

# Weed Management in Organic Systems - Fallowing

## The aims:

- To use repeated cultivations to reduce weed seed numbers in soil by encouraging germination then killing the seedlings.
- To break up and stimulate the growth of the vegetative organs of perennial weeds and kill them by desiccation, starvation or mechanical injury.

## The benefits:

- There may be reduced weeding costs and higher crop yields in the years following a fallow.
- A fallow may be the only way to deal with an otherwise intractable weed problem and allow a wider range of crops to be grown.

## The disadvantages:

- A fallow is effective only when the summer is dry.
- With a bare fallow the land is out of production for a year with no financial return but with added time and labour costs.
- Repeated cultivations can harm the structure of some soils.
- There is increased leaching of nutrients from a soil left bare through the winter.
- Wheat bulb fly may increase because the pest lays its eggs on bare ground in July.
- Fallowing is detrimental to some soil micro-organisms, especially mycorrhizae.

## The bare fallow:

- The land is left uncultivated until April to avoid frost breaking down the soil and to allow weeds time to germinate and grow.
- In April the land is ploughed deeply, and cross ploughed or cultivated 10-14 days later to produce a cloddy tilth.
- The soil is cultivated as often as possible with a plough or cultivator to move around and dry out the clods.
- In August when the clods have broken down to a fine tilth the soil is left uncultivated to allow weed seeds time to germinate.
- In September/October the weeds are ploughed in and the land prepared for autumn cropping.

A bare fallow is best used only on heavy land. On lighter soils the land may be ploughed and cross ploughed in the autumn and this is repeated at regular intervals until the summer.

## The bastard or summer fallow:

- Commencing in June or July the land is ploughed deeply and cross ploughed or cultivated 10-14 days later to produce a cloddy tilth.
- The soil is cultivated frequently with a plough or cultivator to move around and dry out the clods.
- In August when the clods have broken down the soil is rested to allow the weed seeds to germinate.
- In September/October the land is ploughed and prepared for autumn cropping.

The bastard fallow overcomes the problem of losing a full years cropping and is less damaging to the soil structure on lighter soils. There is time for an early crop to be harvested before bastard fallowing begins. If grassland is ploughed for summer fallowing it gives birds an opportunity to feed on any wireworms present.

### More information and notes:

If wheat is likely to follow the fallow, the problem of wheat bulb fly attack may be reduced by sowing a green manure such as mustard to cover the soil during the egg laying period.

Please let us know of any observations you make on the effect of fallows on weed management, either by contacting us or through our website.

The information for this leaflet has been produced from a range of sources, including farmers, advisors and researchers, and we gratefully acknowledge their contributions. Most of this information, and further details, are available on our website at <http://www.organicweeds.org.uk>.

### Disclaimer

The information contained in this leaflet has been compiled from a range of sources. It is accurate to the best of our knowledge. Authors are not responsible for outcomes of any actions taken based on this information.

### Project information

This leaflet has been produced as part of the DEFRA funded project '**Participatory Investigation of the Management of Weeds in Organic Production Systems**'. The project aims to involve farmers and growers in all levels of research and is driven by their requirements. The project is led by IOR-HDRA in collaboration with IOR-EFRC, Warwick-HRI, ADAS and RULIVSYS. To date the project is funded until July 2006. The project website holds all information gathered on weeds and their management, including literature from science, the farming press and practical strategies from organic farmers. It can be found at:



[www.organicweeds.org.uk](http://www.organicweeds.org.uk)



### How can I get involved?

There are many ways to get involved:

- Send us your name and address and we will add you on to the database so you are kept informed about the project
- Offer to provide information about weed management on your farm, see 'Case studies' on the website
- Become a 'focus group' member (the farmer groups who steer the project direction)
- Take part in the farmer trials and surveys (see above or see website)
- Tell us what you want from the project by attending meetings, open days and joining discussions on the website

### Contact

Becky Turner or Gareth Davies, HDRA, Coventry, CV8 3LG. Tel: 024 7630 8200 Fax: 024 7663 9229

E-mail: [bturner@hdra.org.uk](mailto:bturner@hdra.org.uk) or [gdavies@hdra.org.uk](mailto:gdavies@hdra.org.uk)