

# PRODUCT DATA SHEET

## Annual ryegrass

<b>Botanical name</b>	Lolium multiflorum ssp. westerwoldicum
<b>Seeding rate</b>	Diploid varieties 40-45 kg/ha, Tetraploid varieties 45-50 kg/ha
<b>Distance between rows</b>	Row planting can be similar to cereals (if necessary, two passes with half the seed amount each), well-suited to narrow row planting using a slice seeder (especially for resowing)
<b>Sowing period</b>	Before late April when used as a main crop, before late August as a catch crop
<b>Sowing depth</b>	1-2 cm



### Botany

- Family: Poaceae (grasses)
- Genus: Lolium
- Origin: Southern Europe, North Africa, Near East
- With the highest mass formation of annual grasses, it is only grown in annual systems due to its low winter hardiness
- Exhibits two main uses in arable feed crop production and one in permanent pastures:
  - Arable feed crop production
    - As a second crop or catch crop following the cereal or early potato harvest, often sown on its own (e.g. ProGreen® FU 4 with 100 % annual ryegrass as a summer grass)
    - As a main crop for repeated harvests in combination with Italian ryegrass (z. B. MehrGras FE 200 with 33% annual ryegrass) or with short-lived clover species like Persian clover or Egyptian clover (e.g. ProGreen® FU 9 with 70% annual ryegrass)
  - Permanent pastures
    - As a nurse grass

**i** As a nurse grass, the annual ryegrass variety **ANDREA** is particularly well suited for use in permanent pastures as well as in new cultivation or for reseeding heavily damaged pastures. Its very rapid growth and high competitiveness allow it to suppress weed germination while protecting the plants in the perennial pasture mixture as they slowly unfurl. Using **ANDREA**, the first cut after planting or reseeding the pasture sward can provide very good yields. Following the first cut, the share of **ANDREA** present in the sward decreases dramatically, providing space for the target plant community to grow into.

- Overall, there is a wide portfolio of varieties depending on the desired use (over 40 approved varieties in Germany)
  - A variety of differentiating factors are present between varieties, including:

### ... Ploidy

Diploid varieties	Tetraploid varieties
<ul style="list-style-type: none"><li>▸ Higher sward densities</li><li>▸ More distinct fine leaves</li></ul>	<ul style="list-style-type: none"><li>▸ More vigorous early growth</li><li>▸ Lower shoot and sward density</li><li>▸ Powerful individual shoots with higher individual leaf mass and area</li><li>▸ Better silage characteristics</li><li>▸ Higher water requirements</li></ul>

### ... Development after sowing

### ... Resistance to diseases

- Annual ryegrass can be cut after around six weeks, with greater dry mass formation per unit of time than any other grass species
- It has one of the highest fodder ratings (7) of tall grasses
- Intensive cultivation regimes (high fertilisation and intense harvest) are particularly effective at ensuring high yields
- Reliable germination rates can be obtained with Coated Seed technology and sufficiently high average temperatures

# PRODUCT DATA SHEET

## Morphology

- Similar morphological characteristics to Italian ryegrass (*Lolium multiflorum* ssp. *italicum*) → annual ryegrass is very closely related to Italian ryegrass and is considered to be another subspecies of *Lolium multiflorum*

<b>Leaf base</b>	Rolled
<b>Lamina</b>	Grooved top surface Very smooth bottom surface
<b>Leaf node</b>	Weak cuticle Large auricle
<b>Inflorescence</b>	Awned spikes
<b>Other features</b>	Reddish shoot base Wind pollinated

## Climate requirements

- Areas that are warm and moist, with high precipitation (> 650 mm per year), are ideal
- Dry sites are not suitable

## Soil requirements

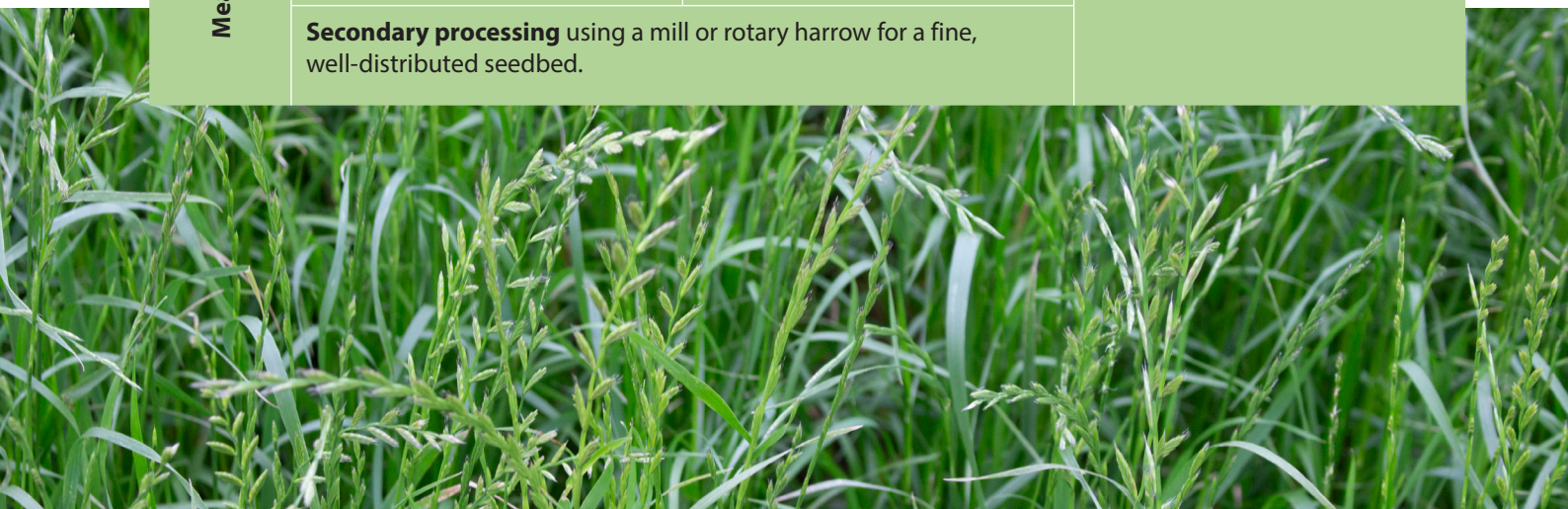
- Nutrient-rich, cohesive, fresh to wet soil preferred
- No waterlogged soils
- Can be used as a cover or nurse crop on marshy sites on which a perennial pasture mixture is being established

## Soil preparation

- Soil preparation depends on the desired usage:



Objective	Arable feed crop production		Permanent pastures
	Main crop	Catch crop	New cultivation or reseedling
Measures	<b>Soil preparation (primary preparation)</b> with plough for neat cultivation.	—	As a nurse grass, annual ryegrass can be planted in normal operations alongside perennial grassland mixtures.
	<b>Secondary processing</b> using a mill or rotary harrow for a fine, well-distributed seedbed.		





# PRODUCT DATA SHEET

## 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 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
- N requirements as a main crop: 80-100 kg N/ha for the first cut, 60-80 kg N/ha for each subsequent cut (consult the current provisions in fertiliser regulations!)
  - Minimum reductions of 10-50 kg N/ha for soils with > 4% humus content
  - Reduction of 20 kg N/ha when legumes comprise 5-10% of yield
- Nutrient loss in kg/ha for 3-4 cuts per year as a main crop:

	Total N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	CaO	MgO
<b>Total</b>	240-300	89-104	268-322	104-123	33-40

- Nutrient loss in kg/ha for 3-4 cuts per year as a main crop:

	Total N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	CaO	MgO
<b>Total</b>	80-100	52	116	28	13

## Harvest and treatment

- Cutting use possible between late April and late October
  - First cut at the end of development stage 4 (BBCH stage 4 = boot stage) - just before inflorescence emerges
- Fodder yields: approx. 8,000 kg DM/ha with 3 cuts and 11,000-12,000 kg DM/ha with 4 cuts
  - When used as a catch crop, fodder yields of up to 4,000 kg DM/ha
- Optimal cutting height: 7 cm



**Any questions?** Please feel free to contact us!

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