

PRODUCT DATA SHEET

Alfalfa

Botanical name	Medicago sativa
Seeding rate	25-30 kg/ha when planted on its own at a thousand grain weight of 2-2.5 g (for target field densities of 120-150 plants/m ²), 19-23 kg/ha as a nurse crop, or 25 kg/ha in mixtures with 6 kg/ha meadow fescue or oat grass, or 28 kg/ha in mixtures with 3 kg/ha cocksfoot or timothy
Distance between rows	Row planting with spacing of 12-15 cm, as with cereals
Sowing period	When planted on its own, March to late August
Sowing depth	1-2 cm



Botany

- Family: Fabaceae (legumes)
- Genus: Medick (Medicago)
- Origin: Asia, Europe and North Africa
- As multiannual, persistent species, but one that is not very competitive or resistant to trampling in mixtures with grasses, especially when grazed
 - New growth and regrowth comes from shoots emerging from the crown (do not cut lower than 5 cm, limited stability for grazing)
- Often described as the “queen of forage crops” due to its high DM and protein yields under conducive site characteristics
- Also suitable as a pioneer plant thanks to the particular ability of its roots to penetrate into the soil
 - Reliable germination rates can be obtained within about a week with Coated Seed technology and sufficiently high average temperatures
- At 500 kg N/ha, the species has a the highest average N fixation potential, especially when used in multi-year cultivation
 - Alfalfa enters into a symbiosis with species-specific rhizobia (nodule bacteria)
 - Inoculation with RhizoFix® RF-50 helps increase symbiotic atmospheric nitrogen fixation, with inoculation replacing mineral N fertilisation (especially when sown on its own)
 - Alfalfa Coated Seed Rhizo combines the advantages of Coated Seed technology and nitrogen-fixing bacteria
- Recommended products for forage cultivation with high percentages of alfalfa include ProGreen® FU 8 PLATO alfalfa-grass mixture, ProGreen® 10 grassland mixture with clover for dry locations, and ProGreen® 14+15 herb mixture for pastures and meadows dry and wet as well as organic alfalfa-clover-grass and organic alfalfa-grass mixtures
- Fodder grade of 8, the highest possible
- High digestibility, especially for ruminants
 - Higher protein and raw fibre content than red or white clover
 - Higher mineral content (especially Ca, Mg, P and vitamins)



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Morphology

Leaf base	Three leaflets with prominent middle leaflet Obovate to elliptic Upper leaflets often serrate Grooved top surface Smooth and shiny bottom surface, pilous
Inflorescence	1-3 cm long racemes on axillary stalks Each pod contains 2-7 seeds
Other features	Taproot Cross-pollinated by insects



Climate requirements

- High warmth and sunlight requirements
- More drought tolerant than red clover and can be cultivated with annual precipitation of > 550 L
- Winter hardy (-20°C)
- Not suited for planting on cold northern slopes

Soil requirements

- Thrives on warm, deep, calcareous loamy soils, ideal locations offer “warm head and dry feet”
- Waterlogged soils and soils affected by the groundwater table are not suitable
- Growth supported by pH values of 6.5-7.5

- Good previous crop: nutrient-demanding cereal crops
- As a legume with deep roots, alfalfa is ideal as a previous crop as it provides the following crop with free nitrogen

Soil preparation

Primary soil preparation

- Soil preparation with a plough for neat cultivation, free from weeds and crop and root residues

Secondary preparation

- Using a mill or rotary harrow for a fine, well-distributed seedbed



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Sowing

- Well-suited to being sown on its own in prime locations
- Can be sown as a nurse crop for summer cereals and other crops
- Well suited as a mixture component for transition or marginal sites
- If soil is too loose after sowing, encourage soil coverage with rolling
- Using a cover crop can help protect from frost during establishment when sowing alfalfa on its own on new sites with challenging conditions
- For successful overwintering, stands should comfortably reach heights of about 10-15 cm after the last cut

Crop protection

Fighting weeds

- Prior to preparing the soil for new cultivation, consider using herbicide if there are major weed issues
- Topping as an effective measure against growing weeds at heights of 10-15 cm
- Prevent weeds from expanding and dispersing their seeds via mowing
- Due to their toxic effects, unwanted weeds like the marsh horsetail, stinking willie, meadow buttercup and sorrel and thistle species should be removed using mechanical means or chemicals that target individual plants

Fertilisation

- Soil fertilisation based on a soil assessment
- When sowing on its own or in mixtures containing over 50% alfalfa, generally avoid N fertilisation; 30-40 kg N/ha is reasonable when starting out with uncoated seeds on N-poor soils where alfalfa has never been planted
- Nutrient loss for 3-4 cuts per year:

	Total N	P ₂ O ₅	K ₂ O	CaO	MgO
Total	30-40 for uncoated seeds on N-poor soils	85-180	270-400	270-400	30-42

Harvest and treatment

- Ideal timing for cutting is between the emergence of buds and the beginning of flowering
- Handle gently as fodder to avoid losses due to crumbling
- Considerably more difficult to use as silage than grasses, especially in alfalfa-only cultivation
- Fodder yields: 10,000-13,000 kg DM/ha
- Optimal cutting height: 7 cm



Any questions? Please feel free to contact us!

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