

Fallowing in Organic Systems - a last resort?

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:

- 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
- A fallow is only effective for perennial weeds when the summer is dry

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 fallow overcomes the problem of losing a full years cropping and is less damaging to the soil structure on lighter soils. Cultivations would start around June/July and follow the same sequence above. 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



Rigid harrow cultivating a bastard fallow



Rigid tines moving couch rhizomes

For further information on weed management go to www.gardenorganic.org.uk/weed-management. There you will find the following:

- ◆ Advice on over 130 individual weeds, from Black Grass to Yarrow www.gardenorganic.org.uk/weeds-list
- ◆ Advice on cultivation controls, such as crop rotation, tillage and hygiene www.gardenorganic.org.uk/cultural-weed-controls
- ◆ Direct control methods, such as mulching and mechanical control www.gardenorganic.org.uk/direct-weed-controls
- ◆ Crop weeding strategies, in field vegetables, fruits and grasslands www.gardenorganic.org.uk/crop-weed-management-strategies
- ◆ Further reading in research papers.



Formerly HDRA.

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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.

