



# RYEGRASS A GRASS WEED? HOW TO AVOID AND REGULATE

Ryegrasses such as perennial ryegrass in permanent grassland or italian ryegrass in ley farming are high-yielding and high-quality, indispensable forage grasses. Due to their high seed potential, short-lived ryegrasses can also be harmful to subsequent crops in crop rotation if not managed appropriately. Here you can find out first-hand from a long-standing grass propagator from the German Eifel region what is most important when dealing with ryegrass in crop rotation, especially with italian ryegrass.

In the seed production of grasses, the motto is: until harvest, the cultivated grass is a crop rotation element. Immediately after the harvest, this changes - from then on, the previously valuable ryegrass is considered a grass weed that must be controlled in further management. To find out how ryegrass should be managed in arable farming, we spoke to a real professional: Norbert Thiex-Mayer's farm in Hüttingen in Rhineland-Palatinate near the border to Luxembourg has been active in grass seed propagation for Deutsche Saatveredelung AG (DSV) for 50 years. Norbert Thiex-Mayer knows better than anyone else the advantages of ryegrass for his arable crop rotation and the decisive steps in management so that it does not become a problem grass in the subsequent crops. His approaches to solving this problem lies above all in arable management.

## Solution no. 1: Use recommended, native varieties

For Norbert Thiex-Mayer, the prevention of resistance begins with the purchase of the right seed: „Seed quality and variety performance have developed very positively in the last 20 years under domestic production, “

» **Even after 50 years of grass propagation, we have not been able to recognise nor prove any resistance in our area.**«

Norbert Thiex-Mayer

No serious evidence of herbicide resistance to important soil- and foliar-active herbicides has currently been proven in official trials with Z-seed from domestic production. In addition, the performance of a single-variety native grass mixture is also higher: „My colleague Andreas Guhr has been growing annual ryegrasses from DSV for many years. This year he will probably break the 13,000



kilo mark for milk,” reports Thiex-Mayer. On the one hand, this shows the performance of short-lived ryegrasses with the right management. Secondly, this example illustrates that care should always be taken to use recommended varieties (Z-seed). These varieties are designated for certain recommended regions and tested on their regional suitability for cultivation on the basis of national variety trials.

## Solution no. 2: Field edge hygiene

One of the most important measures to prevent the establishment of perennial and short-lived ryegrasses as weeds is proper field edge hygiene. „We get the problems from outside, they have to be eliminated,“ notes Thiex-Mayer. This is best done well in advance. Before harvesting grass seed, 1 metre of the field edge is mulched around the field.

## Solution no. 3: No reduced application rates

The top priority on the Thiex-Mayer farm is the correct application of plant protection, especially good professional practice with regard to the application rate! The farm manager sees this as a crucial point: „Ultimately, the weeds and grass weeds are not com-

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Norbert Thiex-Mayer

pletely controlled if the application rate is too low, so that a slow acclimatisation is established and at some point they are no longer killed - hence the „full application rate“.

Secondly, it involves a consistent change of active ingredient and the application is carried out in accordance with good professional practice in use of crop protection products. Especially when controlling grass weeds, it is important to choose the right active ingredient and to time the measure correctly throughout the crop rotation.

**Solution no. 4: Consistent stubble cultivation**

Tillage on the farm is mostly ploughless and is based on the crop rotation system.



Left from top to bottom Norbert Thiex-Mayer and his son Willi Mayer; at the right Norbert Schenten, DSV cultivation consultant.

Ploughing is carried out after grass before wheat to ensure a ‚clean table‘. After the grass seed harvest (80% of the straw remains chopped on the field), the field is usually left to rest for five weeks so that the seed potential of the grasses can sprout. This „regrowth“ is then sharply mulched. This is followed by a first cultivator pass of approx. 5 cm, which overlaps so that the entire surface is cultivated. A further three weeks later, as soon as the weeds have turned green again, the next pass is made at 10 to 12 cm. Before sowing the wheat, the soil is cultivated one last time to 15 cm. „The soil is much more open and if, for example, a heavy rain event arises, the water can seep away much better,“ says the operations manager, describing the effect of consistent stubble cultivation.

**Solution no. 5: Coordinate sowing and plant protection products**

The winter barley is sown at the end of September/beginning of October using conventional drilling technology to a seed placement depth of 3 cm. The wheat sowing begins immediately afterwards. The cereals should be sown late due to the early herbicide treatment, but generally not too late.

„We have long attached great importance to pre-emergence spraying, because if spraying is carried out too late, trafficability is problematic depending on the weather. Grass is also a fast-growing crop. In wet conditions like last autumn and due to a very mild winter, the grass only sprouts like this if it is treated too late,“ says Thiex-Mayer.

**Conclusion**

Good grass weed management is crucial if ryegrass and its many advantages are continued to be used as a crop grass. The most important measures include the following points:

- Consistent, proper field edge hygiene
- Wide crop rotation with appropriate soil cultivation
- Late, but not too late sowing dates for winter cereals
- Herbicide strategy (application of plant protection products on time and according to good professional practice, change of active ingredient)

Care should also be taken to ensure that the seed is used from recognised producers. There are currently no serious indications of herbicide resistance to important soil- and foliar-active herbicides in Z-seed in official trials.

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**What is the difference between perennial ryegrass and Italian ryegrass?**

**Perennial ryegrass (*Lolium perenne*)**



most important, valuable forage grass, especially in permanent grassland



ligule: short and straight, no leaf ears



Inflorescence: spikelet with narrow side adjacent, spikelets with no awns

**Italian ryegrass (*Lolium multiflorum*)**



Important, valuable forage grass, favoured in arable fodder production



ligule: sturdy and broad, overlapping leaf auricles around the stem



Inflorescence: spikelet with narrow side adjacent, bordered spikelets