



GET GROWING

Glasgow Local Food Network Resource Pack

FUNDED BY



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Welcome!

Glasgow Local Food Network (GLFN) is an informal network of community garden and community food projects from across Glasgow that are passionate about local food.

ABOUT THE GLASGOW LOCAL FOOD NETWORK

Glasgow Local Food Network aims to support and promote the growth of a fair, sustainable and resilient regional food system linking production, distribution and consumption to benefit our communities and economy. It will achieve this by:

1. Growing connections networks between food organisations, businesses and local government as well as individuals, families and volunteers
2. Raising the profile of local food projects in Glasgow and their associated issues
3. Influencing food policy and strategy for Glasgow through Local and National Government

We are striving to produce more of what we eat and eat more of what we produce

ABOUT THIS PACK

We have put together this resource pack to support community gardens across Glasgow to get growing. It has been written and edited by a group of gardening projects and gardeners and is a practical, non-technical guide to growing. Please feel free to use it and circulate it to help grow gardens.

The beauty of gardening is that there is always more to learn, with each season, each vegetable variety and each new pest! This pack is in no way a definitive guide to everything that a community gardener will ever need to know, but it does aim to get you started.

LINKS

Federation of City Farms and Community Gardens can offer one-to-one advice to community gardens on a range of matters, a regular bulletin with information about training and funding, and have published the Community Garden Starter Pack which looks at the organizational and legal considerations of setting up a new community garden

www.farmgarden.org.uk

Trellis has lots of resources and

support for people that want to know about therapeutic gardening, the art of using gardening to help people take care of their physical, emotional and social wellbeing. They have a monthly bulletin which includes updates about funding and training. www.trellisScotland.org.uk

Garden Organic has a great website full of information about organic gardening techniques, and also links to the Organic Gardening Catalogue where you can buy organic seeds, plants and other gardening equipment online www.gardenorganic.org.uk

The Royal Horticultural Society has a comprehensive guide to plants, pests, diseases and horticultural techniques www.rhs.org.uk

Visit our blog at glasgowlocalfood.blogspot.co.uk where you can see our interactive map of community gardens across Glasgow, or catch up with our events on facebook by searching for 'Glasgow Local Food Network'



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When you decide which space you are going to use its important to do some observation and thinking about that space to work out how you can make the best of it. Here are some things to consider about your site before you start.

1 Aspect

This is the direction which your growing space faces and will determine how much light and warmth your plants get. All plants need light, though some can survive with less than other.

2 Land Use

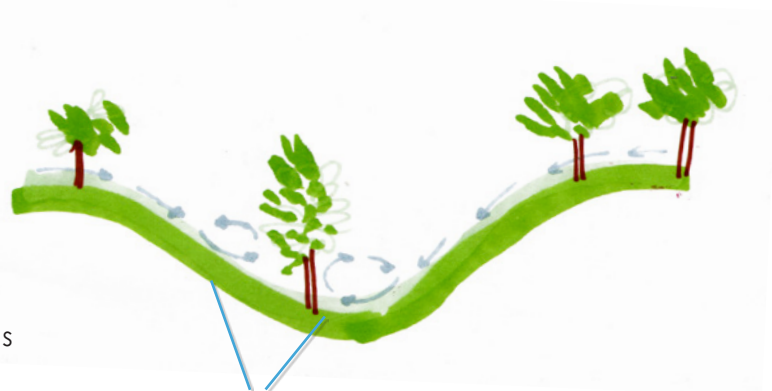
What has your land been used for previously. It's possible that it may have been contaminated which may stop you from growing directly into the ground. Are other people also using the land? Do they need to be asked about using it. ** For soil testing see the suppliers directory.

3 Soil

Healthy soil= healthy plants! It is vital to understand your soil and to know how to care for it to grow food well. See the soil section for more info.

4 Water

Whilst it often seems like there is no shortage of water in Scotland, there will likely still be times when a garden will need some extra water. Its worth thinking about where that will come from. Is there a tap nearby or a roof you could collect rainwater from? Conversely, most plants don't do well in waterlogged soil. If that's how your soil is its worth thinking about what you can do to improve that, such as digging in lots of organic matter and some sand.



Frost Pockets

5 Situation

What kind of space do you have? Garden beds; raised beds; a balcony; window sills. Small space/large space. This will affect what plants you chose to grow.

6 Climate

Britain has a temperate maritime climate. This means that it is generally mild with temperatures not much lower than 0°C in winter and not much higher than 32°C in summer. The weather can be unpredictable with lots of wind and rain. Frosts are common in the winter. All of these factors affect what plants we can grow and how to treat them.

7 Microclimate

Are there local conditions which will affect the climate in your growing space? For instance do you have any tree's casting shade. Is your growing space in a dip which is likely to become a frost pocket. Do you have a south facing wall which will create a hotspot by absorbing warmth from the sun.

Your Site

Soil is the most important part of your garden. It contains nutrients and water that will feed your plants. Organic gardening is about making sure you've got good soil.

Soil fertility is the key to growing vegetables successfully. Soil types vary and we don't always have control over the soil we start with. Luckily there are plenty of ways to improve the structure and make up of our soil to increase the soil fertility.

- **Nutrient content:** The main nutrients required by plants are- nitrogen (N) for growth of leaves and shoots, phosphorous (P) for the growth of roots, also known as potash, and potassium (K) for flowering and fruiting.
- **Acidity and Alkalinity:** Most plants like a pH of around 6.5 to 7. outside of this range, nutrients can be locked up in and not available to plants. However, some plants prefer a more acidic or alkaline soil. Potatoes, Tomatoes, Blueberries and Cranberries for example, tend to prefer acidic soil. Whereas Brassicas (Cabbages, cauliflowers etc.) tend to prefer an alkaline compost. You can test the pH of your soil with a pH test kit.
- **Water Holding capacity:** a fertile soil is able to hold water like a sponge so that it is available to plants easily, if water drains too quickly then plants will suffer in drought. In a waterlogged soil all the pore space are filled with water, excluding air, making it hard for plants to take up oxygen through their roots.
- **Temperature** – soils that warm up more quickly will have an earlier germination time for seeds. A wet, clay soil will take longer to warm up in the spring because more energy is needed to warm up the water content of the soil

- **Structure:** The way the individual soil particles are held together, with spaces between known as pores. A well structured soil will have space for plant roots, air and water to travel. A compacted soil will have fewer pores making it difficult for the roots of plants to grow and get nutrients, for water to enter and drain, and for oxygen to be present for soil creatures.

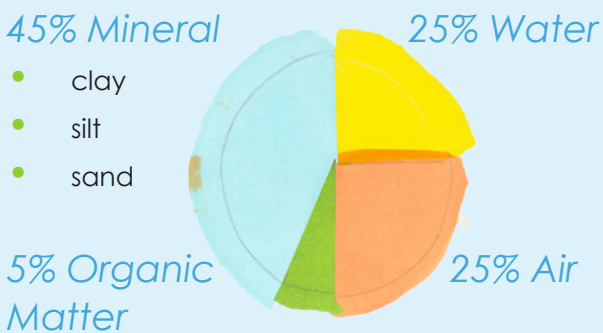


Getting To Know Your Soil

WHAT IS SOIL MADE OF?

Soil is made up of air, water, mineral particles (clay, sand and silt) and organic matter.

Organic matter consists of decomposing vegetable and animal matter and provides the nutrients on which plants thrive.



TESTING YOUR SOIL

There are a few tests that you can do to help you find more about your soil, and they start with digging a hole! Dig about 1 or 2 spades depth (about 60cm) and look at the following:

- **Signs of life.** Lots of earthworms is a good sign – they play a very important part in breaking up organic matter and improving the nutrients in the soil
- **Texture of your soil:** Soil is usually made of up three different minerals – sand, silt and clay in varying proportions.
 - * **Clay soils** are sticky and are likely to get water logged. They are cold in winter and difficult to dig, but do hold nutrients well.
 - * **Sandy soils** are usually free draining and low on nutrients. They warm up quickly in the spring time and are easy to work.
 - * **Silty soils** may be fertile but unless they have enough clay in them they are difficult to work and very prone to problems of pore structure.

JAR TEST

A simple way to test the texture of your soil.

You will need:

- A jar
- A sample of soil
- Clean water
- Marker pen
- Ruler

- 1 Fill the jar half full with soil, add clean water leaving an inch of space at the top.
- 2 Shake well with lid on.
- 3 Let stand for 5 mins and mark the soil that has settled- this is the sand layer.
- 4 Leave to settle into layers for a further 24 hours, giving you an idea of the make up of your soil.



Healthy soil is the key to healthy plants. Caring for our soil is the best way to ensure our plants thrive. There are many ways to keep your soil healthy and well, here are some ideas!



Adding organic matter

to your soil will help to improve the structure and fertility. Organic matter is the dead remains of plants, and animals and animal manures.

For example:

- garden compost
- manure
- seaweed
- comfrey leaves

You can add this either by digging into the soil or spreading on the surface as a mulch.

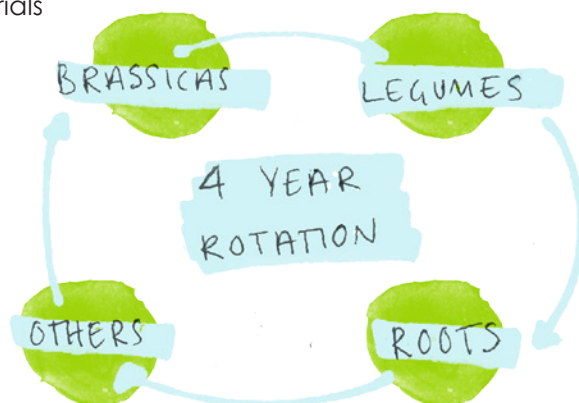
Mulching involves spreading a layer of material over the soil which will help to prevent erosion of the soil, leaching of nutrients in heavy rain and drying out of the soil in dry weather. If you use an organic mulch it will add nutrients as it breaks down. Some materials that can be used as a mulch are: compost, well rotted manure, leaf mould, straw, newspaper, cardboard, comfrey leaves, grass clippings, water permeable membrane.

Don't compact your soil.

Where ever possible try not to walk on the soil you will be planting in. A compacted soil means that roots will struggle to penetrate and moisture and air will be lacking in the soil. This can be avoided by making raised beds or putting boards across your plot that you can walk on.

Practice crop rotation.

Different groups of crops use different types of nutrients, so moving these around year by year will help prevent the soil from becoming deficient in a certain nutrient. Certain crops are also susceptible to particular diseases and moving the crops around in groups helps to prevent those diseases from building up in the soil.



Keep the soil covered.

Help to prevent erosion of the soil and washing away of nutrients by keeping the soil covered. This can be done by either covering with a material like carpet or black plastic, or even better growing a green manure crop which can then be dug into the soil adding more nutrients to the soil. You can also use mulches to cover the soil and in some cases improve the structure and fertility at the same time.

Growing green manures.

A green manure is a crop grown specifically to enrich the fertility of the soil. They can be grown in any spot which will be empty for a while, particularly over winter, and are dug back into the soil before planting other crops. They help to prevent the soil being eroded, improve the soil structure and increase the nutrients in the soil. Some examples are field beans, grazing rye, phacelia, clover and winter tares.

Looking after your soil

Composting is a natural biochemical process of decay. Bacteria, fungi, worms and other small organisms in the soil break down organic materials.

WHAT GOES IN?

1. Raw and uncooked fruit and vegetable waste
2. Eggshells, Teabags and coffee grinds
3. Cut flowers, House and garden plants.
4. Ripped up cardboard/ paper
5. Hair (human or animal)
6. Hedge trimmings
7. Straw, hay, woodchip
8. Comfrey and nettle leaves, grass cuttings, chicken manure, and human urine all speed up the composting process.

BEST AVOIDED

9. Cooked food of any kind , Bread
10. Meat – cooked or raw
11. Cheese, yoghurt or any other dairy
12. Perennial weeds & Diseased plants
13. Autumn leaves – collect separately for leaf mould.

NO THANKS!

14. Anything plastic
15. Anything metal
16. Plasticised labels (e.g. on some egg cartons).
17. Glossy magazines and cardboard
18. Cat litter or Dog faeces
19. Disposable nappies

GETTING A BALANCE

The basic components for a good compost are air, water , raw Ingredients and warmth. Good composting is about getting the right balance of '**greens**' – high in nitrogen and generally moist such as veg scraps; and '**browns**' high in carbon and generally drier, such as woody prunings or cardboard: using a mix of half and half will generally give you a good result.

WHY COMPOST?

1. It helps you save money
2. Gives you lovely compost for your plot/garden
3. Regenerates depleted soils, raising the mineral content
4. Stops food waste

Leaf mould is a special type of compost made only from autumn leaves. It's best to gather leaves after rain as a good water content will help speed up the initial decomposition. You just need a container to put all the leaves in. Use either an old compost bin, a simple container with four posts surrounded by chicken wire or simply put a few holes in a thick black plastic bag, fill it with wet leaves and tie the top.

One-year-old leaf mould can be used as a mulch around plants, be dug in as a soil improver or used as cover for bare winter ground. **Two-year-old leaf mould** will be rich, dark, soft, and crumbly. At this stage, it can also be used to make potting and seed mixes.

To make a **composting trench** dig a hole, one spit deep (the depth of the blade of a spade) and as big as you like. Cover the bottom of the trench with a layer of kitchen waste a couple of inches deep and cover this with soil. Repeat this process until the trench is full and then leave it over winter. The following season, plant pumpkins, runner beans or other hungry plants, on the site.



Composting

It is not necessary to have a garden to grow your own food. Almost any space can be used to grow something, from outdoor raised beds, to pots on a balcony, to a sunny windowsill!

1 Pick your spot

The sunnier the better, but even if you only have a windowsill, as long as it gets some sunlight there will be something you can grow.

2 Choose your container

Almost anything can be used as a container: clay and plastic pots, window boxes, ready made grow bags, plastic food containers, shopping bags, colanders, yoghurt pots, plastic bottles and even old pairs of boots!

3 Size of container

As a rough guide seedlings can be grown in a soil depth of 3–4 inches, lettuces and small plants like radishes in a depth of about 5–6 inches and deeper rooting vegetables, such as beans and carrots need around 10 inches depth.

4 Drainage

Getting growing conditions right in containers is a balancing act between allowing free drainage and conserving moisture. It's crucial that any container that is used has drainage holes in the bottom otherwise the soil will become waterlogged and the plant will drown. It's a good idea to put a layer of drainage of about 1cm at the bottom of pots, for instance gravel, broken crocks or pieces of brick.

5 The growing medium

Use a good quality potting compost—for environmental and conservation reasons, preferably peat free. To increase drainage you can mix this with around 20% sand and/or perlite or vermiculite. You can mix some slow release organic feed into the potting mix (for instance chicken manure or Blood Fish and Bone fertiliser). The growing medium tends to become impoverished and should be replaced annually.

6 Watering

Often plants in containers dry out more quickly especially if the conditions are hot and windy. Containers although they may be getting rain often still need to be watered as the foliage can act like an umbrella. Potentially container grown plants may need to be watered up to twice a day in hot weather. Dry the seeds indoors. You can put the seeds in a cloth or a jar with dry rice to extract the moisture from the seed. This will stop the seed from germinating until you add water.



Container Gardening

7 Retaining Moisture

Line containers with heavy-duty polythene with drainage holes punched at the bottom. Use a mulch (surface covering) of bark or gravel chips to help retain moisture. Stand pots in trays of gravel and water through the gravel.

8 Feeding

Most container grown vegetables will require extra feeding during the growing season. Use an organic liquid feed available from garden shops, or make your own comfrey or nettle liquid feed. Once your plants are past the seedling stage feed them on a weekly basis.

9 Protection from pests

Crops grown in pots still need protection from pests. Slugs can be a big problem, particularly as they like to live underneath pots. Lifting your pots to check for and remove slugs and slug eggs, which appear as clusters of spherical clear balls is a good idea. Copper strips attached to the rim of the pot can deter the slugs. For more information about dealing with pests see the section on pests.



WHAT TO GROW

1. **Herbs:** Herbs are ideal for containers, especially if you have them on your kitchen window. Some good choices would be: Thyme, Marjoram, Parsley, Chives, and Mint.
2. **Lettuce:** Suitable lettuce varieties would be 'Tom Thumb' or 'Little Gem' or you could sow a mixed baby leaf collection and make your salads more varied.
3. **Rocket:** Rocket is a peppery, tasty salad vegetable from which you can start picking about 4 weeks after sowing. Sow every few weeks from March to September for a continuous supply.
4. **Carrots:** Carrots often do really well in containers as the growing medium is easily controlled. Why not try a round variety like 'Paris Market' or 'Thumbelina'?
5. **Spring Onions:** Again these are a good choice. They take little space,
6. **Radishes:** These are a quick and easy crop to grow, coming to maturity in as little as 3 weeks during the summer.
7. **Turnips:** These are ideal for containers and can be planted closely together to produce baby turnips.
8. **Broad, French & Runner Beans:** Most normal varieties are too large for pots, but dwarf varieties can do really well. you can start picking them in around 8 weeks from sowing.
9. **Cabbages and cauliflowers** Try something like 'April' or 'Pixie' which are ideal for close spacing.

All fruit and vegetables are split up into different families. It's useful to know to which family a fruit or vegetable belongs, as this will help you understand what kind of things help to make it grow and how to look after the plant.

Many organic gardeners use a system of crop rotation. This is where you divide your growing site into four different sectors: **Solanaceae**, **Legumes and lettuces**, **Brassic**s and finally, **Alliums and Beet**. There are several reasons why we use crop rotation...

- Because it interrupts conditions for various crops and diseases (eg blight in tomatoes and potatoes, clubroot in Brassicas)
- It keeps Nitrogen in the soil at the right level
 - * Legumes extract nitrogen from the atmosphere and feed it into the soil
 - * Brassicas need plenty of nitrogen to produce their edible leaves and flower heads
 - * Root crops and alliums don't want too many nutrients, so they can be grown after Brassicas
- It allows the right level of pH to be maintained for the different crops: while legumes like a soil that is more acidic, and like mulching, brassicas prefer a lower pH – so balancing these ensures that the soil doesn't become too acid or alkaline.
- Soil structure: Introducing roots helps to break up the soil

You don't have to stick to this pattern, especially as it is difficult to do so in a small garden - The important rule of thumb is to move a crop from a space after two years.

Lettuce – also includes *Jerusalem and globe artichokes*



- Can grow in partial shade
- Prefer moist and cool conditions

Alliums – *onions, shallots, garlic, leeks*

- Lots of nutrients
- Well draining soil



Cucurbits – *courgettes, cucumbers, squash, pumpkin, marrow.*



- Need a lot of space once the plant has matured
- Regular feeding during growing season

Beet family - *spinach and beetroot*

- Like well fed soil
- Can grow in partial shade



Brassics – *cabbages, kale, brussel sprouts, broccoli, radishes, mustard, rocket.*



- Fertile but not freshly manured soil
- Well draining soil
- Slightly alkaline soil about pH 7.5-8
- Firm soil to help give the plant stability

Umbels – *carrots, parsnip, parsley, celery, celeriac, fennel.*



- Light soil not too well fed.
- Like light sandy soil
- Prefer not to rich or highly fertile soil

Legumes – *beans, peas.*



- Need lots of nutrients
- Well dug soil as they are deep rooting
- A sheltered spot as they're tall and can be battered by the wind.

Solanaceae – *potatoes, tomatoes, chillies, aubergines, peppers.*



- Like rich, well fertilized soil.
- Can help to dig heavy clay soil with their rooting action

Plant Families

A weed is any plant that grows in a place where you don't want it. A weed takes up valuable space in your garden, and may compete with other plants for nutrients, water and light.

METHODS FOR DEALING WITH WEEDS

Hand Pulling can be used for most weeds but can be time consuming.

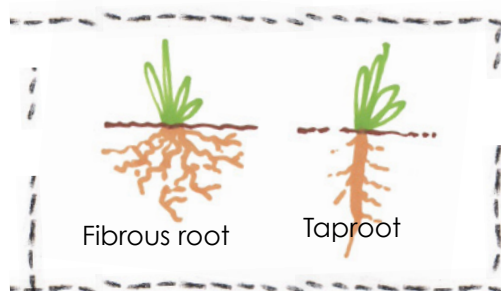
Digging out with a tool such as a trowel, spade or fork should be used on large perennial and taproot weeds. Try to get out the whole root or each section that remains will grow into a new plant.

Hoeing is perfect for dealing with weeds with fibrous root systems. A chopping motion will sever the roots and dislodge the weeds.

Mulching involves covering the soil surface in order to suppress weed growth. More on this method in the Feeding Your Soil section.

SHOULD WEEDS BE COMPOSTED?

Don't add perennial weeds straight to the compost heap, as they can grow from sections of root and will grow on your heap. Bag them up for 12 months or sit them in a bucket of water for a few months until they rot down before composting them. Provided annual weeds haven't gone to seed they can be added straight to your compost heap.



Annual weeds

These have a one year life cycle and propagate themselves by seed. They generally have a fibrous root system, and unlike perennial weeds, it's not important to get all the roots out. You do need to be careful not to allow annual weeds to go to seed. Some examples are forget-me-knot, fat hen, groundsel, and chickweed.

Perennial weeds

Live for a number of years and generally flower and set seed once a year, they can often regrow from a section of the root system, so it's really important to get all the roots out. Two different root systems to look out for are taproots and runners. Some examples are dandelion, dock, ground elder and couch grass.

COMMON WEEDS TO LOOK OUT FOR



Horsetail



Dock



Dandelion



Ground Elder



Groundsel



Fat Hen



Chickweed

Garden Organic have some great resources about weed management here:

gardenorganic.org.uk/organicweeds/

For a great weed identification chart look here:

ecosistemasol.com/2WtqN3S4N.pdf

Dealing with weeds

You can grow almost any plant from seed given the right environment and care!

WHY?

By sowing seeds indoors in early spring you can significantly increase the length of the growing season. As seedlings are protected from frost and wind, you can start seed sowing indoors before the weather is warm enough to start outside. Many vegetables are suitable for indoor sowing, however root vegetables such as carrots and parsnips are much better sown direct because they dislike transplanting.

HOW?

1. Fill your trays or pots with seed mix (coir or potting compost is good – you don't want to use something that is too rich in nutrients. It is best that this has a fine structure without too many lumps little seedlings will have to compete with!).
2. Tap base of the container to firm the compost down gently.
3. Water with a fine rose or stand the container in a tray of water. The latter is better as it allows for the soil to be fully soaked through.
4. Push large seeds into compost, or scatter smaller seeds either by pinching between fingers and scattering or allowing seeds to run from a folded piece of paper.



5. Cover the seeds with a thin layer of compost, dependant on the size of the seeds. In general seeds are planted to a depth twice the size of the seed.
6. Label the tray with plant variety and the date planted. Place in the greenhouse, polytunnel or on a warm windowsill.
7. Keep compost moist until seeds germinate and seedlings are ready to be transplanted into pots or planted out. The trays/pots can be covered with a poly bag or clingfilm to help retain moisture.



You will need:
Seeds
 Compost, seed mix or coir
Trays or pots
 Watering can with a fine rose
Potting sieve (optional)
 Firming board (optional)

SOWING SEEDS INDOORS

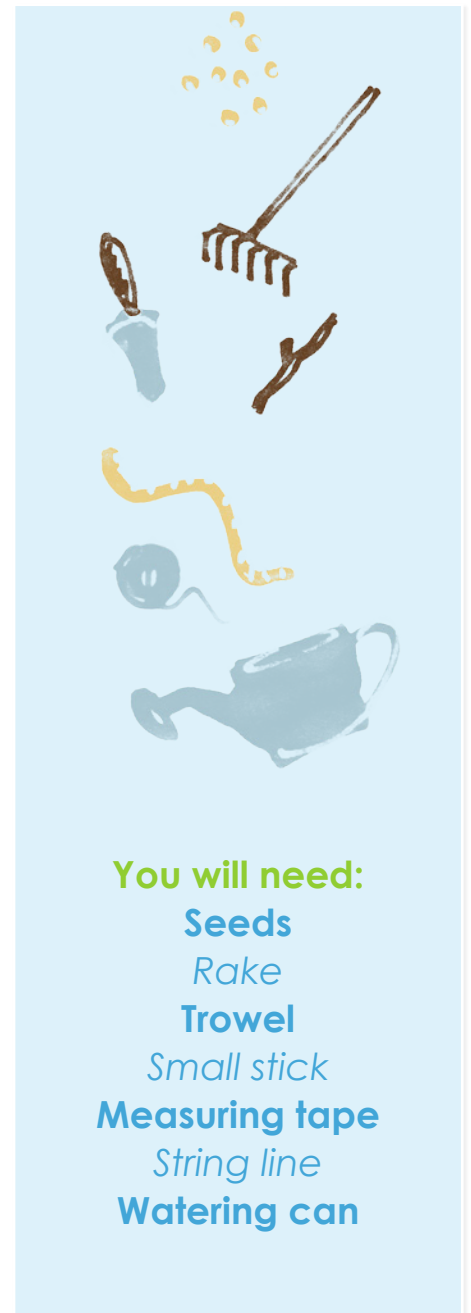
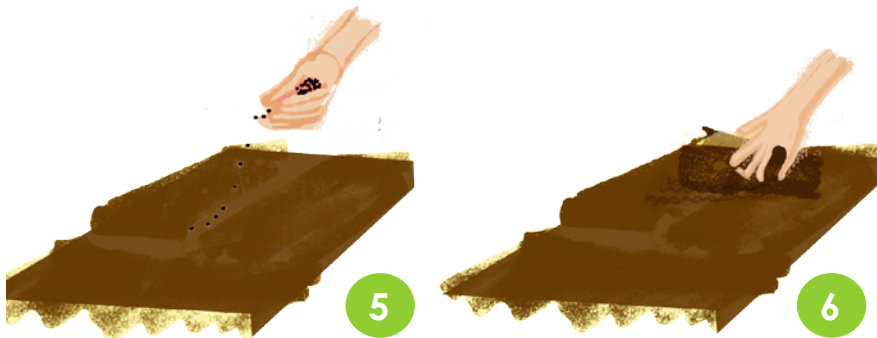
Remember to
label your rows
as you plant
your seeds!

WHY?

To sow outdoors, rake over the soil and plant seeds according to the instructions on the packet. The benefit of sowing directly outdoors means that you won't have to move the plant which will reduce the chance of damaging the plant.

HOW?

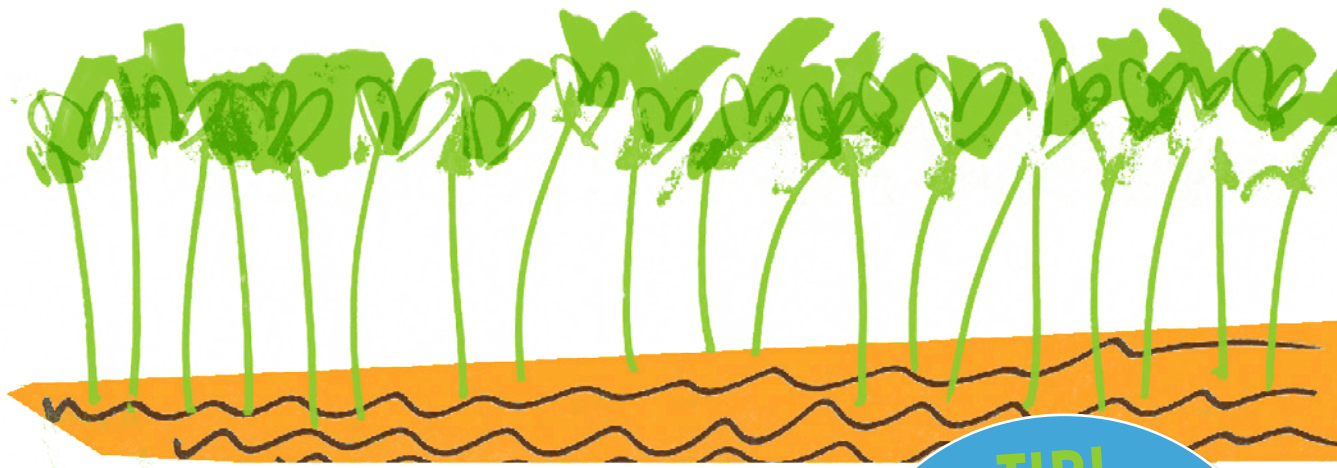
1. Prepare the area for planting by raking soil and removing any stones and twigs- riddling (sieving) the area if necessary. Aim to have a flat surface and soil with a fine tilth (break up any large lumps of soil so it appears fine and crumbly).
2. Check the seed packet or a gardening book to check how far apart rows should be and the distance between seeds in the rows.
3. Use the measuring tape to measure out the first row and mark with the string line.
4. Following the line of the string, mark out a drill (a trench) in the ground using the trowel. Check the instructions on the seed packet for the trench depth.
5. If the seeds are very small sprinkle them along the drill thinly. If the seeds are large enough to handle check the spacing on the seed packet.
6. Once the seeds have been sown fill the drill back in with fine soil and firm gently. Repeat the process until you have sown the required number of rows and then water the area.
7. Keep the soil moist until seeds germinate.
8. If necessary thin the seedlings out when they are large enough to handle. See 'Thinning Seedlings'.



You will need:

Seeds
Rake
Trowel
Small stick
Measuring tape
String line
Watering can

SOWING SEEDS OUTDOORS



Seedlings can grow very rapidly and will suffer if they start to become over crowded. To prevent this, seedlings that have been sown directly outside must be thinned and surplus seedlings removed.

TIP!

Eat the thinnings of some vegetables like radishes, beetroots, carrots, lettuces, rocket once they get to a suitable size.

WHEN?

- Start thinning seedlings as soon as they are large enough to handle.
- Thin the seedlings when the soil is moist, or water an hour or so before hand.

WHICH?

- Thin intermediate seedlings so that seedlings stand clear of each other.
- Some seedlings are worth transplanting to another site. For example leeks, spring onions, lettuce, rocket. Other seedlings, such as root vegetables- carrots, beetroots, parsnips etc, do not like being moved.

HOW?

- 1 There are two ways to thin seedlings. Seeds can be pulled out whilst firming in the other seedlings around them prevent them also coming up or they can be nipped off at ground level with scissors, not disturbing neighbouring seedlings.
- 2 Once removed, gently firm the soil around the base of the remaining seedlings.
- 3 Thin in stages, to compensate for any losses from pests and diseases. The final spacing depends on the vegetable (check seed packets or garden guides).
- 4 Remove all thinnings and bury on the compost heap or in bins, as they can attract pests.

THINNING SEEDLINGS

Plants all need water and generally they depend on us to provide it some or all of the time.

Plants take up water through their roots; when plants are very young they will not yet have grown a large root system and so will need extra care.



Some things to bear in mind...

- Water early in the morning or evening so there is less evaporation.
- Plants in containers need careful watering as they dry out more quickly especially if the conditions are hot and windy. Container plants may still need watered when its been raining, as the foliage can act like an umbrella. Where possible sit a pot in a tray of water.
- The best way to check if your plants need watering is to stick a finger in the soil up to the 2nd knuckle, if it feels dry it needs watering.
- An occasional thorough soaking is MUCH better way to water than little and often. If water soaks deep into the soil then plants are encouraged to develop deep root systems and are more likely to find their own



water. Little sprinkles of water encourage shallow root systems making the plants more vulnerable in dry conditions.

- Rain water is better for watering than tap water as tap water contains chlorine which will affect microbial communities.
- Some crops are more thirsty than others: Peas, beans, potatoes and sweet corn need to be well watered while they are flowering; while courgettes, marrows, peas, beans, sweet corn and tomatoes need to be well watered while they are fruiting. Leafy vegetables like lettuce and spinach need watering regularly or they will bolt.
- Bare soil is more prone to evaporation, so either cover with a mulch or ensure plants are close enough together to reduce bare soil.
- When watering seedlings take care to have an even shower of water; a heavy stream will knock seedlings over or wash them away!



WATERING



Seed saving is a very satisfying thing to do. It means that you can get seeds that are suited to your climate, and varieties that you really like.

Easy Plants To Try!

Peas Keep a row of one variety of peas that you want to save for seed. Pull up any plants that are weak or have diseases. Let the peas mature on the plant until the pea pods are brown and start to rattle. If the weather is wet, then you can pull the whole plant and hang it upside down inside to dry. When the pods are really dry, shell the peas out. Dry the shelled peas further in a warm dry place, or in a jar with dry rice. Pack and label with the variety and date, and store.

Tomatoes Most modern varieties of tomato are self-pollinating, and will not cross pollinate. Allow the tomatoes to ripen fully on the plant then collect a few tomatoes that look the best. Each tomato will have around 30-100 seeds in, so you don't need many to get lots of seeds.

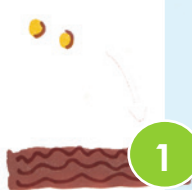
Slice the tomatoes in half across the middle of the fruit, and squeeze the seeds and juice into a jar. You then need to ferment this mixture for a few days – this removes the jelly-like coating on each seed, and also kills off many diseases that can be carried on the seeds. To do this put the jar of seeds and juice in a reasonably warm place for 3 days or until there is a thin layer of mold on top.

Scoop off the mold and then rinse the seeds clean in a sieve. Then dry the seeds on a paper towel, somewhere warm and out of direct sunlight. Once they are completely dry, rub them off the towel and store in an airtight container.

Remember!

Different plants and plant families have more or less likelihood of cross-pollinating with other plants within their family. Plants within the brassica and carrot family are quite likely to cross-pollinate with other plants in that family. This means that you may not get a seed that produces a plant that you expect! If you want to save seeds from these families then you should isolate the plant when it is flowering.

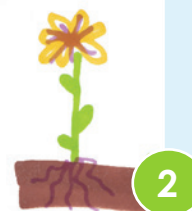
There is a resource with more information on seed saving specific plants, and information on isolating plants at: www.realseeds.co.uk



1

SOW

Sow and grow the plants you want to save the seed from. You won't be able to save seeds from F1 varieties, so make sure that the seeds aren't F1.



2

SELECT

Select the best looking, strongest growing plant to save the seed from for best results.



3

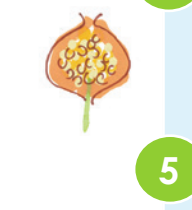
GROW

Grow until the seeds are...

4

MATURE

See link below for information about specific plants



5

EXTRACT

Extract the seeds from the plant & remove any chaff (dry casing of the seed)



6

DRY

Dry the seeds indoors. You can put the seeds in a cloth or a jar with dry rice to extract the moisture from the seed. This will stop the seed from germinating until you add water.



7

PACK

Pack into airtight containers or paper envelopes stored in an airtight, rodent proof container. Store until needed – most seeds should keep well for 2-3 years.



SEED SAVING

When the seedlings have their first set of true leaves and are beginning to look strong you can prick them out.

For seedlings grown inside in seed trays, it may be necessary to move them into another container before planting out to give them more space.



This is a delicate process...

This is a delicate process as the seedlings can be easily damaged at this stage. The trick is to create as little damage to the roots and stem as possible. Hold the seedling by its seed leaves, rather than the stem or roots which are easily damaged, and use a dibber or pencil to gently ease the roots out of the compost.

- Prepare pots/module trays big enough to contain the root ball of the seedling and fill to brim with potting compost, tap pot or use fingers to gently firm up the compost.
- Soak compost either with a fine rose or leave to stand in tray of water.
- Make a hole with a dibber / pen / finger etc.
- Gently lift out individual seedlings from the first seed tray. A useful tool for this is a pencil, as you can use it to gently lever out the seedling without causing too much damage.
- Still holding the seedling by its seed leaves gently guide the roots into the hole. Place the seedling with the seed leaves just above the level of the soil –

this will help for stability – and gently firm the soil around the plant into place.

- Label with date and name
- Keep seedlings covered and check daily for water etc. When they start to be more established you can take off the covering and start to 'harden off' plants.

Hardening off is when you gradually change the environment of a plant to get it used to going outside, so you can put the plant outside during the day, but bring it in at night time etc. It is important to do to stop plants from getting shocked when they are transplanted outside.



Pricking out

Growing plants undercover is very useful, particularly in Scotland where our season is short and we can have early or late frosts.

Growing undercover:

- Gives the plants protection from the elements.
- Increases the temperature to extend the growing season.
- Allows us to grow plants such as tomatoes and cucumbers that need more warmth.

Plants growing undercover will need regular watering, and in the height of summer that could be once or twice a day.

Polytunnels and greenhouses

If you have enough space you could get a polytunnel or a greenhouse.

They are good for growing summer crops like tomatoes, cucumbers, melons and squashes, for raising salad crops and bringing on seedlings earlier in the year. Polytunnels are often less expensive for the size you get, however they are best installed by a professional because it can be particularly difficult to get the skin tight across the framework. Greenhouses are more easily heated, although generally smaller and more susceptible to serious vandalism or damage in high winds.



Cold frames

Cold Frames are small box-like structures made of wood, metal, brick or glass that have a sloping, hinged lid made from glass or plastic. They are cheap to make and are useful for hardening off seedlings in the spring. They are useful for growing on hardwood cuttings during the winter months.

Cloches

Cloches are structures that are placed directly over plants in situ. A simple cloche can be made with a two litre plastic drinks bottles with the bottom cut off. It is important to add a few extra ventilation holes for air circulation. They provide protection for young plants from garden pests such as slugs and snails. Larger cloches can easily be made with wire or willow hoops covered with plastic sheeting.



Undercover growing

Looking after your tools means they are more effective at their work, you're less likely to damage the tool or plants or yourself, and can also save you money in the long run.

Top tips!

Always clean off any dirt and wipe off any moisture from tools when you've finished with them.

Store your tools somewhere dry to reduce rusting, and turn wheelbarrows on their sides to make sure the barrel doesn't fill with water.

Regularly oil any moving parts of secateurs, shears, wheelbarrows etc

If your tools do get rusty you can often spruce them up with some wire wool or a wire brush followed with a light oiling.

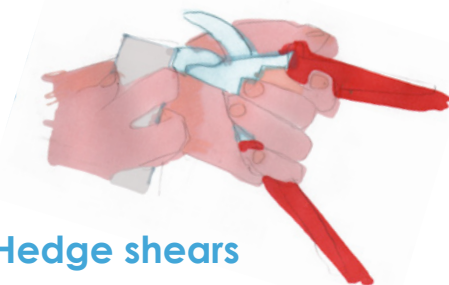
Rubbing candle wax on your saw before use can help to make cutting easier and reduce rusting

SHARPENING BLADES

- **Before** you start sharpening, decide whether the blade needs sharpening on both sides or just one. If the blade is flat on one side then you only need to sharpen one side. Try to sharpen the blade to the same angle as it was when you bought it.
- **Make sure** the sharpening tool and blade is clean and free from grit before you use it.
- **Hold the blade** and sharpening tool firmly for safety.
- With the sharpening tool held firmly, begin moving the blade in a circular motion.
- If using an oil stone, wipe surplus oil off the stone and blade with a rag. Keep your hands clean to minimise the danger through accidentally slipping.
- **Test the blade** for sharpness using a piece of paper. For a knife, hold the paper in one hand, and rest the knife on the paper. Using very little pressure cut the paper using a slow sawing motion. If the blade will not cut easily, sharpen it further. For scissor action tools, merely try cutting paper as if cutting a twig.

Secateurs

You can sharpen secateurs without dismantling them. Hold them firmly on a bench or in your hand and sharpen both edges of the cutting blade on anvil secateurs but only the outer edges of the blades of bypass secateurs. Use a fine grade sharpening tool. Two-handed pruners or loppers are sharpened in exactly the same way as secateurs



Hedge shears

Be very careful and hold the shears firmly; use a vice if possible. Use a medium to coarse grade sharpening tool, and make sure you sharpen the blade evenly along its whole length. Sharpen only the outer edges (at the correct angle). The inner surfaces should remain flat and should only require cleaning.



Spades and hoes

These tools don't need sharpening very often unless you have a very stony soil, but sharpening can make digging and hoeing a little easier.



Tool care

When thinking about how to harvest your vegetables, it's useful to think about which part of the plant you're interested in eating.

Leaves

Like cabbages, kale, spinach, lettuce, chard.

- For some plants, e.g. cabbages and hearting lettuces, harvest as a whole plant when the leafy part of the plant has matured.
- For other plants, e.g. kale, spinach, non hearting lettuces and chard, pick leaves by harvesting from outside of the plant as soon as it reaches a reasonable size. Pick continually to encourage fresh growth, although take care not to harvest too much at the one time.

Cut and come again systems for harvesting leaves are a good way of getting the most out of a small space. Many leafy vegetables will re grow after being cut and will give two often three cuts from the one sowing. E.g. Rocket, cress, 'cutting' lettuces, pak choi, perpetual spinach, corn salad and mizuna. Seedlings can be cut when they reach a usable size to about 2cm above soil level.

Roots

Like carrots, parsnips, beetroot, radishes

- let the plant mature enough that it is worth eating, but harvest before they get too mature when the root can become woody and tough.

Fruit

Like tomatoes, peas, beans, courgettes, pumpkins, aubergine and cucumber.

- In some cases picking some fruit from as soon as it reaches a reasonable size will encourage the plant to produce increasing and prolonging the harvest. E.g. courgettes, peas, cucumbers and beans.
- In other cases you want to limit the amount of fruit a plant produces, in order that it puts its energy into maturing that fruit. E.g. Tomatoes and pumpkins.

Flower heads

Like broccoli and cauliflower.

- Need to catch at the right moment before they actually flower. Sometimes in the case of broccoli, cutting the flowerheads will encourage the plant to produce more.

Harvesting



We store vegetables to provide vegetables during winter months when there are fewer growing and to preserve a glut rather than waste them.

For some of the hardiest vegetables, such as root crops, the simplest method of storage is to leave them in the ground. In the coldest areas it is wise to cover them with straw and if periods of deep frost are forecast to lift the crops. Most winter brassicas can be left in the ground until required.

The Golden rules

- Only choose vegetables which are in perfect condition.
- Clean off as much soil as possible.
- Store most vegetables in a cool dark frost free place.
- Check vegetables in storage regularly and remove any which have become spoiled.

Freezing produce

- Most vegetables are suitable for freezing, either as they are or in their cooked form.
- Blanching is necessary before freezing for many vegetables and is done by plunging into boiling water for a given time, followed by rinsing with cold water. Pat dry, then pack in polythene bags in convenient quantities.
- Remove the air, seal, label and freeze. Blanching helps to keep their colour, texture and flavour and to retain their vitamin C content.

Root crops

- Can be stored by layering with slightly moist sharp sand in a deep box or tray.
- Remove the leaves to about ½ inch above the crowns prior to storage.
- Ensure that the individual roots are not touching each other.
- Store in a cool frost free place.

Potatoes

- Store in the dark to prevent them going green.
- When harvested, lay potatoes out on the soil surface for a day or two. This helps to harden the skin and allows them to keep for longer.
- Store potatoes in a paper or hessian sack (not plastic) in a cool dry place.

Onions, Shallots and Garlic

- Allow the stems of each bulb to fall over before lifting, drying and storing.
- Lay bulbs out to dry in an airy place.
- After a couple of weeks the bulbs will have dried enough to be stored
- Store in net bags and in an airy place or tie into plaits or bunches and store hung up in a cool dry place.

Squash, pumpkins and marrows

- Mature on the vine to ensure thickening of the skin allowing them to be stored for longer.
- Raise the fruit up on a brick or pot away from the earth.
- Cut fruits from the vine leaving 10-15cms of stalk before the first frost.
- Store in a cool position where they receive good air circulation.



Storage

Gardening organically is all about keeping plants healthy without the use of chemicals. The key to organic gardening is prevention: using methods which will deter pests and lessen the chances of your plants becoming diseased.

LOOK OUT FOR

It is good to become familiar with the types of pests you might find and how to deal with them. Check your plants regularly for signs that they might be suffering from pests. Some pests are easy to spot on the plant, such as caterpillars or aphids, sometimes a little more detective work will be required because the pests live in the soil or are only active when it's dark.

1. leaves that look like they have been eaten
2. leaves that look specked or mottled with yellow or brown dots or patches
3. leaves that look distorted in shape or texture

Encouraging wildlife in your allotment is a great way to control pests. There are lots of common garden animals and beneficial insects that you can attract to your allotment that will eat the problem pests. Birds will have a feast on caterpillars and slugs, and ladybirds will enjoy munching on any aphids that are around.

Aphids weaken plants by feeding on the sap causing distortion of leaves and spread of viruses. They reproduce extremely quickly and can become a big problem in a short space of time. They may be green, red, black, yellow or white and are 1-7mm long.

Control methods

- Spraying with soapy water
- Squashing any visible aphids.
- Encouraging or introducing natural predators such as ladybirds.



Slugs and snails feed on the foliage of many plants. They are most active at night and in wet conditions. They lay eggs, which are spherical and yellowy white or clear, in clusters under stones and logs, pots and in the soil.

Control methods

- microscopic parasitic nematodes
- Organic slug pellets
- Encouraging natural predators such as birds, hedgehogs, frogs and toads
- Physical barriers like slug collars, copper wire or bottle cloches
- Beer traps can also be effective as long as they are checked regularly.



Carrot fly larvae can be a serious pest of carrots and can also attack other members of the carrot family like parsnips, celery, celeriac and parsley. Causing serious damage by tunneling into roots of carrots and parsnips they also make the plant susceptible to fungal disease.

Control methods

- Physical barrier of horticultural fleece round the crop, 60cm high, will prevent the adult accessing the crop to lay eggs.
- A cover of fleece over the top will also prevent access.
- avoid sowing in early spring and late summer when adults are laying eggs.
- Remove and destroy carrot thinnings so as not to attract pest.



Cabbage White Butterflies attack plants in the brassica family such as cabbage, cauliflower, broccoli and Brussel's sprouts. The butterflies lay white or yellow eggs singly or in clusters on the underside of leaves, which hatch into caterpillars that then feed on the plants often causing severe damage.

Control methods

- Physical netting or fleece barrier to stop the butterflies laying their eggs on the crop.
- Check crops regularly for signs of eggs and also hand picking off any caterpillars.
- Avoid planting colourful and high nectar producing flowers close to your brassicas as this will attract the butterflies to the area.
- Some birds will eat the caterpillars to encourage them in your garden by providing nest boxes in spring and feeders over the winter.



Pests

Plants can sometimes catch diseases; usually this means that the plant's growth or health will be affected and in bad cases the plant may die.

Healthy plants are less vulnerable to disease.

1. Water adequately particularly in hot weather
2. Feed during growing season
3. Give enough space to grow well
4. Ensure good air circulation around plants

Things to watch out for

- Patches of mould or mildew
- Rotten areas on stems/leaves/flowers
- Leaf spots (usually black, brown or yellow)
- Mottled foliage (leaves speckled with yellow)
- Distorted growth of foliage

Powdery Mildew A fungal disease which affects a wide variety of plants. White powdery spots can be seen on leaves and stems. Avoid late-summer feeding as new growth is more susceptible to infection. Avoid overhead watering to help reduce the relative humidity. Remove and destroy all infected plant parts. Do not compost. Selectively prune to help increase air circulation.



Treat by spraying the leaves with a bicarbonate of soda solution

Here's a recipe to make your own spray:

- 1 teaspoon bicarbonate of soda
- 1 litre water
- a few drops of liquid soap

Potato Blight A fungal disease which spreads rapidly and thrives in warm wet conditions, causing dark blotches on leaves and in worse cases rotting of entire plant.



Control

- Grow resistant varieties, such as Stirling, Cara, Remarka, Sante.
- Grow early varieties that produce a reasonable crop before blight appears.
- Earth up or mulch with a thick layer of leaves, straw or hay, to reduce tuber infection.
- Once the disease has taken hold cut off and remove all foliage. Wait three weeks before lifting the tubers to avoid infection of the tubers

Botrytis Botrytis is fungal disease which causes brown spots and a grey mold.



Control

- Pick off any infected leaves or flowers, and throw them away
- Increasing air circulation by spacing plants well.
- If an entire plant is badly infected, you should dig up the plant and throw away the entire plant
- To keep fungal spores from overwintering in large quantities, always rake up and remove any dead plant material

Clubroot A serious and widespread fungal disease affecting the brassica family, Clubroot is one of the most problematic diseases that gardeners have to deal with. It is very difficult to control and, once present in the soil, virtually impossible to eradicate.



The first sign of the disease can be wilting of plants, particularly during dry weather. Subsequently, plants may appear stunted or sickly and the foliage may develop a purple-red tinge. Infected roots swell and distort, often producing either a single large gall

Control

- Create healthy soil, enabling plants to cope with attack
- Practice crop rotation, preventing build up for spores in soil
- Lime the soil- increasing the pH will help to prevent acid loving clubroot
- Raise plants in pots before planting out, giving the plant a head start.
- Remove all infected plants and either bin or burn the material.
- Choose resistant varieties.

Diseases