

How to start an allotment



The Soil

What type is it?

Rub some moist top soil between your fingers. A soil that is predominantly sand feels gritty; silt feels smooth - almost like talcum powder; clay feels sticky. Now try moulding it: roll some into a ball, then into a thin cylinder; see if this will bend into a ring. The more pliable it is, the greater the clay content: a very sandy soil will not even form a ball, whereas a clay soil is easily formed into a ring; silt forms a weak ring.

The different soil types have different physical characteristics which affect how they should be managed. A clay soil is heavy and sticky when wet, and sets hard when it is dry. It is slow to warm up in spring. A silt tends to pack down excluding air and the surface easily becomes compacted. A sandy soil is easy to work and warms up quickly, but also dries out quickly in times of drought.

How good is its structure?

When it is moist, a well-structured soil should crumble easily in your hands -not turn to dust, stay in lumps or set like concrete. It provides the best conditions for soil life and for root growth. Dig a hole about two feet deep and look at the soil profile. Good signs are: a deep layer of dark topsoil; plenty of air pores and earthworm burrows; and long branching roots on any weeds or plants that you can see.

Soil structure can only be improved by the constant addition of organic matter - manure, compost, leafmould or any other suitable material that you can get. It is important to keep the soil surface covered, either with a crop or green manure, or with a mulch of organic material. Only dig or rotovate the soil when it is really necessary, and avoid walking on it whenever possible, particularly when it is wet.

How well does it drain?

Water sitting on the soil surface after a rainstorm is an obvious sign of poor drainage, but you need to find the cause. It could be because of:
The soil type: Clays and silts will tend to drain badly. Improving the structure will improve this. It can also help to use the bed system, that is to divide the plot into narrow beds which are worked only from the paths; organic matter is concentrated on these beds, which are never compacted and become raised above the original soil level.

A hard 'pan': Look again at the soil profile. If there are hard, compacted layers preventing the water from escaping, these need to be broken up. Such 'pans' can be caused by rotovating regularly to the same depth.

Bad site drainage: If the hole you have dug collects water and this takes several days to seep away, it means that the overall drainage of the site is poor. The only really effective way of dealing with this is to put in drains.

How acid or alkaline is it?

The acidity of the soil (its pH) is important as it effects its overall fertility. Measure the pH with a testing kit which you can buy in shops and garden centres, or send a sample away to be tested. It is important to take a number of samples from different areas of the allotment, since these could have been treated very differently in the past.

Over-acidity can be corrected using ground limestone, dolomite (magnesium limestone) or calcified seaweed. Correcting soils which are too alkaline is more difficult, but the constant addition of organic matter helps. A plot should never be limed without doing at least an initial pH test, because routine liming in the past may have made it very alkaline. On the other hand, use of artificial fertilisers tends to make the soil acid.

Soil management on a new plot

- Dig only when the soil is just moist - not too wet and not too dry.
- Avoid walking on the soil whenever possible, especially if it is wet.
- The soil should be inherently fertile - but plenty of organic matter will be needed to improve the structure.
- Add fine compost or leafmould to the surface of seedbeds or use it to cover seed drills: this will help prevent the soil from 'capping' - setting hard over emerging seedlings.
- Use cloches to warm the soil, or raise early crops in the greenhouse or on a windowsill for transplanting later.
- Grow suitable crops. (See Page 9)

Sandy soils

- Add plenty of organic matter to improve the structure and help water retention. Dig only when absolutely necessary - digging will cause the soil to dry out and also cause organic matter to break down more quickly.
- Mulch to stop water from evaporating.
- The soil is most likely to lack plant nutrients - use compost, manure and, when necessary, organic fertilisers.
- Grow suitable crops. (See Page 9)

Is it short of plant foods?

Look how well any plants on the plot are growing. A vigorous crop of weeds at least means that the soil is not short of nutrients, even if it does mean more work to start with. In contrast, sickly stunted growth indicates that something is wrong. On a clear plot, sowing a quick growing green manure can similarly give you an indication of fertility.

Poor growth could be simply caused by the problems with drainage, soil structure or acidity already described. However, it could also indicate a shortfall in some element needed for plant growth. Excess nutrients, caused by over-use of fertilisers in the past, can be equally damaging.

In these cases it is helpful to send a sample of soil away for analysis - either to your local Ministry of Agriculture office or to one of the firms that advertise this service in gardening magazines. Sometimes your local College of Agriculture will also help. The analyses will usually tell you the soil pH and levels of phosphorus (P), potassium (K), and sometimes magnesium (Mg) and other elements.

For the organic grower, one difficulty in interpreting the results of a soil test is that they only indicate the nutrients directly available to the plants. In fact, much more can be made available in an organically managed soil through the extra activity of the microorganisms. Clay soils, for example, contain large reserves of most plant foods even though this may not show up in an analysis: the answer here is not to add nutrients to the soil, but to release those that are already there: for example, by adding organic matter and growing green manure crops. Soil analyses will also usually recommend chemical fertilisers, whereas organic gardeners will want to use those of natural origin - based mainly on ground rocks, animal products and seaweed.

Whatever type of analysis you have, you can compare the figures for your soil with the recommended levels or indices that it gives. If they are only slightly low, you can probably correct them with regular supplies of manure and compost. If they show up major deficiencies, then it may be worth applying ground rock fertilisers - particularly on light sandy soils which have few natural reserves (see table on next page). These fertilisers are released very slowly over a number of

years. In the interim, as well as compost and manure, you may need to use other quicker acting organic fertilisers such as bonemeal, hoof and horn, and seaweed meal.

Ground rock fertilisers

common name	main plant foods	use
Rock phosphate	Phosphorus	Correction of phosphorus deficiency
Dolomite	Calcium, magnesium	Correction of calcium or magnesium deficiency Raises pH.
Rock potash	Potassium	Adds potassium, but very slowly released; unlikely to help deficiencies in short term.
Gypsum	Calcium, sulphur	Correction of sulphur or calcium deficiency

Does it contain persistent pests or diseases?

Unfortunately, allotment sites can be infected with diseases which last in the soil for many years - such as clubroot (on brassicas), and whiterot (on onions, garlic and leeks). The microscopic pest, potato cyst eelworm (which is one of the most damaging pests of potatoes) could also be present. Ask neighbouring allotment holders if they have any such problems, and look at their crops.

If you are taking over an allotment which has become heavily overgrown, wireworms and leatherjackets are possible problems.

There are cultural techniques which will help cope with most of these pests and diseases, although in the case of severe clubroot or whiterot, the only course of action is to avoid growing susceptible crops completely. Also keep on the lookout for larger pests such as pigeons and rabbits - fencing and/or netting may be necessary. Whether problems are obvious or not, it is unwise to grow too much of any one crop in the first year on a new plot. Grow a whole range of crops and check them regularly for signs of trouble.

Weeds

What weeds are there on the site?

Only by identifying weeds can you decide how they are best dealt with - there are good reference books to help you. As well as looking at the leaves and flowers, it can also help to dig some up and look at the roots.

A plot overgrown with weeds may not be as bad as you think – they could be shallow rooted annuals, such as fat hen or chickweed, that are easy to remove and provide good material for your first compost heap. Clean bare land, on the other hand, could hide deep roots of pernicious perennials such as creeping thistle.

Digging or forking (See pages 10 & 11 ‘Digging Step by Step’)

This traditional method of dealing with weeds can be very effective, if hard work, and has the advantage that the land is available immediately for sowing or planting. Forking and removing roots by hand is good for tap-rooted weeds such as dandelions, and also for shallow rooters such as creeping buttercup and couch, provided they have not formed a dense mat of roots. Don’t burn the roots that you have taken out: put them in a covered heap and leave them to break down.

Digging and burying the weeds is another method that works well for annuals and shallow-rooted perennials. The deeper they are buried the better – but it is important not to dig down so far that the topsoil becomes mixed with the subsoil. These methods are best reserved for small areas that you want for immediate use.

Rotovating

This method can quickly clear annual weeds. However, if there are perennial weeds with persistent roots present, it may make things worse, because individual pieces of chopped root can regrow. To get rid of such weeds, you will need to rotovate several times at two to three week intervals when you see regrowth starting. And this will only be really effective if the weather is dry. Rotovating can also destroy the soil structure.

Mulching

Weeds need light to grow, so if you cover the soil surface with a material which excludes the light, they will gradually die. Suitable materials include cardboard and black polythene. How long it takes to clear the land depends on what weeds are present and the time of year. The mulch will be most effective in the main growing season when the weeds are trying to push through and the roots exhaust themselves most quickly. One growing season is sufficient to kill annuals and shallow-rooted perennials. Weeds with deeper roots such as bindweed will take longer to clear, and some with corms or bulbils such as celandines can be very persistent.

Mulching is a good way of letting one part of your allotment clear itself, whilst you concentrate on cultivating the rest. However, if you do not want to waste space, you can try planting through the mulch. If necessary, roughly fork or rotovate the ground and add organic material and/or fertilizers. For vegetables, put down the mulch (black plastic is the easiest material to work with), then make holes for your

plants - choose robust ones such as broad beans, tomatoes and marrows. For fruit and shrubs, mulch round the bushes and trees after they have been planted. Cardboard held down with old hay or straw both keeps down the weeds and adds organic matter to the soil.

On a weedy plot you may find it best to avoid direct sown crops at first, particularly those with small seedlings such as carrots and onions. Transplants have a much better chance of competing with weeds and are easier to keep clean. Many crops that are normally direct sown can be transplanted if they are sown in modules (individual cells of compost).

The Environment

What is the climate like?

The situation of the allotment, as well as what part of the country it is in, will affect what you can and cannot grow. Is it on a warm south-facing slope or in a frost-prone valley?

How sheltered is it?

The effects of frost and wind can be very local even from one plot to another on the same allotment site.

The warmth of your site will determine your choice of tree and bush fruit and which vegetable crops you can grow - for example, in most years sweetcorn and outdoor tomatoes would not be worthwhile on a cold site from the Midlands northwards. It will also determine when you should sow and plant out. You may want to make use of cloches or 'floating mulch' - polypropylene fleece which can be laid directly on top of a crop or seed bed.

Wind will reduce the yields of most vegetable and fruit crops considerably, and spoil the appearance of flowers - as well as simply blowing over tall plants. If the site is very windy, you could consider investing in some windbreak material. Most types consist of plastic mesh which you batten to wooden posts. They are expensive, but can be expected to last three to ten years, depending on the material.

Planning the Plot

You should now know enough to make a plan. It helps to draw an outline of the plot and mark on any existing features which affect it: for example, there may be a large tree nearby which shades one end. Make a list of things you want to include. You could need space for:

Fertility building

This means room for compost heaps to recycle material from your own plot and possibly from outside. If you can also get strawy manure delivered from a local farm or stable, you will need space to stack it. In addition, you could grow your own compost activator and liquid feed

by planting up a patch with comfrey or nettles. Although they are taking cropping space, none of these things are wasting space.

Built-in features

These might include a shed for storing tools and a water barrel, as well as features such as the pond and walling or log seat mentioned earlier.

A seed bed

Raising your own bare-rooted plants - of cabbages, leeks and wallflowers, for example - is better than buying them in, first because you can look after them well right from the start and second because you do not risk introducing diseases. These are both important factors in organic growing. Having a special bed for raising transplants makes it easier, because then there is no danger of neighbouring crops swamping them. In addition, the surface of the bed can be improved by adding fine compost or leafmould to help seedlings emergence.

Fruit

At one time, having fruit trees on an allotment would have left little space for anything else. Now, however, there are dwarfing rootstocks not only for apples and pears but for plums and cherries. Trees on such rootstocks also crop much earlier - perhaps after the second year, rather than after five to eight years for the traditional standard apple tree. Fruit trees could also be fitted in by training them on posts and wires as cordons, espaliers or fans - perhaps alongside a path or to divide one part of the plot from another.

As already mentioned, what fruit you can successfully grow depends on how sunny, warm and sheltered the site is. It also depends on the soil - good drainage and a deep soil are essential for nearly all types of fruit. Given the wrong conditions, they will never thrive and will be more susceptible to pest and disease attack. For example, pears and many varieties of dessert apple are much more fussy than cooking apples.

Varieties that show resistance to diseases are also good choices for growers. This applies to both tree and bush fruit, and it is well worth looking up in books and catalogues before making your choice. Above all, however, buy good quality plants from a reputable nursery which you can be sure are free from disease. It is just not worth accepting gifts of plants, runners or cuttings from neighbouring allotment holders. They could bring in more trouble than they are worth. Similarly, old fruit on your site could be infected with disease. If so, remove these plants before you put in new ones.

Other permanent plants

As mentioned earlier, you may want to improve the environment of the plot by planting shrubs or herbaceous plants. They can be chosen to

make use of spots where fruit and vegetables would never do well; in a shady or boggy corner, for example. You could also set aside an area for perennial herbs: they are useful for cooking and many attract beneficial insects. Thyme and chives are good bee plants, for example, and the flowers of fennel and angelica are popular with hoverflies. If you are growing any perennial vegetables such as globe artichokes, asparagus and rhubarb, you also need to keep them separate from the annual crops.

Vegetables and annual flowers

Rotation: Crops in the same botanical family should be grown together and moved round the vegetable plot so they do not occupy the same ground year after year. This rotation of crops has two main benefits: it helps to prevent pests and diseases from building up in the soil, and it makes better use of the plant foods, since different crops use up different nutrients. It also makes soil treatments easier. For example, all brassicas (cabbage family) need a rich soil so give the plot where they are to be grown priority when applying compost or manure.

You should aim for a four (or more) year rotation; it then makes planning easier if you divide the area you have set aside for vegetables into four equal plots. The table gives a suggestion for rotating the main groups of vegetables. Vegetables not in these groups together with annual flowers and herbs can be used to fill in the gaps. However, how much of each crop you have is obviously a personal choice, depending on what you like to eat, whether you have a freezer, when you go on holiday, and many other factors. Some may do better than others on different soils, particularly in the first few years on a new plot before you have had chance to improve the soil structure.

Crop rotation	year 1	year 2	year 3	year 4
plot A	potatoes	legumes	brassicas	roots and onions
plot B	roots	potatoes	legumes	brassicas and onions
plot C	brassicas	roots	potatoes	legumes and onions
plot D	legumes	brassicas	roots	potatoes and onions

Disease resistant varieties: As with fruit, there are vegetable varieties which have resistance to certain pests and diseases. More are being introduced all the time, so keep a lookout for them in the latest seed catalogues. It may be one way to avoid a problem.

Covering the soil: Try to arrange crops so that ones that are harvested at the same time are close together, since this makes soil preparation for the following crop easier. The soil should nearly always be covered - either with growing plants or a mulch of a long-lasting

material such as hay, straw or leafmould. All too often you see plots neatly dug in autumn - this may be satisfying to look at, but it is not good for the soil. Its structure can be destroyed by heavy rain, and plant nutrients washed out, especially if you have just dug in manure or compost.

If there is a long gap between harvesting one crop and putting in the next, try sowing a 'green manure' - a crop grown specifically to be incorporated into the soil. Which green manure you choose will depend on the time of year and how long it has to grow. For example, mustard and phacelia are quick growing crops which will put on useful growth in 4-10 weeks between April and September. One of the most useful overwintering green manures is grazing rye - it can be sown as late as October and dug in spring, providing valuable nutrients and organic matter. There are also a number of long-term green manures you could grow on a patch that you were setting aside for a year or more - they would stop weeds invading and give you extra compost material.

Vegetables for problem soils

	Clay	Sand	Silt
Crops most likely to do well	Brassicas, potatoes	Carrots, beetroot, parsnips and other root crops. Early crops	Beetroot, onions and carrots (provided soil capping is prevented)
Crops that may do poorly	Carrots, peas, parsnips. Early crops sown outdoors.	Celery, cauliflower, calabrese, late peas, potatoes, marrows.	Early crops sown outdoors

DIGGING STEP BY STEP

Digging breaks up compacted layers in the soil promoting better drainage and aeration. You can also take the opportunity to remove debris and weeds as well as incorporate organic matter. The secret of success with digging is to do it at the right time, when the soil is not too wet or too dry. The best time to dig heavy soils is in early autumn to allow frost action to weather the clods of earth, breaking them down into a crumbly tilth by the spring. Light soils are best cultivated in early spring. Do not walk on the soil after it's been dug.

To dig, or not to dig?

Pros

- Good exercise
- Breaks up compacted layers
- Improves drainage and aeration on heavy soil
- Buries annual weeds allows the removal of perennial weeds
- Exposes large clumps of heavy soil to the effects of weathering
- Exposes soil-dwelling pests to birds
- Allows organic material to be incorporated into the soil

Cons

- Hard work
- Damages the soil structure if carried out when the soil is too wet or too dry
- Allows heavy rain to compact the surface of silty soils where vegetation is removed
- Breaks up the natural structure of good soils
- May bring infertile subsoil to the surface
- Brings buried weed seeds to the surface
- Exposes useful creatures such as earthworms to birds

Forking

Simply push a border or garden fork into the soil to the full depth of its prongs, levering it back and turning it over, breaking up clods and removing weeds as you go. Repeat until the whole area has been cultivated.

Good for Recently cultivated or light, sandy, and stony soils.

Simple digging

The basic form of digging with a spade that's pushed into the soil to the full depth of its blade (known as a spit), before levering back and turning it onto the same area. Chop up large clods and remove perennial weed roots by hand.

Good for Most soils and for removing perennial weeds.

Single digging

Similar to 'simple digging' but a 30cm (12in) wide trench is created with the soil placed to one side. A layer of organic matter is then added to the bottom of the trench. By moving back 15cm (6in) the next strip of soil can be dug up, turned and thrown forward on top of the organic matter. After two 15cm (6in) wide strips have been dug, the first trench will have been filled and a new 30cm (12in) wide trench created. Repeat until entire plot has been cultivated, filling the last trench with the soil from the first.

Good for Impoverished soils and for removing perennial weeds.

Double digging

After creating the first trench as for 'single digging', use a garden fork to the full depth of its prongs in the bottom of the trench to loosen the subsoil and break up any compacted layers. Incorporate organic matter and/or grit as required to improve drainage, before following the procedure for 'single digging'.

Good for Poorly drained soils and deep-rooting crops.

Mechanical digging

Powered machinery can make light work of large areas of ground, but such equipment is very heavy and noisy to operate and difficult to manoeuvre. Repeated use of a mechanical digger can also damage heavy soils because it's always cultivated to the same level, creating an impervious layer just below the maximum depth of the blades. If the ground is full of perennial weeds you will need to kill these off first or run the risk of spreading the weed problem....couch grass, bind weed and ground elder love being chopped up by a rotavator – it spreads them about even better than nature herself.

Good for Large areas of vacant ground that is clear of perennial weeds.