

# Weed Management in Organic Fruit

## About the crops:

- Weed control in organic fruit production systems presents a particular problem where the perennial nature of the crop and lack of opportunities for rotation inevitably lead to a build-up of weeds each year
- Whilst established orchards generally have little need for direct weed management, newly planted and establishing orchards together with most soft fruit plants cannot tolerate heavy competition from weeds
- Although weeds can offer benefits in terms of increased biodiversity, it is important to remember that in addition to competing with the crop for water, nutrients and light, many weed species are alternate hosts of certain pests (particularly aphids), diseases, nematodes and viruses which can be troublesome, particularly in soft fruit plantations

## Top fruit orchards

- The major crops are apples and pears and weed control will depend on whether the orchard has converted from a conventional one or is newly planted
- Most orchards have grassed alleys but recently established crops are sensitive to competition
- The fruit trees are usually grown in a single row in bare ground which is kept weed free in a 1-1.5 m wide strip. This area can be mulched with straw, bark, peat etc



Straw mulching in raspberries

## Soft fruit production

- The most widely grown crops are strawberries, raspberries and blackcurrants
- Crops need fertile soil with good depth, texture and drainage
- Perennial weeds are one of the main production constraints, ground should be cleared of perennial weeds prior to establishment

## How can weed problems be reduced?

### Mulching

#### Living mulch - e.g. grass/clover ley

- Allowing the orchard understorey to grow right up to the trees is by far the easiest and least labour-intensive option
- The sward is kept under control by regular mowing – a swing arm mower will enable the grass to be cut between the trees, to within a few inches of the tree trunks
- This system is ideal for established orchards and for trees growing on vigorous or semi-vigorous rootstocks which can compete successfully with the grass sward for water and nutrients. However, it is less suitable for newly planted orchards or for trees on dwarfing (less vigorous) rootstocks or for soft fruit crops due to competition



Woven mulch under apples

#### Sheeted mulch - e.g. plastic or woven fabric

- Woven plastic mulches (e.g. Mypex) will effectively eliminate weed competition while the trees are becoming established and enable them to get off to a strong start
- For soft fruit, woven plastic mulches may be used successfully for strawberries, bush fruits, hybrid berries, blackberries and raspberries grown as a 'stools' rather than as a continuous row, and are particularly useful where raised beds or ridges are used
- Some may last for 5-10 years

cont.

### Biodegradable mulches

- Biodegradable starch-based mulches are now available. They are a more expensive, but better, environmental alternative to plastic mulches as there are fewer problems with disposal
- Although they are still being developed, these mulches are ideal for use during plant establishment and have the benefit of returning some nutrients to the soil during decomposition. Their durability will depend very much on the type used and, with some types, shreds may persist in the soil for years

### Particle mulches

- Mulches of organic material (e.g. composted manure, green waste, straw, grass clippings, newspaper etc.) can be used for temporary weed suppression, but they will need to be kept topped-up for a continuous effect and there is the danger that weeds will take hold on the surface of the mulch
- Organic mulches are ideal for providing a fertility boost to the soil, improving soil moisture and humus content, and stimulating earthworm and soil microbial activity

### Direct weed control measures

#### Cultivation

- Shallow cultivation in the crop rows, no deeper than 2-3 cm (1"), may be carried out where the use of plastic mulch is undesirable
- This method of weed control is more effective for top fruit orchards. It is not thought suitable for soft fruits, as there is too great a risk of damaging shallow rooting crops such as blackcurrants and encouraging suckering in cane fruits
- There are very few types of machinery suitable for cultivating within crop rows but some success may be had with finger harrows (in soft fruit) and rotary cultivators (in top fruit)

#### Hand weeding

- Although tedious, hand weeding may be the only way of effectively removing some persistent perennial weeds such as dock in soft fruit plantations and newly planted orchards
- The ground between soft fruit plants, and the surrounding 30 cm (1 ft) area on each side of the crop row can be lightly forked or hoed, and perennials hand-pulled, before they have a chance to set-seed
- Care must be taken to avoid damaging the surface roots of cane fruits as this can lead to an increased risk of suckering and unwanted spawn development. In most instances, raspberry primocane development from May onwards will be sufficient to effectively smother any weeds which emerge in the crop row

For further information on weed management go to [www.gardenorganic.org.uk/weed-management](http://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](http://www.gardenorganic.org.uk/weeds-list)
- ◆ Advice on cultivation controls, such as crop rotation, tillage and hygiene [www.gardenorganic.org.uk/cultural-weed-controls](http://www.gardenorganic.org.uk/cultural-weed-controls)
- ◆ Direct control methods, such as mulching and mechanical control [www.gardenorganic.org.uk/direct-weed-controls](http://www.gardenorganic.org.uk/direct-weed-controls)
- ◆ Crop weeding strategies, in field vegetables, fruits and grasslands [www.gardenorganic.org.uk/crop-weed-management-strategies](http://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.