

# Camera-controlled hoeing of row crops

## Problem

The closer sweeps get to the middle of the row, the more efficient hoeing becomes. However, minor driving mistakes or lack of precision put the crop at risk as plants can be uprooted or damaged.

## Solution

Hoeing with camera-controlled steering systems.

## Outcome

The distance of the operating tools from the middle of the row is reduced to as little as 2.5 cm at a working speed of 6-7 km/h (when the crop is in early development stage).

## Practical recommendations

### Observations and practical hints

- The earlier the better: hoeing should be performed as soon as the row is visible.
- The more developed the crop is, the larger the distance between the hoeing sweeps and the centre of the row should be.
- In crusty soils, the working speed should be reduced during the early development stage of the crop to decrease the risk of uprooting the crop.

## Applicability box

### Theme

Weed management

### Geographic coverage

Global

### Application time

When the crop is usually hoed

### Required time

Less than the conventional hoeing method

### Period of impact

At hoeing

### Equipment

Camera-controlled steering system

### Best in

Summer row crops (such as soybean, maize, sunflower)



Picture 1: Hoe operating on soybean with camera assistance. Date: 23-07-2015 (Cristina Micheloni)



Picture 2: Hoe operating on sunflower with camera assistance. Date: 21-05-2016 (Gemini Delle Vedove)

### Assessing and sharing results

**Assessment of operational capacity:** Quantify the time needed for camera-controlled hoeing compared to usual hoeing.

**Assessment of weeds presence after hoeing:** Quantify weeds presence in sample plots.

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

#### Links

- At [www.aiab-aprobio.fvg.it](http://www.aiab-aprobio.fvg.it), information on organic arable crop management is available in a biweekly bulletin and a topic-specific info sheet.
- The [knowledge platform](#) of the OK-Net Arable project offers information and practical updates on weed management and soil quality in organic arable cropping systems.

### About this practice abstract and OK-Net Arable

**Publisher:**

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**Permalink:** [Orgprints.org/32949](https://orgprints.org/32949)

**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](http://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 Alti 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

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