

Blackgrass control in winter cereals with hoeing

Problem

Black grass mainly sprouts in the autumn and is therefore already rooted strongly enough to withstand harrow tines during the first harrowing of the 3-leaf-stage winter cereal. This harrowing can even stimulate blackgrass sprouting. Heavy soils tend to encourage black grass, further impairing the harrow's effect.

Solution

The cereals can be sown with a row spacing of at least 20 cm, so as to enable the use of the duckfoot-bladed hoe or a device combination of harrow and bladed hoe for weed control in between rows, in addition to the harrow.

Outcome

Thanks to the use of the bladed hoe, strong-rooting grass weeds can be successfully uprooted even in heavier soils. Other problem weeds, such as cow vetch, hemp-nettle, windgrass, or burdock, can also be controlled with the bladed hoe.

Practical recommendation

- Sow the winter cereal in October, in rows with spacing of at least 20 cm.
- When the cereal is at the 3-leaf-stage, control sprouting weeds with 1-2 harrowing procedures.
- After using the harrow and as the winter cereals begin tillering, root out the yet intact, well-rooted grass weed between the rows with help of a duckfoot-bladed hoeing device. The duckfoot-bladed hoe may also be used in combination with the harrow (Picture 2).

Applicability box

Theme

Weed management

Geographical coverage

In cereal-cultivation areas in Europe

Application time

During tillering in March; the row should be clearly visible

Required time

1 to 2 hoeing procedures in combination with harrow or after harrowing

Period of impact

Current crop

Equipment

Duckfoot-bladed hoe, device combination hoe with harrow

Best in

Given a high percentage of winter cereals in crop rotation



Picture 1: Wide row, here in barley (Photo: Hansueli Dierauer, FiBL). **Picture 2: Combination of a 6 m hoe (front) with a harrow (back), here in soya** (Photo: Ueli Weidmann, FiBL).

Tips

- Trial results have shown that the increasing of row spacing in wheat has little impact on the yield. According to FiBL's experience, more intensive weed control in wide rows may even have a positive effect on wheat yields.
- Given a greater occurrence of strong-growing problem weeds, one should schedule fertilizing measures with liquid manure/slurry for after weed control with the hoeing device.
- In order to facilitate sustainable weed control, the share of cereals in your crop rotation should be a maximum of 40 % (corresponding to 2 cereal crops in 5 years).
- Due to the smaller working width and lower working speed, the use of the bladed hoe is more time-consuming and cost-intensive than harrowing.

Practical testing

If this method seems to be suitable for your farm, we recommend that you test it under your own farm conditions as follows:

1. Prior to sowing the cereal, delimit a sub-parcel of the plot at both ends of the field with poles.
2. Sow the cereal on the sub-parcel in wide rows and carry out weed control as described above. The rest of the field can be cultivated according to your farm's conventions.

Evaluation and sharing of the results

Visual evaluation: In order to evaluate the efficiency of the method, compare the development of blackgrass in both procedures after weed control (best observed when black grass outgrows the cereals). Document the testing plots with photographs for later evaluation.

Quantitative evaluation: For an evaluation of the measure's effects on the yield, you can gather and compare the yield's weight from both procedures (convert yields to 1 a or 1 ha).

Use the comment section on the [Farmknowledge Platform](#) to share your experiences with other farmers, advisors and scientists! If you have any questions concerning the method, please contact the author of the practice abstract by e-mail.



Further information

Video

- The internet platform [bioaktuell.ch](#) offers several informative videos about the functionality and applications of a range of hoeing devices in arable crops (mostly German and French).

Links

- The [Farmknowledge Tool Database](#) offers practical follow-up information on weed control in arable crops.

About this practice abstract and OK-Net Arable

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