

Saintbridge Allotment Gardens Association

Weed control

There are two broad groups of weeds, the annuals and the perennials. Getting to know these weeds is essential as a different control method is required for each type. You don't need to be able to identify every weed, just know what the perennial weeds look like and treat everything else as an annual weed. At the Saintbridge allotment site there are eight main perennial weeds. The perennial weed group is by far the most problematic and difficult to deal with as they regrow from their roots. For this reason, it is important to know what the roots look like so you can remove them when digging. All the other weeds (the annuals) can be buried in the trench as you dig. They will not regrow if their leaves are buried in the soil.

The following sections look at how to control perennial weeds with winter digging and how to control annual weeds by hoeing. The main perennial weeds found at the allotment site are also described along with their control methods.

Winter digging

Traditionally plots are dug over during the winter months to make them ready for spring planting. In winter digging the soil is left in large clumps and is broken down by the action of winter weathering creating a fine tilth on the soil surface. This is called a frost tilth and it is the traditional way to work heavy clay soils.

The soil is dug by making a trench and throwing each forkful forwards, turning it slightly so it lands upside down. Soil dug from the next trench is then placed in the bottom of the previous trench. In this way you dig the plot moving backwards making a series of trenches. As you dig look at each forkful and remove the roots of any perennial weeds. All the annual weeds can be buried in the soil. They will not regrow provided there are no green leaves showing on the surface. As mentioned earlier, you do not need to be able to identify all the weeds, just know which ones are the problem perennial weeds (the ones that regrow from their roots).



An example of winter digging, note all the green leaves are buried in the soil. If you have a plot with tall weeds cut them down as you dig and bury the stems and leaves in the bottom of the trench. They will rot down and feed the soil.

Double digging

Double digging is a method of deep digging. It is the same as normal digging except the bottom of each trench is dug in situ before digging the top soil from the next trench. The main advantages of double digging are it can break up any compacted layers or “hard pan” below the top soil making it easier for roots to penetrate the subsoil. Breaking up a hard pan can improve drainage and deeper roots mean crops are less susceptible to drought. Double digging also allows you to remove the roots of deep-rooted perennial weeds like bindweed and docks.



An example of double digging, the bottom of the trench is dug in situ before digging the next trench.

Common mistakes

Some common mistakes made when preparing a plot include:

- Not removing the roots of perennial weeds, the ground becomes choked with these weeds and will not produce any crops.
- Using a rotovator to chop up the roots of perennial weeds, this simply multiplies the weeds making the problem worse.
- Using a rotovator in wet conditions, this can destroy soil structure and create a hard pan below the topsoil. The rotovator blades smear the layer of soil just below the depth the rotovator digs the soil making it difficult for roots to penetrate and water to infiltrate into the subsoil.
- Breaking the soil down into very small pieces as you dig, this is not necessary and the action of winter rains will compact the soil making it so hard it has to be dug again. Only break open the soil clods enough to remove any roots of perennial weeds.
- Stripping off the topsoil and putting it in a heap. This does nothing to control weeds and simply removes the fertile soil from the plot.
- Putting the roots of perennial weeds in the compost bin or piling them in a heap, the roots simply regrow. These roots can be killed by spreading them out on a sheet to dry and desiccate in the hot sun or drowning them in a barrel of water covered with a lid to exclude light until the roots rot and turn to mush.

- Allowing weeds to set seed, this multiplies the weed problem and spreads weeds to neighbouring plots. If for any reason you are unable to cultivate the whole of your plot, make sure you cut the weeds down when they start flowering to stop them producing seed.

Hoeing

During the growing season weeds from the annual group are controlled by regular hoeing between the rows of crops. This is done on sunny days when the surface of the soil is slightly dry, below the surface the soil can be wet but not sticky. Some gardeners find weeding a difficult task to keep on top of. This is usually because they wait until the weeds are too big before they start weeding. You should start weeding when the weeds just start to come through and are in the two-leaf seedling stage.

Identifying what is a weed and what is the crop can be a problem if you are unsure what the crop seedlings look like. Sow a few seeds in a pot filled with multipurpose compost and bury the pot level with the soil surface at the end of each row. As there are no weed seeds in the compost whatever germinates in the pot must be the crop seedlings. This enables you to identify the seedlings in the row.

A good Dutch Hoe is the most effective tool to use. This hoe is moved backwards and forwards to chop the weeds about one inch below the soil surface. Don't go any deeper than this otherwise you will bring more weed seeds to the surface to germinate, giving you more work later. For this reason, the draw hoe and cultivator are not the most suitable weeding tools.



Hoeing between crop rows with a Dutch Hoe, the weeds in the row are pulled by hand



Weed seedlings ready for weeding

When using the Dutch Hoe make sure you hoe the entire surface of the soil between the crop rows, not just the bits where weeds are visible. This is because there are many weed seedlings under the surface that have germinated but not yet emerged and are instantly killed by the hoe. Indeed, hoeing at this stage is the most effective method, hence the saying “if you hoe before you see a weed you will never see a weed”.

It is important to note that perennial weeds (when in the seedling stage) are also killed by hoeing. This is because the seedlings do not yet have any root reserves. Regular hoeing will also stop air born seeds such as dandelions from establishing on your plot.

As your crops grow, the need for weeding will diminish as more and more of the soil surface is shaded by the crop leaves. Once the crop canopy completely shades the soil surface there will be little requirement for weeding until the crops are harvested.

A “stale seedbed” is an old traditional method used to reduce the number of weeds in crops sown directly in the soil. With this method you prepare a seedbed and wait until the weeds come up and hoe them with a Dutch Hoe as described above. Only then do you sow the seeds and there will be fewer weeds to deal with when your seeds come up.

Perennial weeds

In this section the main perennial weeds found at the Saintbridge allotment site are described along with their control methods. It can be difficult to identify a weed from pictures and there is nothing like seeing the weed first hand. If you are unsure please ask fellow plot holders or a member of the committee, they will be glad to show you. Once you get to know the eight main perennial weeds their roots will glare out at you when digging.

Bindweed

Bindweed is one of the most difficult weeds to control and usually shows up once the soil has warmed up in May or early June. There are two types of bindweed, hedge bindweed which has larger leaves and a more vigorous climbing habit and field bindweed which has smaller leaves and grows less vigorously covering the ground. Both types are a real nuisance, but field bindweed is less competitive and will not choke your crops as much as hedge bindweed. Both types produce seed if left to flower.



Hedge bindweed, note the large leaves and climbing habit of growth



Field bindweed, the leaves are smaller and it tends to grow on top of the ground

The best way to clear bindweed is through double digging the ground in Autumn and Winter removing the roots as you dig. Even then some of the deep roots will regrow next year. Realistically it takes 3 to 5 years to really get on top of this weed with a combination winter digging to remove the roots and controlling the growth of any bindweed in crops during the growing season.



Bindweed roots are thick and fleshy, white or cream in colour and quite brittle

To control any isolated bits of bindweed coming up in your crops first mark its location with a cane. Then you can either allow it to grow up the cane and treat it with glyphosate weed killer, or alternatively, regularly hoe it off or pull the shoots up each week to weaken it and prevent it spreading. When you harvest leave the cane in position so you know where to double dig and remove the roots later.

If you are going to use weed killer it is important to allow the bindweed to grow and produce enough leaves to take sufficient chemical in to kill it. Use a glyphosate gel such as Roundup gel and apply it to the leaves. Do this when the weed is growing vigorously, ideally in warm humid conditions in July or August and follow the manufacturer's instructions for using the weed killer. Remember it will kill any plant it touches. The gel formulation is recommended because it prevents any weed killer dripping on to your crops.

Couch grass

Couch grass, also called twitch grass, is a common perennial weed found on the allotment site. If left unchecked it will produce a mass of roots choking your crops and competing for water and nutrients. The couch grass roots hold food reserves from the plant and it can regrow from just a small section of root, as well as from seed. If you regularly hoe your crops when weeds are in the seedling stage this will prevent couch grass from establishing from seed. When digging it is important to know what couch grass roots look like and remove them as you dig. Fortunately, the roots do not usually go deeper than a spade depth making them easier to remove than bindweed.



An example of couch grass roots, young roots are white with a pointed tip and brittle, older roots are cream or tan coloured and less brittle.

Other control methods include spraying with glyphosate weed killer or covering the ground with weed control sheeting. This is left in place for up to a year to exclude light and starve the plants as they use up the food reserves in their roots. When using this method it is important to note that couch grass can send its roots sideways for up to a metre. Regularly dig a spade's width around the edge of the sheet and remove any couch grass roots to stop them spreading into the sheeted area. Repeat this digging every month through the growing season.

Broadleaf docks

The control methods for this weed are different depending on it's stage of growth.



The dock seedling has no root reserves and is easily killed during regular hoeing.



The young dock plant can re-grow from its tap root but it is easy to dig up and remove the root.



The mature dock plant with flower stalk is almost impossible to dig up when soil conditions are dry and hard. If this is the case, make sure you cut down the plant to stop it from setting seed.

The best time to dig out mature dock plants is when the soil is moist, for example, in the autumn, winter or early spring. Research shows that around 80% of mature dock plants do not re-grow when the top 10 cm of taproot is removed. If you have a heavy infestation of mature plants it is worth digging them out to a spade's depth first and then concentrate on removing the 20% that do manage to re-grow.

Dandelions

The control methods for this weed are like that of Broadleaf Dock. Hoeing to kill Dandelion seedlings, digging up and removing the roots of young plants with a trowel or spade and winter digging to remove the roots of mature plants.

Brambles

Brambles are a source of food for humans and wildlife and they also provide cover and nesting sites for a number of birds. However, they do need to be kept in check to prevent them from spreading. Brambles will only establish from seed on plots that are left uncultivated. Normal cultivation and weeding will kill any bramble seedlings. They can also spread vegetatively by sending out shoots that root once they touch the ground.

The perimeter hedgerows around the site have a grass path running alongside them. This is intended not just to give access but also keep brambles at bay. Regular mowing of these paths prevents brambles encroaching into the site. For this reason, it is important to keep the paths clear and well maintained.

To keep brambles in check use the chop and drop method, simply cut the protruding shoots and let them drop to the ground. These shoots can be left to decompose and will eventually disappear over time. To eradicate established bramble cut it back to ground level and dig up and remove the roots. Then regularly chop back any regrowth at ground level, this will weaken and eventually kill the plant. Alternatively, you could paint the freshly cut stems with roundup weed killer.

Creeping buttercup

This plant sends out runners which will root and spread like strawberry plants. If left unchecked it will completely cover the plot.



To control creeping buttercup, dig out the plant with a trowel or spade making sure you remove the root crown as shown above.

Stinging Nettles

Stinging nettles are a good indicator of fertile soil with high phosphate levels. They are also habitat and a food source for butterflies such as the red admiral, peacock and small tortoiseshell. For this reason, small patches of nettles are left to grow around the perimeter hedge rows of the allotment site.

Stinging nettles spread from creeping surface stems which send out roots. When digging remove these surface stems, you may need to fork the soil over again to remove any regrowth from bits of stem left in the ground. Stinging nettles can also be controlled by regular mowing which will weaken and eventually kill the plant.

Creeping Thistle

This plant spreads from its root system which is white and very brittle as well as from seed. After flowering the plant builds up food reserves in its roots to overwinter and regrow the following year. The food reserves are at their lowest in May and June just before flowering. Creeping thistle can be controlled by regularly hoeing or pulling up the plant to prevent it from replenishing food reserves in its roots. When digging remove the roots to a spade's depth. Although the plant has a deep root system it does not usually regrow from roots deeper than a spade's depth.