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

Publishers:
Research Institute of Organic Agriculture (FiBL), Switzerland
Ackerstrasse 113, Postfach 219, CH-5070 Frick
Tel. +41 62 865 72 72, info.suisse@fibl.org, www.fibl.org
IFOAM EU, Rue du Commerce 124, BE-1000 Brussels
Tel. +32 2 280 12 23, info@ifoam-eu.org, www.ifoam-eu.org

Authors: Hansueli Dierauer, Franziska Siegrist and Gilles Weidmann (FiBL)
Contact: hansueli.dierauer@fibl.org
Translation: Andreas Basler
Language editing: Simon Moakes
Permalink: Orgprints.org/31019

OK-Net Arable: This practice abstract was elaborated in the Organic Knowledge Network Arable project. OK-Net Arable promotes exchange of knowledge among farmers, farm advisers and scientists with the aim to increase productivity and quality in organic arable cropping all over Europe. The project is running from March 2015 to February 2018.

Project website: www.ok-net-arable.eu
Project partners: IFOAM EU Group (project coordinator), BE; Organic Research Centre, UK; Bioland Beratung GmbH, DE; Aarhus University (ICROFS), DK; Associazione Italiana, per l’Agricoltura Biologica (AIAB), IT; European Forum for Agricultural and Rural Advisory Services (EUFRAS); Centro Internazionale di Altì Studi Agronomici Mediterranei – Istituto Agronomico Mediterraneo Di Bari (IAMB), IT; FiBL Projekte GmbH, DE; FiBL Österreich, AT; FiBL Schweiz, CH; Ökológiai Mezőgazdasági Kutatóintézet (ÖMKI), HU; Con Marche Bio, IT; Estonian Organic Farming Foundation, EE; Bioforum Vlaanderen, BE; Institut Technique de l’Agriculture Biologique, FR; SEGES, DK : Bioselena, Bulgaria

© 2017

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No. 652654. This communication only reflects the author’s view. The Research Executive Agency is not responsible for any use that may be made of the information provided.