PRODUCT DATA SHEET

Tall oat-grass

Botanical name	Arrhenatherum elatius
Seeding rate	25-35 kg/ha in mixtures containing tall oat-grass
Distance between rows	Row planting similar to cereals is possible (if necessary, twin-row planting with half the seed amount each), well-suited to narrow row planting using a slice seeder (especially for overseeding)
Sowing period	Spring sowing is possible for new cultivation (if necessary, with annual ryegrass as nurse crop), direct sowing until end of August is common for late summer cultivation
Sowing depth	1-2 cm

Botany

- Family: Poaceae (grasses)
- Genus: Arrhenatherum (oat-grass)
- Origin: Europe, Central Asia, Persia, Northwest Africa
- Included in the German Plant Variety Catalogue of the German Seed Marketing Legislation
  - Very few varieties available, one approved variety in Germany
- At grade 7, tall oat-grass has the second highest feed value
  - Rated as ideal for sowing when used in accordance with its morphology and properties
  - Tolerates extensive cutting, suitable for use even as a crude fibre-rich component in horse hay
- Can provide substantial yields in 2 or 3, or a maximum of 4, cuttings when cultivated on soils with appropriate nutrients in areas where the conditions are not too harsh

Tall oat-grass is a perennial (3-6 years) stem grass that forms loose, high tufts. Although the leaf mass is low, this oat-grass can achieve impressive growth height of up to 1.5 m due to its early development and its stalk's tremendous growth ability. In appropriate locations, its strongly erectophile leaf growth gives tall oat-grass a high competitive advantage over other plants. Being a typical stem grass, it is often found on extensive grasslands and hay meadows. It does not tolerate grazing and multiple cutting very well; grazing animals especially avoid fresh oat-grass (because of bitter-tasting saponins). It is also found extensively along embankments and waysides.

PRODUCT DATA SHEET

Morphologie

Leaf base	Rolled
Lamina	Slightly hairy upper sheath Lower sheath is always hairless
Leaf node	No auricles 1-3 mm long ligule Fringed edges
Inflorescence	Loose, slightly cernuous and many-branched panicle Wild varieties: 1 'geniculate' awn per spikelet Cultivated varieties: awnless types possible
Other features	Thrives from early June till end of July

Tall oat-grass resembles yellow oat-grass in several morphological aspects. The following characteristics can help differentiate between the species during their non-flowering phase.

Tall oat-grass	Yellow oat-grass
‣ Underside of the leaf blade always glabrous (hairless) ‣ Ligule glabrous ‣ Lowest leaf sheath always glabrous ‣ All plant parts more upright ▪ Plant height 80-150 cm ▪ Leaf blade 4-10 mm wide	‣ Underside of leaf blade also densely pilous (hairy) ‣ Ligules finely pilous ‣ Lowest leaf blade with long, downward-facing hairs ‣ All plant parts smaller ▪ Plant height: 50-80 cm ▪ Leaf blade 3-5 mm wide

When flowering, the species can also be told apart using the following characteristics:

Tall oat-grass	Yellow oat-grass
‣ One 10-20 mm long, geniculate (bent) awn per spikelet ‣ Inflorescence silvery, lustrous	‣ Two or three 5-8 mm long awns ‣ Inflorescence greenish-yellow, later gold-yellow, shiny

PRODUCT DATA SHEET

Climate requirements

- Warm, moderately dry to cool locations are well suited
- Climate should not be too harsh; tall oat-grass is winterkilled easily, particularly during black frost

Soil requirements

- Prefers loamy, humus-rich and calcium-rich soil
- Avoids shallow, waterlogged or acidic soils (not suitable for boggy soils)
- In locations with particularly deep soils, tall oat-grass plays to its strengths as a deep-root plant
  - Complex branched root system ensures good drought tolerance

Occurrence and use

- As grassland indicator species in tall oat-grass pastures
  - Two characteristic forms are possible:

Dry tall oat-grass pastures	Moist oat-grass pastures
▸ Most common ▸ Most extensive form with 1-2 cuttings ▸ Standard species inventory: ▪ Cocksfoot ▪ Upright bromegrass ▪ Soft bromegrass ▪ Meadow sage ▪ Bird's-foot trefoil ▪ Knapweed ▪ Ox-eye daisy ▪ Black medick ▪ Rattleweed (→ is poisonous and, therefore, undesirable)	▸ Rare ▸ 2-3 cuttings possible ▸ Standard species inventory: ▪ Smooth-stalked meadow grass ▪ Meadow fescue ▪ Red fescue ▪ Autumn dandelion ▪ Yarrow ▪ Rambling bellflower ▪ Burnet ▪ Meadow campion ▪ Velvet grass ▸ The more moist the site (→ heavy cutting possible), the greater the tendency for meadow foxtail to occur in place of tall oat-grass

Recommended mixtures and products:

- Tall oat-grass as key component in more comprehensive mixtures for warmer, dry to cool extensive meadows; also in high altitude locations with 2-3, or a maximum of 4, cuttings
  - **Permanent grasslands:** in grass or clover-grass mixtures
    - MehrGras 900 with 10% tall oat-grass (30 kg/ha)
    - MehrGras AF MT from the QSM Baden-Wurttemberg programme with 7% tall oat-grass (30 kg/ha)
    - ProGreen® PF 60 for horse hay with 5% tall oat-grass (30-40 kg/ha)
  - **Arable feed crop production:** as component in grass mixtures with alfalfa
    - For dry hay or haylage locations with alfalfa (25 kg/ha) supplemented withb cocksfoot (6 kg/ha) and tall oat-grass (6 kg/ha) in equal measure
    - For dry and extremely large arable feed crop production fields in mountainous upland regions with Timothy grass (3 kg/ha), cocksfoot (4 kg/ha), tall oat-grass (2 kg/ha), alfalfa (12 kg/ha), bird's-foot trefoil (2 kg/ha) and black medick (2 kg/ha)

PRODUCT DATA SHEET

Soil preparation

Soil preparation depends on the aim for which the crop will be used:

Objective	Arable feed crop production	Permanent pastures
	Multi-year main crop	New cultivation
Measures	**Soil preparation (primary preparation)** with plough for neat cultivation.	**Mixture,** possibly with annual ryegrass as a cover crop, can be used in standard procedures for new grassland sites.
	Secondary processing using a mill or rotary harrow for a fine, well-distributed seedbed.	

Sowing

- Mechanical seeding is only possible in an awn-free state (awn-free breeding varieties are available)

Crop protection

Fighting weeds

- Prior to preparing the soil for new cultivation, consider using herbicide if there are major pre-existing weed issues
- Topping as an effective measure against weeds growing 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

PRODUCT DATA SHEET

Fertilisation

- Soil fertilisation based on a soil assessment
- Moderate N fertilisation adapted to the cutting frequency (if N values too high, there is a danger of significant hog-weed and cow parsley propagation)
- For N fertilisation, all current legal requirements relating to fertilisation must be followed.
  - Minimum reductions of 10-50 kg N/ha for soils with > 4% humus content
  - Reductions of 20 kg N/ha if legumes make up 5-10% of yield, if legume share of mixtures is 50% or greater, no additional N fertilisation necessary
- Nutrient withdrawal (in kg/ha) in tall oat-grass fields:

Nutrient	2 cuts	3 cuts	4 cuts
Total N	100	170	260
P_2O_5	40	70	90
K_2O	150	250	350
MgO	20	40	50
S	11	22	30

Harvest and treatment

- Cutting can be done between late April and late October
  - First cut at the end of development stage 4 (BBCH stage 4 = boot stage) - just before inflorescence emerges
- Tall oat-grass yields: approx. 5,000 kg DM/ha with 2 cuts and up to 7,000 kg DM/ha with 3 cuts
- Optimal cutting height: 7 cm

Any questions? Please feel free to contact us!
+49 2151 - 44 17 0
info@freudenberger.net