

FORAGE PLANTS - VARIETY DESCRIPTION

Lolium perenne



Perennial ryegrass is a low-growing, three to four-year-old species of grass with strong initial growth and early development. It tolerates trampling and frequent mowing very well. It thrives best on heavy, fresh, and moist soils that are well-supplied with nutrients. It is sensitive to low temperatures and prolonged snow cover. In terms of nutritional value, it is one of the most important species of grass. It is sown as a pure crop, but it is primarily recommended for sowing in clover-grass mixtures for intensive use for grazing and mowing.

VARIETY - CALIBRA: A medium-late tetraploid variety for mowing. It is characterized by high and quality yields. It withstands at least three years of intensive use. The variety is characterized by good resistance to diseases and is suitable for production at higher altitudes.

VARIETY - VICTORIAN: A high-quality variety that gives high and quality yields. It is resistant to high temperatures.

Absolute mass: 3.0-4.6 g / Planting depth: 1-2 cm / Planting rate: 30-40 kg/ha.

Festuca pratensis



Festuca pratensis is a perennial, moderately early, tall species of grass. It has a strong root system, which allows it to thrive on both heavy and moist soils, as well as on moderately heavy and lighter soils. It is a suitable species for mowing and grazing, which is why it is one of the economically most important grass species. It is suitable for sowing in perennial clover-grass mixtures and for the renovation of permanent pastures intended for intensive use.

VARIETY - CORNATICA: It gives a quality and high yield for hay and grazing. It is resistant to diseases, and in cold and moist conditions, it gives good yields and thrives for 5-6 years.

Absolute mass: 2 g / Planting depth: 0.5-1 cm / Planting rate: 30-40 kg/ha

Dactylis glomerata



Dactylis glomerata early, tall, and exceptionally high-quality grass species. It thrives well in different growing conditions, and of all economically important grass species, it has the best drought resistance. It develops very early, which causes it to age quickly, and its nutritional value decreases quickly and significantly. Dactylis glomerata is also one of the most aggressive grass species and therefore strongly displaces other grasses in mixtures.

VARIETY - AMBA: A very early variety that is resistant to diseases, easily digestible, tolerates winter well, and gives an early yield. It contains a high proportion of dry matter and is excellent in mixtures, suitable for production in all areas.

Absolute mass: 1 g / Planting depth: 0.5-1 cm / Planting rate: 25-30 kg/ha.

Phleum pratense



Phleum pratense is a late, perennial, tall grass species. It grows best on heavy to medium-heavy, moist soils. It tolerates prolonged snow cover and low winter temperatures. In our humid growing conditions, it is an essential component of grass mixtures for intensive grazing, i.e., grazing and mowing use. SORTA-CLIMAX, JUMIS - Very good for grazing, silage, and haymaking. Very good for grass mixtures. Excellent as hay for horses.

Seed weight: 0.5 g/sowing depth: 0.5-1 cm/sowing rate: 18-20 kg/ha

Festuca rubra



Red fescue is a hardy low-growing species of grass that forms a cushion-like growth habit. It thrives primarily on less demanding soils where there are no conditions for intensive grass species. It is not particularly valuable as forage, but due to its dense growth, it is important for establishing pastures. It is especially suitable for grazing small livestock and horses. VARIETY-MAXIMA-Resistant to plant diseases and stress. Recommended in grass mixtures and remains ornamental and stable throughout the year.

Absolute mass: 1 g/ Sowing depth: 0.5-1 cm/ Sowing rate: 25-30 kg/ha

Lolium multiflorum



Italian ryegrass is a one to two-year-old medium-high species of grass with very early growth and development. It grows in tussocks, is very leafy, and has wide, long, and large leaves. If there is enough food in the soil, primarily nitrogen, Italian ryegrass is characterized by rapid growth and good regeneration after mowing. It thrives best on moderately moist, medium-heavy, and deeper soils. It does not tolerate long-lasting snow cover and low temperatures very well. We use it for pure sowing or in short-term clover-grass mixtures. Like all ryegrasses, it contains more sugar than other economically important grass species, making it suitable for preparing grass silage. VARIETIES - TEANNA, STAR, DRACAR - produces high and quality yields. Height 90-110 cm, winter-resistant, and can last in the soil for 2-3 years.

Absolute mass: 2-4 g / Sowing depth: 0.5-1 cm / Sowing rate: 40-50 kg/ha

Medicago sativa



Alfalfa is a perennial legume that can withstand four to five years of complete utilization in intensive production. In addition to its durability, it stands out from other perennial clovers primarily due to its higher and higher quality yield of nutrients, which is why it is called the 'queen of forage crops.' Alfalfa requires loose, permeable, deep, neutral, and fertile soil. Shallow, compacted, and heavy soils are not suitable for alfalfa production. We use it for pure seeding or seeding in mixtures. It provides excellent fodder for all types of animals and is suitable for all uses, for dehydration, and for obtaining alfalfa flour. VARIETY-GEA-It shows very good tolerance to cold weather and can adapt to a very wide range of climates. It produces high-quality feed with a favorable ratio of leaves to stems. Suitable for dehydration and hay, it withstands frequent mowing and regenerates very quickly. It has a developed root system, which is why it withstands summer droughts very well.

COATED SEED - inoculated (coated) with Rhizobium & Mycorrhiza

Advantages of coated seed:

Binds atmospheric nitrogen and increases the amount of N (nitrogen) in the soil.

Planting is of higher quality due to the increased absolute weight, as wind and water cannot carry away such seeds.

Birds do not eat coated seeds.

Seeds that are not sufficiently covered with soil also germinate.

The seed is protected against biotic infestation and mechanical injury.

It quickly absorbs moisture from the environment and promotes faster germination and even growth.

LODI VARIETY - Has an extremely high percentage of protein, excellent and quality yields. It tolerates frost well and is adaptive to frequent cutting. It has a low saponin content and a high protein content. It has long-lasting growth and regrowth after cutting takes 23-26 days. It quickly absorbs nutrients from the soil and gives high yields and quality silage.

Absolute weight: 2-2.25 gr/Planting depth: 0.5-1 cm/Planting rate: 25-40 kg/ha

MARINA VARIETY - Very adaptable to all types of soil and climate. It is best suited for the Mediterranean region. It has excellent resistance to diseases / Fusarium, Phytophthora, Verticillium/. It is a productive variety with developed leaves and strong stems rich in protein.

LODI VARIETY - Has a high protein content and fine stems. It is tolerant to frost and has a low saponin content. The characteristics of the variety remain even after 3-4 years of production.

EMILIJANA-ERIDE VARIETY - A highly productive variety with a large leaf/stem ratio. It is resistant to diseases and has a high protein content that is easily digestible, giving high yields."

Trifolium pratense



Red clover is a biennial to triennial plant and the most widespread type of clover. It grows best in humid climates on medium-heavy and slightly acidic soils. We sow it as a pure crop or in a mixture with grasses. The yield of red clover together with grasses is used for fresh feed, hay, and silage. It provides high-quality feed, rich in protein, minerals, and vitamins. In a full year of growth, we can produce four harvests. Variety START is a new diploid variety, durable and gives high stable and quality yields. Absolute weight: 1.75-2.25 gr/Sowing depth: 1-1.5 cm/Sowing rate: 20-25 kg/ha.

Trifolium repens



Perennial legume with high forage value that does not decrease even after flowering. White clover requires a lot of light for growth and development, which is why it is most common in pastures. There are two types of white clover: Ladino type and common white clover. Ladino type or large leaf white clover grows two to four times faster than the common type and is less tolerant to low temperatures. White or creeping clover is not sown as a pure crop, but is primarily used in perennial pasture and hay-pasture mixtures. We can classify varieties by the size of their leaves, from 1-large leaves to 9-small leaves. VARIETY-RIVENDEL, HUIA - Suitable for pastures.

Absolute weight: 0.6 g/Sowing depth: 0.5-1.5 cm/Sowing rate: 12-14 kg/ha

Lotus corniculatus



Lotus corniculatus is one of the most durable legumes as it can withstand six or more years in the field. It is not demanding regarding climate and soil, as it grows well in both dry and humid conditions. It is primarily included in clover-grass mixtures for restoring the grass cover in natural meadows and pastures. It is particularly important in grazing mixtures. VARIETY - GIADA, LEO - yields high and quality crop with a good content of protein and dry matter. Absolute mass: 1.3 g/Seed depth: 0.5-1.5 cm/Seeding rate: 15-20 kg/ha.

Trifolium incarnatum



Annual winter-hardy clover. The nutritional value of crimson clover is lower than that of red clover, but its advantage is that it provides the first green mass in the spring. We grow it as a pure crop or in a mixture with ryegrass and field peas. VARIETY-CONTEA, INTA - A fast-growing variety. Suitable for grass mixtures and as a pure crop. Provides exceptionally good and tasty feed. With a 90 cm deep root, it is excellent for green manure and leaves the soil rich in nitrogen.

Absolute weight: 3.0-4.6 gr/ Sowing depth: 1-2 cm/ Sowing rate: 25-30 kg/ha.

Sorghum sudanense



Sudan grass is a hybrid sorghum species with excellent drought resistance, resistance to pests, and high leaf mass content. It is an annual plant, does not have underground rhizomes, and cannot survive the winter in our conditions. The hybrid sorghum spreads only by seed. It requires a temperature of 12°C for germination and sprouting and up to 25°C for growth and development. It has lower soil requirements and can grow on all types of soil, from dry and sandy to heavy and bare. Yields range from 80-100 t/ha. Sowing is done from May to the end of June. It is silaged when it reaches a height of 120-130 cm, as the nutrient ratio is then optimal and no additives are needed due to its high sugar content. For green feed, it is used when it reaches a height of 60 cm. Some varieties include PIPER SWEET, NUTRI HONEY, and BOVITAL, which are new hybrids that form large tussocks, have faster growth, and are rich in leaves with a high growth rate.

Absolute weight: 18 g/Depth of sowing: 2-3 cm/Sowing rate: 25-30 kg/ha

Beta vulgaris



An extremely important forage crop, which improves digestion and the health status of animals due to its high content of vitamins (carotene) and digestible proteins. It is sown in the crop rotation after any forage crop, and it particularly thrives when sown after legumes. Beet is an excellent precursor for cereals. It withstands harsh winters and performs better in areas with higher precipitation. It prefers deep, fertile, well-structured and water-permeable soils, but can also grow on more acidic soils and hilly soils with sufficient moisture. Sugar beet is suitable for storage in late autumn when it reaches physiological maturity. Yields range from 40-60 t/ha.

VARIETY-BRIGADIER:

- *high and quality yield
- *high dry matter content
- *lots of leaf mass that remains healthy until harvest
- *the root is orange in color, smooth and elongated
- *1/3 of the root is in the soil, which facilitates easier harvesting
- *excellent stability and quality during storage
- *suitable for all types of soils

Absolute weight: 9-28 g / Sowing depth: 2-3 cm / Sowing rate: 10-30 kg/ha

Daucus carota



Carrot is a plant of moderate climate. It can also grow up to an altitude of 1,600 m. It requires mild, sunny and moist autumn, as it grows best in late autumn. The autumn yield is 35-50 t of carrots/ha. Animal feed carrots have high nutritional and fodder value. Along with fodder beet, carrot is the most important fodder plant. It is rich in protein and vitamins (carotene), provitamin A, and vitamins B and C.

Variety - Ljubljana Yellow.

Absolute weight: 1.0-1.4 g / Sowing depth: 0.5-1.5 cm / Sowing rate: 4-5 kg/ha

Pisum arvense



This is a legume with high protein content in both its seeds and leaves. Two types are distinguished based on use:

livestock peas for seeds

livestock peas for green fodder

Production of livestock peas enables the production of one's own strong protein fodder that is cheaper than concentrates. Livestock peas also have a beneficial effect on soil structure and increase nitrogen content in the soil. As a grain legume, it complements and improves crop rotation. Due to its short vegetation period, it allows for sowing of various intercrops.

VARIETIES - ARVIKA/LIVOLETTA/VITRA

Absolute mass: 150-300 g / Sowing depth: 5-7 cm / Sowing rate: 120-220 kg/ha

Vicia sativa L. ;Vicia villosa L.



This is an annual forage crop with high protein content. It is used in nutrition as green mass or silage. It has a fast initial growth and a long period before flowering, allowing for the use of high-quality green forage for a longer period than other types. In addition to spring peas, we also have winter peas.

VARIETIES - HUNGVILLOSA/VILLANA/RADA/MAXIVESA

Absolute mass: 40-60 gr/Seed depth: 4-6 cm/Seed rate: 120-160 kg/ha.

Phacelia tancetifolia



This is an annual plant. It leaves the field clean in spring because the first frost destroys it. It produces a large amount of green mass in a short period of time, making it suitable for green manure (cover crops). It repels nematodes, so it is an excellent pre-crop for sugar beets, potatoes, and corn. As a fodder crop, it is not economically significant. Phacelia is one of the best honey plants because it provides excellent bee forage with a long flowering period.

Variety: STALA

Absolute weight: 2g

Sowing depth: 2cm

Sowing rate: 10-16 kg/ha

CLOVER-GRASS MIXTURES

Clover-grass mixtures provide farmers with a versatile and complete selection of nutrients. Clovers and grasses have different requirements for soil and climate. In the sowing of mixtures, all properties

come to the fore because they complement each other. Clovers have a deeper root system and extract food from deeper soil layers, enriching it with nitrogen. In contrast, under weaker growth conditions, clover-grass mixtures provide a safer and higher yield.

PRODUCTION TECHNOLOGY OF CLOVER-GRASS MIXTURES

SOIL PREPARATION - the soil is prepared to a finely granular structure, providing favorable conditions for seed germination and good conditions for rapid germination, initial growth, and development of young plants.

SOWING TIME - The time suitable for sowing grass and clover is from spring to autumn. In summer, there is often a lack of moisture, so we sow in spring or autumn. In autumn, there is a risk of weaker clover wintering, so we sow no later than the beginning of September.

SOWING OF CROPS - We sow mechanically with a seeder for wheat or special seeders for grass. Before sowing, we spread the following amount of fertilizer: 50 kg N/ha, 80-120 kg P₂O₅/ha, and 120-160 kg K₂O/ha. Fertilization before sowing depends on the soil's nutrient reserves (soil analysis). Sowing depth is 1-2 cm. After sowing, we roll the soil to achieve better contact between the seed and the soil and thus better seed germination.

SEED QUANTITY - For all mixtures, a quantity of 30-35 kg/ha is recommended. In unfavorable climatic and terrain conditions, or in late sowing, the seed quantity can be increased by 20-30%.

PROTECTIVE CROPS - We use protective crops in spring sowing. We use primarily oats (50-60 kg/ha), spring barley (90 kg/ha), and Italian ryegrass (5-10 kg/ha). We mow the protective crops before the start of the earing to avoid too much interference with the young plantation's growth. After mowing the protective crops, we fertilize the young clover-grass mixture with around 50 kg N:P:K/ha.

RESOWING AND OVERSEEDING - if the plantation is damaged or sparse, we can renew it by overseeding with a special seeder or manual resowing. For overseeding with a special seeder, we add 2/3 of the normal amount of grass and clover seed per ha.

FERTILIZATION - considering the intensity of use (3x mowing, 4x mowing), fertilizer should be added.

USE METHOD - By the method of use, we distinguish between mowing, grazing, and grazing-mowing use. In mowing use, we usually have 4 mowings, in grazing or grazing-mowing use, we have 3-4 grazings and 2 mowings. Grazing should be done in the stage of stem and growth formation, and mowing in the heading stage.