetric point of view.

PERIOD

Autumn or early spring

SOWING RATE

200-250 kg/ha. Available also in FLOWERY VERSION with wildflowers: 160 kg/ha(recommended rate for hydroseeding).

PACKAGE AVAILABLE

25 kg

COMPOSITION
Timothy grass
Red fescue
Perennial ryegrass
Cocksfoot
Smooth meadow grass
Hybrid clover
White clover

FLOWERY COMPOSITION
Timothy grass
Red fescue
Perennial ryegrass
Cocksfoot
Smooth meadow grass
Hybrid clover
White clover
Mix of wildflowers*

PADANA SEMENTI reserves the right to make variations to the compositions of the mixtures, whenever it deems appropriate for improvement purposes or variety innovation.

* Achillea millefolium, Buphthalmum salicifolium, Centaurea jacea, Cichorium intybus, Daucus carota, Dianthus barbatus, Galium verum, Leucanthemum vulgare, Salvia pratensis, Sanguisorba minor, Securigera varia, Silene flos-cuculi, Silene vulgaris

INTER-ROW GRASSING FOR THE MULTIFUNCTIONAL MANAGEMENT OF THE TERRITORY

ENVIRONMENTAL RENATURALIZATION

- The composition should be personalised for each area: Padana Sementi is also able to offer consultancy and customised solutions in this area.
- The formulations must guarantee quick establishment and coverage in difficult conditions, without blocking the growth of local species (this is obtained with the careful choice of species and percentages).
- Possibility to add spontaneous species with high ecological value in low percentages.

SCARPATE QUOTA 1000

FEATURES

Use: Grassing slopes and environmental renaturalization.

- **Establishment speed:** medium-fast
- **Persistence:** medium
- **Stress resistance:** medium
- **Summer competition:** medium-high

Distinctive features:

- Mixture for grassing from the plain to 800/1000 m a.s.l. .
- Balanced and sufficiently complex formula. Good establishment ability in poor soils.
- Good drought and heat tolerance during summer.
- It is multifunctional as, where possible, it provides various cuts of good quality forage in one year.
- Quick establishment and good protection against soil erosion.

PERIOD

Autumn or early spring

SOWING RATE

200-250 kg/ha (recommended rate for hydroseeding).

PACKAGE AVAILABLE

10/25 kg

COMPOSITION
Tall fescue
Cocksfoot
Red fescue
Italian ryegrass
Perennial ryegrass
Timothy grass
Brome grass
Meadow fescue
Sainfoin
Hybrid clover
Red Clover
White clover
Common vetch

PADANA SEMENTI reserves the right to make variations to the compositions of the mixtures, whenever it deems appropriate for improvement purposes or variety innovation.

SCARPATE MEDITERRANEE

FEATURES

Use: Grassing of escarpments specific for areas with a Mediterranean climate.
Cultivation area: Mix for grassing areas between plains and hilly zones. Recommended for the whole Central and Southern Italy and for areas characterised by summer droughts and not too cold winters.

DISTINCTIVE ELEMENTS:
- **Establishment speed**: medium
- **Persistence**: medium-high
- **Resistance to stress**: medium-high
- Contains species and varieties suitable for the typical climatic conditions of the Mediterranean area, with high propagation and naturalisation capacity.
- After full establishment, it provides an excellent anti-erosion effect.
- Adaptable to a wide range of soils.

SOWING TIME

It is advisable to sow from autumn until the end of winter.

SOWING RATE

200-250 kg/ha (recommended rate for hydroseeding); 100-120 kg/ha (broadcast sowing).

PACKAGE AVAILABLE

25 kg

COMPOSITION
Cocksfoot
Elongated couch grass
Red fescue
Sheep fescue
Smooth meadow grass
Lotus
Rigid ryegrass
Perennial ryegrass
White clover
Tall fescue
Bermuda grass
Alfalfa
Sainfoin
Blurr medic
Resupinate clover
Chicory
Balansa clover

COVER CROP

In modern agriculture, which is attentive to environmental issues, the term Cover Crop means the planting of a herbaceous crop with the main aim of protecting the soil. The practice aims to:

- **FIGHT EROSION**
- **LIMIT COMPACTING AND LOSS OF STRUCTURE OF THE SOIL**
- **STOP NUTRIENT LEACHING**
- **INCREASE NUTRIENTS (NITROGEN FIXING)**
- **LIMIT THE DEVELOPMENT OF WEEDS**
- **IINCREASE ORGANIC SUBSTANCE**
- **INCREASE THE BIOLOGICAL ACTIVITY OF THE SOIL**

- The Cover Crop is generally left on the soil or buried (green manure). Green manure, in particular, based on the species used, enriches the soil with nitrogen and organic substance (humus), or enables an allelopathic and biocidic effect against nematodes and fungal diseases.
- The benefits of cover crops, while not providing an immediate revenue, fully pay back the costs disbursed by the farm, both in terms of better production levels and lower costs for the subsequent crop. In the long term the benefit of this practice is expressed in the increased soil fertility.
- Cover crops are included in "conservative agriculture" practices supported by the European Union, so as to make immediate use of the direct help provided as part of regional subsidies.

Padana Sementi, looking towards sustainable agriculture, has been studying and experimenting for years with mixtures suitable for this practice in the different crop and environmental systems. The result of this commitment is the range of products which are divided into groups due to the various objectives:

1. **NITROGEN ENRICHING CROPS**
2. **CROPS WITH BIOCIDAL ACTIVITY**
3. **CROPS FOR INCREASING STABLE HUMUS AND IMPROVING THE SOIL STRUCTURE**

For more information see the Cover Crop catalogue

1. NITROGEN ENRICHING CROPS

Leguminous crops, by means of root symbiosis with nitrogen fixing bacteria (rhizobia), can convert atmospheric nitrogen into organic nitrogen, permanently enriching the soil with this fundamental nutritional element. The biomass produced is also marked by its low C/N ratio, and rapid degradability in the soil.

SPECIES	VARIETY	CHARACTERISTICS	SOWING RATE
CRIMSON CLOVER	Alberobello, Pier, Opolska	Spring autumn crop, usable throughout Italy. Very resistant to winter temperatures, abundant Spring flowering.	25-30 kg/ha
COMMON VETCH	Pietranera, Alexandros	Autumn-spring leguminous plant with the greatest nitrogen-fixing ability.	70-90 kg/ha
HAIRY VETCH	Capello	Very resistant in all conditions.	40 kg/ha
BLUE LUPIN	Boregine	Species suitable for poorer and more acidic soils in the Centre-South of Italy.	60 kg/ha
BERSEEM CLOVER	Leila, Mario	ICan be used in Central-Southern Italy with autumn sowing and spring planting at the beginning of flowering, in the North with spring sowing.	20-25 kg/ha
MINOR FAVA BEAN	Prothabon 101, Solon	Autumn-spring crop particularly suitable for Central-Southern Italy. It has a very deep root system and a high nitrogen-fixing ability.	180 kg/ha
COWPEA	Red Caloona	Summer leguminous plant, highly resistant to heat and water stress. It is used in the open field or in a greenhouse in summer. Rapid growth.	25-30 kg/ha
CROTALARIA JUNCEA	Crescent Sunn	Very fast-growing summer leguminous plant: in less than 60 days it can grow to 1 m.	25 kg/ha
NITROFERT	Mix	Formulated with early and carefully-balanced varieties of oats, sativa vetch and hairy vetch: the safest choice for an optimal result of coverage and soil enrichment.	75-100 kg/ha
NITROFERT GELIVO	Mix	Mix Recommended in Central-Northern Italy when you are looking for a freeze-resistant cover for soil enrichment in conservative agriculture. Sow from late August to mid-September to obtain optimal development before winter.	50 kg/ha
NITROSUMMER	Mix	Mix of summer leguminous plants and buckwheat suitable for summer green manuring in rotation with winter and horticultural grains. Fast growing, resistant to high temperatures and drought (excellent in greenhouses). Good nitrogen supply with optimal C/N ratio.	25 kg/ha

2. CROPS WITH BIOCIDAL ACTIVITY

Nematodes and fungal diseases of the soil are a problem that can be easily solved without using harmful chemical products, but by exploiting the natural properties of some cultivated species.

BRISTLE OAT

BRISTLE OAT

FEATURES

Excellent green manure species with nematocide activity against Pratylenchus, and ability to reduce nutrient losses (catch crop).

SOWING PERIOD

From October to December.

SOWING RATE

70 kg/ha

VARIETY	CHARACTERISTICS
IAPAR 61	• Variety characterised by a not too early maturation. • Tall plant with delicate stems and abundant foliage. • Rapid establishment and soil coverage. • Particularly resistant to leaf rust. • Excellent adaptability throughout Italy.
CADENCE NEW	• Autumn and spring sowing period. • Use: hay, pasture, grass beds, cover crop. • Great tillering capacity and leaf health make it perfect for obtaining high-quality forage. • Rapid establishment and initial development, allowing abundant winter grazing.

NEMATODE RESISTANT OIL SEED RADISH

RAFANUS SATIVUS OLEIFORMIS

FEATURES

- The varieties selected to contain nematodes work as they act as plant traps that attract these parasites to become established in their roots, but do not let them complete their life cycle.
- Species with a short cycle: in about 60 days they can flower.
- Very developed taproot system, with dual nematocidal and soil decompacting effect. Excellent coverage and weed composing effect.
- Good resistance to cold, can be sowed in autumn in northern Italy too.

SOWING RATE

20-25 kg/ha

VARIETY	CHARACTERISTICS
ANACONDA	• Variety marked by the dual resistance to Meloidogyne chitwoodi, M. fallax and Heterodera schanchtii. • Very quick establishment and regrowing ability which, when possible, allows a cut to be performed leaving the regrowth to flower to further increase the nematocidic action.
ADIOS	• Variety with very quick establishment. • The variety is resistant to the nematodes Heterodora schachtii and H. betae. Partially resistant to the nematode Meloidogyne chitwoodii. • Over 90% reduction of the infestation of these parasites is possible.
ORCA	• Variety that combines rapid growth and medium-late flowering, allowing high-biomass yields. • Very high percentage of leaves in the biomass and large covering capacity. • Resistant to nematodes of the genus Heterodera (H. betae, H. schanchtii, H. trifolii, H. avenae).
TERRANOVA	• Covers the soil quickly and has an excellent resistance to lodging. • It has a wide resistance spectrum and consequent nematocidal effect: it is resistant to the sugar beet nematocides Heterodora schachtii and H. betae It is also resistant to Meloidogyne chitwoodii, M. fallax and M. incognita, Prathylenchus scripnerie, Paratrichodorus allius,Trichodorus primitivus.
BARRACUDA	• Very leafy variety characterised by good leaf health and excellent biomass production. • Optimal soil coverage and great structuring capacity thanks to the well-developed tuberous root and the deep taproot. • Rapid regrowth after cutting, which allows to expand the coverage period. • Excellent nutrient recovery capacity (catch crop). • Controlled nematodes and pathogens: resistant to Heterodera schachtii, Heterodera betae. Not host to the nematodes Meloidogyne naasi, Ditylenchus destructor, Globodera rostochiensis and G. pallida.
FINAL	• It is the most susceptible variety to winter frost, and is therefore an excellent solution when looking for a crop that after winter doesn't need any additional pass to kill the crop. • Very high resistance to beet • Cyst nematodes: Heterodera schachtii and H. betae
DOUBLET	• Medium-sized plant, but good as cover crop. • Regrowth is quick if cut • Very deep root system • High resistance to cold temperatures • Double resistance to the genera Heterodera and Meloidogyne • Particularly resistant to H. schanchtii and H. betae • Effective against Meloidogyne chitwoodi, M. fallax, M. naasi, good activity against M. incognita and M. javanica • Good fumigant activity
ROMESA	• Early cycle variety with rapid soil covering and large biomass development • Particularly suitable as cover crop and for soil decompaction (deep roots), as catch crop and as green manure • Medium resistance to the cyst nematode Heterodera schachtii

WHITE MUSTARD

SINAPIS ALBA

FEATURES

- The species is naturally susceptible to nematodes. Genetic improvement has created varieties that are absolutely resistant to these parasites, therefore the nematocide effect is comparable with horseradish.
- Very developed taproot that can reach 1.5 m depth.
- Very quick life cycles (50-55 days to flowering in spring).
- Mustard is susceptible to winter frost therefore it should be sowed in spring-summer in the north, but can be sowed in autumn in areas with mild winters.

SOWING RATE

20-25 kg/ha

VARIETY	CHARACTERISTICS
ATTACK	• Tall plant, quick establishment and soil coverage. • Resistant to the sugar beet nematodes H. schachtii and H. betae. Does not host (reduces the spread of) the following nematodes: Globodera rostochiensis/ pallida, Heterodera avenae, Heterodera trifolii, Heterodera goetingiana, Meloidogyne naasi, Ditylenchus destructor.
ARCHITECT	A late cycle variety that has marked activity against the sugar beet nematodes Heterodora schachtii and H. betae. • Average sized plant with good soil coverage and good resistance to lodging. • Shows excellent resistance to the main diseases
SIGNAL	• Suitable for use as a cover of soil and green manure. • Good resistance to winter frozen with late sowing (mid-October/November). • Excellent grain producer. • Low nematocidal activity.
OCTOPUS	• Variety that stands out for its high branching capacity. • Very frost susceptible with early sowing (August-beginning of September). • It is a good option as catch crop to prevent nitrogen leaching. • The variety has no nematicidal effect.
BOROWSKA	Plant with rapid vegetative development and biomass production. • Suitable for use as cover crop and green manure. • Resists winter frosts well if sown late (mid-October, November). • Excellent grain producer. • Low nematicide activity.
GRACJA	• Medium-early cycle. • A good size plant containing erucic acid, which provides some control of the Heterodera nematode (up to 50% reduction). • Dual use: grain and green manure.
ASTA 	• Rapidly developing variety that protects the soil from erosion. Successful weed competitor. • The high biomass production leads to an improvement in soil fertility, due to the organic matter produced and the recovery of available nitrogen, with consequent run-off reduction. • The high sensitivity to frost simplifies spring sowing operations, particularly in the case of conservative agriculture.
LYRA 	• Plant with good vegetative development and rapid growth, suitable as an autumn cover crop. • The branching capacity allows excellent soil coverage and competition with weeds. • Variety selected for grain production, with low nematicidal activity.

NEMATICIDE ROCKET

ERUCA SATIVA

FEATURES

This species which is very well known as a vegetable for eating, thanks to some carefully selected varieties, can guarantee excellent effects both as a nematocide crop and as a biofumigant. It can be sowed all year round

VARIETY	CHARACTERISTICS
TIARA TRIO	• Dual use: vegetable for food use and biocidal essence. • Excellent development and moderate green mass production. • Ideal mixing partner for fodder radish in a green manure crop that focuses on nematode control. • Suitable as a bio-fumigation crop thanks to its high content of glucosinolates. • Very short cycle (about 50 days from emergence to flowering). • Variety characterised by double resistance against both beet cyst nematodes Heterodera schachtii and H. betae, and against the root-knot nematodes Meloidogyne chitwoodi, M. fallax, M. javanica and M. unknown. **CYCLE** 55-60 days from sowing to flowering. **SOWING RATE** 10 kg/ha.

NEMATOX

FEATURES

- Mixture composed of special cultivar of oil seed radish and rocket lettuce.
- The best solution for horticultural rotation. Ensure the best control against nematodes Meloidogyne chitwoodii, M. fallax, M. incognita, M. javanica and Heterodora schachtii.
- Burying at flowering start (50-55 days with spring sowing). To extend the soil cover and improve the nematicidal effect, mow it before flowering to have a second tiller.

SOWING PERIOD

All year round, from spring to autumn, depending on the cropping system. The rocket lettuce seeds have a special coating that allows to have a great mixing and sowing homogeneity.

SOWING RATE

20 kg/ha

BIOFUMIGATION

There are essentially two types of crops used for biofumigation:
1. **Hybrids of sudanese sorghum**: production of hydrogen cyanide and relative release into the soil after burying the biomass.
2. **Brassicacee crops** (horseradish, mustard, rocket, etc.): production of glucosinolates that develop isothiocyanate in the soil

For brassica crops, biofumigation takes place by chopping and burying the biomass which allows the glucosinolates contained therein to be transformed into isothiocyanates. These substances have a toxic effect on significant soil fungal diseases.
The **BioFum®** mixtures proposed here represent the maximum biofumigating effect: the varieties included in the mixtures associate a high glucosinolate content with the substantial production of biomass and leaves.

In the greenhouse tests it was shown that these mixtures contain the development of the following fungi:

- Gaeumannomyces,
- Rhizoctonia,
- Fusarium,
- Helminthosporium
- Pythium.

MANAGEMENT

The use of these mixtures involves chopping the crop at 60-80% flowering and then quickly burying within 30 minutes. Immediate burying with a combined machine is ideal. To maximise the fumigating effect it is useful to provide light irrigation after burying (10 mm). The soil can be worked 2 weeks later and after another 2 weeks the next crop can be sowed.

IBRIDI DI SORGO SUDANESE

PRODUCT	CHARACTERISTICS	SOWING RATE
RUZROK	• Variety with marked allelopathic activity, which allows the control of soil pathogens (nematodes, fungi, insects), while at the same time increasing its fertility. • Early plant with rapid initial development. • Good as cover crop. • It can be tilled already after about 35-40 days.	45-50 kg/ha
SANA TERRA	• Specific formula for summer green manure. • Controls some soil pathogens (Pythium, Rhizoctonia, Fusarium, Sclerotinia present in plant residues and in the soil). • Retrieves nutrients in depth and washed-out nitrogen. • Increases organic matter, reduces soil compaction and increases organic activity.	35 kg/ha

BRASSICACEE CROPS

PRODUCT	CHARACTERISTICS
BIOFUM SUMMER	• Biocidal mixture for spring sowing comprising: Ethiopian mustard, horseradish, white mustard. • Very quick to develop. • The best time for incorporation should not be no later than the end of September. • Sowing period: from March to July. **SOWING RATE** 15-20 kg/ha
BIOFUM AUTUMN	• High content of sinigrin, that which makes it possible to control many soil pathogenes. • Low resistance to frost, especially with early autumn sowing. • The incorporation of this plant in the soil allows to significantly control following fungi in the the soil: Scelrotinia, Pythium, Fusarium, Rhizoctonia. • Sowing period: September, October. **SOWING RATE** 15-20 kg/ha
Brassica Juncea var BRONS	• High content of sinigrin, that which makes it possible to control many soil pathogenes. • Low resistance to frost, especially with early autumn sowing. The incorporation of this plant in the soil allows to significantly control following fungi in the the soil: Scelrotinia, Pythium, Fusarium, Rhizoctonia. **SOWING RATE** 8-10 kg/ha
Brassica Carinata var. CARBON	• The high content of the glucosinolate sinigrin allows a good biofumigation effect. • The variety produces very large leaf, and has fast growth and soil covering that allow good weed suppression. • The deep and branched root system works well to improve soil structure and to catch phosphorus and nitrogen. Low resistance to frost, especially with early autumn sowing. **SOWING RATE** 12-15 kg/ha

3. CROPS FOR INCREASING STABLE HUMUS AND SOIL STRUCTURE

- Crops with a high fibre content and high C/N ratio are used to increase stable humus.
- They do not yield nitrogen and nutrients quickly, but allow the formation of stable humus and improve fertility in the long term (reserve of substances, improvement in physical and biological fertility).
- The species with developed and deep root apparatus allow the porosity of the soil and its water and air permeability to be increased.

PRODUCT	VARIETY	CHARACTERISTICS	SOWING RATE
NEMATODE RESISTANT OIL SEED RADISH	STRUCTURATOR	• Fast cycle (about 50-55 days with spring sowing). Special horseradish variety suitable to work in depth compacted soils, blocking also the leaching process. • The unmistakable feature is the extremely developed taproot (see photos) with high penetration ability (50-60 cm depth). • At the end of cultivation, large holes remain into the soil giving an excellent drainage. • Extremely rapid development and expanded leaves ensure a good soil cover and competition against weeds. • Poor activity against nematodes Sowing period: The optimal seeding period for maximum development is in late summer (within mid-September). Early sowing allows to partially finish the cultivation at winter frost, in Northern Italy. However, it can be sown throughout the year.	6-8 kg/ ha with precision sowing, 9-12 kg/ha with broadcast sowing.
PHACELIA	FACTOTUM BORATUS STALA LILLA	• Very hardy species and also adaptable to marginal land. • Well developed root apparatus with great ability to absorb and withhold nutrients (catch crop). • Strong competitive, coverage and containment action against weeds, does not act against nematodes. • Important melliferous plant, due to its abundant and prolonged flowering. • It is sowed in autumn in areas with a mild winter and in spring in cold areas.	10-15 kg/ha
MIX	HUMUSFERT	• Comprising barley, bristle oats and crimson clover, this mixture is used all over Italy with autumn sowing. • Its great productivity, hardiness and precocity make it suitable for all pedoclimatic situations. • Suitable for being chopped and buried, or for being rolled or cut and left as mulch (e.g. in between rows of tree crops). Sowing period: from October to November.	80 kg/ha
MIX	HUMUSFERT KIWI	• Specific mixture for green manure under actinidia (also in mature plants with dense shade), indicated in particularly for Central- Southern Italy. • Provides organic substance and structures the soil. • In the earing phase C / N equal to about 26-28: good yield in long- term humus. • Suitable to be shredded and buried, or to be rolled or mowed and left as vegetable mulch. Sowing period: November, December.	85 kg/ha
MIX	ESTAFERTIMIX	• Summer forage crop comprising: climbing bean, pearl millet and Sudan grass. • Green manure that enriches the soil with organic substance, minerals and nitrogen. Excellent C/N ratio in the biomass produced. • Excellent tolerance to drought at high temperatures, particularly suitable for greenhouse conditions. • Cutting and burying: according to discretion, wait until the millet is at least 100-120 cm tall (60 days), for good biomass production. Sowing period: Spring, when the soil temperature is at least 16-18 °C.	25-30 kg/ha
MIX	F.P. STRATUS	Formula suitable for structuring the soil at different depths and recovering the nutrients of the soil. Early cycle with good biomass yield. At the start of earing, C/N ratio of about 20-22 with gradual release of nutrients. Suitable for tired or balanced soils. Uses: inter-row of tree crops, or rotations with spring-summer open field crops. Sowing period: autumn or spring (by March).	60 kg/ha

BRISTLE OAT	SAIA 6 IAPAR 61	• excellent resistance to environmental stress. • excellent green manure essence with nematicide activity against the Pratylenchus genus and ability to reduce nutrient washout (Catch Crop).	70 kg/ha
FORAGE RAPE	STEGO RINGO	Very leafy species, with deep taproot, excellent as cover crop and as washout blocker, produces easily degradable biomass and is resistant to frost.	10 kg/ha
BUCKWHEAT	LILEJA 	• Early cycle. Spring-summer sowing species, traditionally used to produce grain for food consumption, particularly in areas with short summers or not so fertile soil. If used as a cover crop, it has numerous advantages: • It is a very fast-growing plant with a short cycle and excellent competitive ability towards weeds. • It adapts even to little fertile soils. • Produces easily degradable residues, rapidly releasing the absorbed nutrients • Wide sowing time window: late spring to end of summer. • Source of food for pollinators and beneficial insects, thanks to the abundant flowering.	60-70 kg/ha

TURFGRASS

- A significant share of Padana Sementi's business is provided by ornamental lawns, thanks to constant investments in research and innovation in this sector.
- New varieties of lawn seeds with unique characteristics of resistance to disease, treading, drought, or extreme heat as well as winter cold are acquired mainly abroad, mainly from the USA, Denmark, and the Netherlands.
- These varieties are evaluated in our experimental fields, which we have been utilising since 2009 in collaboration with the University of Padua. Through severe agronomic tests, we select the varieties to be included in the different formulas.

OUR SEEDS LINES ...

TOP CLASS E TOP CLASS 4 SOD:

TOP CLASS mixes are designed to meet the demands of the most experienced professional operators. Composed of the latest generation varieties produced by American genetic research, of the highest quality and very dark in colour.
TOP CLASS 4 SOD mixes are composed of the latest generation varieties produced by American genetic research, very dark in colour and with guaranteed 0/0 purity, to limit costs due to weed management. Top Class 4 Sod was created to meet the requirements of turfgrass producers by including easy-to-maintain, disease-resistant varieties that are aggressive against weeds and capable of producing dense sods from the first months of cultivation.

TOP GREEN

TOP GREEN mixes are designed to respond to the most varied environmental situations and usage needs, meeting every budget. Top Green is suitable for experienced professional operators as well as hobby users; thanks to the different packages available, it is possible to use these seeds in both large and small areas.

NATURAL GARDEN

NATURAL GARDEN mixes come from Padana Sementi's attention to sustainability issues and reduced environmental impact. They are composed of varieties that have shown the greatest tolerance to water stress and low agronomic inputs within Padana Sementi's experimental program in collaboration with the University of Padua. The two mixes are also supplemented with two innovative technologies: AQUACOAT RTO + and ACTIVECOAT, which allow to obtain more resistant plants and reduce water use.

TURF GREEN

TURF GREEN mixes are especially designed to meet specific requests for products to be used in extensive lawns, public areas and large work areas with a favourable price/performance ratio.

View our TURF catalogues by scanning the QR code.

OUR FERTILIZERS LINES ...

FERTI GREEN:

Organic mineral fertilizer line, designed for the nutrition both turf and soil; the products of the FERTI GREEN line combine the mineral part with an plant-derived organic part whose composition and quantity varies depending on the use for which the fertilizer was intended.

FERTI CONTROL:

Line of controlled-release fertilizers, which increase the efficiency of utilization of nutrient elements by plants by allowing delivery at precise dosages, without any need for additional applications. This prevents a waste of nutrients, accumulation of salts in the soil and contamination of groundwater.
Controlled-release fertilizers are composed of high-quality nutrients in granular form, encapsulated by a special polymer membrane that is biodegradable

FERTI SLOW:

Slow-release mineral fertilizer line, with prolonged release Nitrogen for a longer time than traditional mineral fertilizers. The gradualness of the release is ensured by the presence of urea formaldehyde in FERTI GROW and urea with inhibitor NBTP of urease enzyme in PSE SLOW N.

FERTI LIQUID:

Line of biostimulants and liquid fertilizers that allows you to support the growth and development of plants during all developmental stages, starting from seed germination to increasing resistance to abiotic stresses.

FERTI DEFENCE:

Line of professional products, specifically for the preventive and curative defense of turfgrass. The use of FERTI DEFENCE line makes it possible to reduce the use of synthetic products.

FERTI FLORA:

Fertilizer line that stems from the need for management of ornamental greenery that is increasingly sustainable and attentive to the health of both humans and the environment. The increasing limitation in the use of synthetic chemicals, coupled with the demand for naturally gardens, is driving the user to the use of products natural based on consortia of mycorrhizae, Trichoderma, rhizosphere bacteria and entomopathogenic fungi.

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PADANA SEMENTI®

MAKING BETTER SEEDS

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