

Growchapel Community Allotment Association

*Let's Grow a Future
Together for all our children*



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DON'T PANIC!

If you are new to growing, please don't feel overwhelmed by the amount of information in this handbook, as there is.....a lot! Our aim was to try and offer something as useful as possible for you to dip in to as suits your needs. In addition to the handbook there will be workshops and other opportunities to learn. Becoming a gardener is like gardening itself. We plant seeds, nurture those seeds and have patience until they grow.

The handbook also shares information on the various tools which are useful for gardening and allotments. Please do not feel you need to rush out and buy all of these. Speak to Growchapel about the tools which they have available which can be shared, and gradually build up the tools you need. It takes time to establish an allotment and also to gather the plants and equipment needed, this doesn't happen all at once.

Contents

Background to Growchapel	pg4
What is an allotment?	pg4
Values of Growchapel	pg5
Community led	pg5
Well Governed	pg5
Mutual vision	pg5
Safe space	pg5
Balance of rules and self determination	pg5
Effective communication	pg5
Consideration for others	pg5
Promotes local, city wide and National wellbeing strategies	pg5
Ensure allotments are mentioned in the Local or Neighbourhood Plan	pg5
Growchapel cares about the natural world	pg6
Biodiversity	pg7
Sharing, seed saving, storing and swapping	pg7
How large are Growchapel allotments?	pg8
Benefits of having an allotment	pg9
Health benefits	pg9
Connect with nature, kind to the environment	pg10
Saves money growing own fruit and vegetables	pg10
Offers a new interest, purpose, opportunity to meet others	pg10

Getting started on your allotment	pg11
Tools for the job and their maintenance	pg12
Create a vision for your allotment	pg16
Why keeping a record journal is helpful?	pg17
You will be more organised	pg17
It serves as a reminder of accomplishments and mistakes.	pg17
You can track progress	pg17
You can collect everything	pg17
It helps you to think through plans and ideas.	pg18
Monthly to do lists	pg18
Gardening design grid	pg18
Getting your plot ready for growing	pg19
The Gardening year in weeds	pg20
Non Chemical (Cultural) Control Methods	pg21
Familiarising yourself with your allotment	pg22
Becoming aware of the type of soil in your allotment	pg23
Soil make up and profile	pg24
Nutrition and feeding	pg27
Earth worms, the gardener's friend	pg30
Why earth worms matter	pg30
How to encourage earth worms	pg31
Soil preparation and growing mediums	pg32
Aspect	pg34
Water shedding and drainage	pg35
Shade and sun movements	pg37
Frost pockets	pg38
Planning your allotment	pg39
Permanent features	pg39
The Growing Year	pg41
Preparing a seed bed	pg42
Planting and growing	pg43
Alternative growing techniques	pg46
Growing mediums	pg47
Housekeeping	pg52
Pest and diseases	pg54
Harvesting and storing	pg59
References	pg62



Background to Growchapel

Growchapel is a welcoming space where the local community can apply for a growing allotment plot for vegetables, herbs, fruit and flowers. Developed through partnership working and led by the community of Drumchapel, the site can be accessed by the local community and organisations, whether they are growing, socialising or using the site for some peace and quiet. Everyone is welcome in the space, where diversity and creativity are encouraged

Growchapel aims to promote the creation of social ties and build a greater feeling of community. These connections help reduce crime, empower residents and allow residents to feel safe in their neighbourhoods. Another aim is to create a safe space for individuals made vulnerable by health and social exclusion challenges to enhance their wellbeing in a safe and welcoming space which promotes wellbeing for individuals and communities and supports the environment and helps contribute to tackling climate change.



What is an allotment?

As defined by Part 9 of the Community Empowerment (Scotland) Act 2015 an allotment (plot) is land that is:

- owned or leased by a local authority and is leased or intended for lease by a person from the authority and
- is used or intended for use wholly or mainly for the cultivation of vegetables, fruit, herbs
- and otherwise, than with a view to making a profit.

Allotments are places that, when nurtured and properly cared for, can have a positive impact on an individual's health and well-being, however new growers can be taken by surprise (and daunted) with the amount of work that is required to manage an allotment to a decent standard, there is more involved than how simply it is presented by many gardening programmes.

This guide aims to provide an overview of what is required to manage a plot and the value of being prepared. Gather as much information as you can before you put a spade in the ground, read up on the subject, watch videos, visit allotment sites, speak with local growers and/or practice at home. Ensure you understand what challenges and opportunities arise from having a plot as this can make the difference between looking after an allotment and accessing the subsequent benefits this can bring or having a poor experience and walking away.



Values of Growchapel

Community led

Growchapel will be self-managed by the allotment association. Helping ensure the plots are not left unattended and working together with other local groups to organise events and projects which support the local community.



Well Governed

Growchapel community allotment association has good governance in place, offering training to committee members where needed to ensure the allotments remain safe spaces for people to enjoy growing things, socialising with other allotment members and enjoying all the wellbeing benefits of being outdoors. Growchapel will follow Scottish Allotments and Gardens Society guidance on good governance for more information visit ⁽¹⁾.

Mutual vision

Members of the allotment association have a shared vision for Growchapel for now and the future where all views will be taken into account. There are regular opportunities for all members to influence the direction of travel of Growchapel and those visions are captured and recorded to be shared with new people who may come on board as Growchapel moves forward and develops.

Safe space

Growchapel aims to be a safe space not only physically but emotionally and psychologically.

Recognising people may have different views and opinions, life experiences and situations, which may at times mean there is not always initial agreement. However, Growchapel members will work together to find common ground and have courageous conversations where there is a need to do so.



Balance of rules and self determination

Growchapel seeks to create a space where people arrive at decisions through consensus and shared values rather than feel overburdened by rules they need to follow. However, for health and safety and good governance there are statutory obligations to follow.

The behaviour of allotments members is something only they can control. Growchapel asks that they behave in a way which is kind and considerate to themselves, each other and the planet.

Effective communication

Communication is everyone's business. Maintaining effective lines of communication between members and the committee and any other interested stakeholders is core to Growchapel's values. To support this there will be regular meetings open to all members. There will be minutes of the meetings and they will be circulated as well as posted on the allotment notice board. If there is to be any work done which may cause upheaval e.g., delivery or infrastructure work people will be notified. This is in addition to the natural conversations people will have together while working on their allotments.

Consideration of others

Growchapel recognises people's homes are near the allotments and seeks at all times to foster good relationships with its neighbours including inviting them to meetings of Growchapel which may be of interest to them.



Promotes local, city wide and National wellbeing strategies

Growchapel will be acknowledged as a contributor to the community's wellbeing through healthy activity, nutrition and supporting emotional resilience and mental wellbeing through connections with nature.

Ensure allotments are mentioned in the Local or Neighbourhood Plan

Growchapel will evidence what can be done when vacant spaces are used for community benefit and work with others to help create more green spaces locally.

Growchapel cares about the natural world

Getting to know the other great local projects and groups is another way to build connections and meet new people. You may also find it interesting to visit www.aliss.org to find out more about what is going on in your local community as well as www.facebook.com/theLOOPDrumchapel and www.cope-scotland.org which offers great tips on wellbeing as well as information on wider pieces of work around being kind to ourselves, each other and the natural world. There is also a local project Glasgow Eco Trust and you may want to visit their website www.glasgowecotrust.org.uk as well as Keep Drumchapel Tidy keepdrumchapel tidy.com and so much more (details correct at the time of Print September 2021)

NETWORK WEAVERS

- * Share generously and ask for support often
- * Lead with your lived experience
- * Focus on opportunities not obstacles
- * Cultivate safe and brave spaces
- * Communicate with clarity and kindness
- * Welcome difference and working differently using technology
- * Support others to achieve their dreams and results
- * See the humanity in all things and celebrate life.

Biodiversity

Biodiversity is described as “the variety of living things on Earth, from the smallest insect to the largest mammal and tree. It encompasses the variation within a species and the complex ecosystems, or habitats, where they are found. It is not just restricted to rare species or threatened wildlife sites, but includes the whole of the natural world” in Glasgow’s Local Biodiversity Action Plan.

A plot can reflect this variety of living things; in fact, it could be argued the more biodiverse a plot is, then the healthier the plot is, and following this, the produce it provides will be healthier than produce grown in an environment of limited biodiversity.

Maintaining a plot is an opportunity to improve the biodiversity of an environment and many growers try to grow in a wildlife friendly manner. This has been recognised in Glasgow for several years and led to Glasgow City Council’s Biodiversity and Conservation team working with Glasgow Allotment Forum to co-produce a “Biodiversity on Allotments” handbook which can be viewed at the following link.⁽²⁾ It contains useful information on how to grow in a manner that provides benefit for many species not just us humans.



Sharing Seed Saving/Storing/Swapping

Seed saving is far from a new practice, many growers are increasingly practicing saving seed. This may arise from concerns around the decreasing diversity of seed available from seed suppliers and the increase of hybrid seeds which may not provide viable seed, or whether growers prefer the characteristics of specific seed they wish to propagate in future years, or trying to ensure future growers have diversity of choice available to them. One response to this by growers in Glasgow is to have set up its own seed library.

Glasgow Seed Library (a depository of seeds held in trust for the public) is hosted by the Centre for Contemporary Arts (CCA) on Sauchiehall St. Further information on this can be found here.⁽³⁾

Within the library you will also find books and information on seed libraries and growing, also books exploring ecology, food and environmental politics. Also check out Drumchapel Library as a place to learn more about all things horticultural.

If seed saving is a practice you are keen on developing skills in, we have included a useful guide which Garden Organic have developed and which can be accessed at the following link.⁽⁴⁾

How big are Growchapel Allotments?

Growchapel has full plots, half plots and raised beds. A plot can be a lot larger than you think, almost as large as a doubles match tennis court. Sometimes the best way to appreciate the size is to arrange a site visit. You can do this by emailing growchapel@gmail.com.

You can also find out more information about Growchapel through our website: <https://glasgow.gov.uk/allotments> and click on the 'Growchapel Storyboard' tab.



Benefits of having an allotment

Health benefits

Allotment gardening is good for you in many ways as well as being kind to the planet. It can get you outdoors, meet new people, develop a new hobby or interest and give you a sense of purpose if you find through retirement or other reasons you have more time on your hands. It can also help save money as you grow your own fruit, vegetables and herbs, maybe sharing any excess with friends, neighbours and the local foodbank.

Being an active member of the allotment association committee can also, if you want, offer new learning opportunities around how to support your community. Even if you don't want to be on the committee, sharing your knowledge and enthusiasm, or learning with other plot holders can offer up new opportunities which you may not have considered before.

That sense of achievement eating something you have grown yourself is what can help keep you motivated when it comes to weeding! And general maintenance.

A study in the Netherlands showed that every 10 per cent increase in exposure to green space translated into an improvement in health equivalent to being five years younger, with similar benefits found by studies in Canada and Japan. For more information visit. ⁽⁵⁾

Being outdoors can help build up our levels of vitamin D, just be careful when gardening on hot days to protect your skin and use sunscreen as with the summers getting hotter, even on a cloudy day we need to make sure we stay safe. ⁽⁶⁾

This link to information by the health and safety executive on working outdoors, can also provide useful tips for gardening as well.



Contact with Nature

The benefits of being in contact with nature for our mental health⁽⁷⁾ and wellbeing⁽⁸⁾ are significant. Being part of an allotment association also helps us find ways to look after nature and wildlife, for example by having a wildflower section and being mindful of how we use the soil.

Working a plot year-round means that you get to experience the seasons, witness the behaviour of birds, insects and other animals and gain an understanding of the eco-system. This appreciation of the natural world also has the potential to inspire more environmentally aware behaviour by all of us and our children.



Saves money growing own fruit and vegetables

If you make the most of your allotment you can grow things which help reduce the costs of the weekly shop. There is something really satisfying about eating something you have grown yourself. You can also share excess produce if you have any, with friends, family, or the local foodbank.

Offers a new interest, purpose, opportunity to meet others

Sometimes things happen which means we lose our sense of purpose, maybe work, loss of a loved one leaves us feeling alone or, isolated, a health challenge may mean we need to rethink the pace we run our lives at. Working on an allotment can offer us that sense of purpose and chance to get out and meet other people. Growchapel also has raised beds for people who may find that easier to manage than a plot.



Getting started on your allotment

Tools and Maintenance

In the excitement of getting a plot the urge might be to rush out and stock up on every tool in the catalogue. A wiser approach would be to consider what tools will be required for the work you need to carry out.

Further consideration should be given to how much you wish (or have) to spend on tools. When properly looked after, investing in a good quality branded tool can save money.

A good pair of gardening gloves, outdoor clothing and sturdy pair of boots is recommended. Eye protection is also advised when working around fruit trees and bamboo canes.

Maintaining your tools in good condition is relatively simple if you follow 6 easy steps:

- 1. Store your tools in a safe, secure, cool dry place.**
- 2. Clean tools after use.**
- 3. Sharpen tools after cleaning.**
- 4. Wipe with an oily rag after sharpening.**
- 5. Follow the manufacturer's instructions.**
- 6. Use the tool only for its intended purpose.**

The following table lists the basic essentials that will be of use when taking on a plot: Remember, housekeeping and looking after your tools and allotments matter. Tools and materials we use on an allotment have the potential to spread disease and viruses throughout all your seedlings, plants and crops. It is very important that tools and sundries are cleaned after each use.

For pruning tools such as secateurs, loppers, pruning saw and knife, it is a good practice to give them a sterilising wipe after pruning each plant to ensure you do not transfer anything from one plant to another. Ensure they are kept sharp as a clean cut from a sharp blade heals quicker.


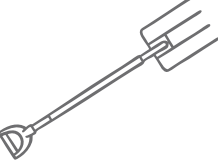



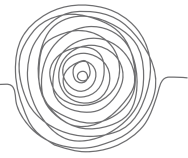

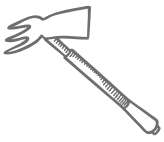
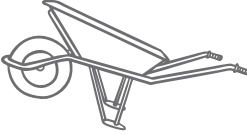
Sweeping up debris and cleaning as you go is also good practice on a plot. Putting tools away after use and cleaning can also reduce the risk of injury arising from slips, trips, falls cuts or bangs.

It is also good practice to inspect and assess any tool or sundry before use to ensure they are safe to use; damaged tools can cause injury.

You may find the article [on the love your garden website](#) helpful.⁽⁹⁾


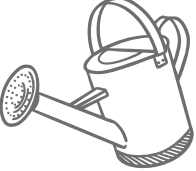

Basic Essentials To Grow Vegetables



Tool	Use
	<p>Gardeners use a spade for digging. It is designed for the specific task of lifting up and removing dirt. This would be the tool of choice for digging a planting hole, a trench or a ditch. The blade or digging end, made of metal, is sharp. The upper edge is dull and is where the digger can place his foot to help force the sharp end into the ground.</p>
	<p>A garden fork, spading fork, digging fork or graip is a gardening implement, with a handle and several (usually four) short, sturdy tines. It is used for loosening, lifting and turning over soil in gardening and farming.</p>
	<p>Iron (Soil) rakes are hard toothed and long handled. These are best used for dragging through soil beds to help break down the earth prior to planting.</p>
	<p>A draw hoe has a blade set at approximately a right angle to the shaft. The user chops into the ground and then pulls (draws) the blade towards them. Altering the angle of the handle can cause the hoe to dig deeper or more shallowly as the hoe is pulled. A draw hoe can easily be used to cultivate soil to a depth of several inches.</p>
	<p>A Dutch hoe, also called a push hoe, doesn't have the typical hoe blade with its 90-degree-angle. Instead, the blade of the Dutch hoe faces forward. If you are wondering how to use a Dutch hoe, it's not at all difficult. You just use a push-pull movement instead of a chopping movement.</p>
	<p>A garden line is a length of string used to mark out straight lines for sowing seed or planting out.</p>
	<p>When to use a garden trowel depends on the job at hand. Garden trowels are used for digging small holes, such as for planting bulbs, annuals or perennials. It would take a lot of time and effort to dig a hole for a tree or shrub with a garden trowel. Garden trowels are also used to dig up weeds.</p>
	<p>A dibber is used to plant bulbs, tubers, small plants, and sometimes seeds. These bulb planters come in many different shapes and sizes. A dibber is used by pushing the tapered end into the garden soil to the depth required and twisting it to loosen the soil.</p>
	<p>A wheelbarrow is an essential garden tool that takes a load off your back. It can be used to transport supplies, tools, soil, compost or debris to, from or around your plot. A must have!</p>

Basic Essentials To Grow Vegetables

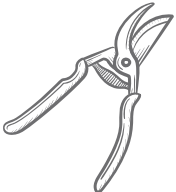
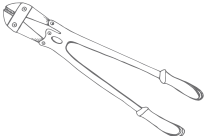
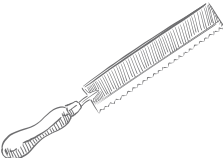

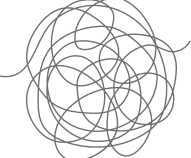


Tool	Use
	A long handled brush and shovel are used for sweeping up and collecting debris.
	A watering can is a portable container, usually with a handle and a funnel, used to water plants by hand. Some watering cans have a fine spray which delivers water gently. These are useful for delicate plants and newly sprouted specimens. The rose at the end of the spout can be removed so you can also deliver fast doses of water. This is also helpful if the spout clogs, so it can be cleaned.
	Sharpening stones , water stones or whetstones are used to sharpen the edges of steel tools and implements through grinding and honing. They should be used after any sharp edge tool has been used and cleaned.



Basic Essentials To Grow Fruit



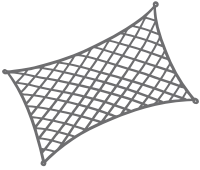

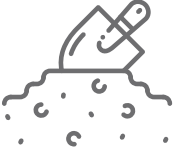
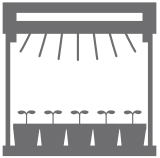
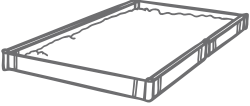

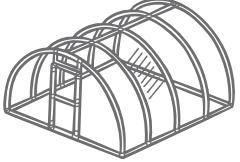

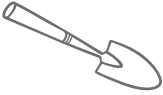
Tool	Use
	<p>Secateurs are used in different ways in the garden, and that is why they are so popular. This one tool can handle dozens of various tasks in the garden, so you can be sure that you will get good use out of them. Secateurs can be used to clean, cut, and trim away branches, weeds, and stems that are unwanted in your garden.</p>
	<p>A lopper is a pruning tool that can be used to prune stems and branches that are 1 to 2 inches thick. A branch less than 1 inch thickness can be pruned with the help of a shear and a branch more than 2 inches thick will need a pruning saw. A lopper can be either a bypass lopper or an anvil lopper.</p>
	<p>A pruning saw is a saw which is specifically designed for pruning tasks. Pruning saws can be utilized for thick branches which are too dense for secateurs or loppers, and for high branches which are difficult to reach.</p>
	<p>Pruning knife used for everything from trimming vines to harvesting veggies. You can use a pruning knife to slice string, cut flowers, prune vines and graft trees.</p>
	<p>Garden twine can be used for tying and supporting plants, such as tomatoes. Garden twine can also be used to make straight lines for planting rows and to separate areas of your garden. In addition, twine can be used for hanging garlic, onions, or herbs to dry.</p>

Beginning to understand the tools we need for our allotment can help us plan, what next. Remember, you do not need to do it all in the first year. Planning in the early stages of having your allotment can save so much time later on.



Basic Essentials To Grow Sundries



Tool	Use
	<p>Netting is used to protect crops from birds and prevent some flying insects from laying eggs on them. Care must be taken when using netting and checks should be carried out to ensure no birds or small animals have become entangled or trapped by netting.</p>
	<p>Fertilisers are used to improve plant growth. The faster growing the plant, the more it will benefit from fertiliser application. If you have a healthy soil, it is often not necessary to use fertilisers, but using them may produce a showier display of blooms or a higher yield of produce from edible crops.</p>
	<p>Compost is made of decomposed organic matter that is used as a medium in which to germinate seeds (seed compost), for potting on seedlings, (potting compost) or for general use as a soil conditioner providing organic material including beneficial microbes, bacteria to improve the structure of soils.</p>
	<p>A propagator is a tool which can increase germination by providing an enclosed environment that lowers the risk of damage to seedlings from changing weather in the spring. It can be as simple as a clear glass or plastic sheet over a seed tray or pot or purpose built.</p>
	<p>Pots/seed trays are receptacles for holding a growing medium & single or multiple seeds/seedlings or plants. They come in a variety of shapes, sizes and materials. Natural materials such as clay pots or coir pots are more environmentally friendly however dry out quicker.</p>
	<p>Labels and pens are an absolute essential in any plot holders tool kit. Choose a waterproof pen where possible. The label is used to remember what we planted where when we fail to record it in our notebooks. Placed at the head of the seed or seedling drill so we also know what is germinating in our trays or pots.</p>
	<p>Cloches are low portable protective structures made of glass or rigid transparent plastic. Tunnel cloches are low continuous tunnels of flexible plastic. Single cloches can often be joined to provide continuous protection to plants, especially vegetables, from the elements. A cloche can raise the local soil temperature by up to 10°C and hasten germination of direct-sown crops by 10-14 days. This, in turn, raises air temperatures and reduces the amount of heat lost at night, resulting in earlier harvest dates (3-4 weeks with most crops).</p>
	<p>Canes offer a practical way to guide the growth of flowers and plants and are often used to create frameworks for climbing plants such as beans and peas. They can also be used to create seed drills or low furrows.</p>
	<p>Soil sieves (or riddles) are useful for sifting out large lumps from soil, leaf mould and compost, to leave you with a fine material suitable for sowing seeds like salad leaves and sunflowers, or for potting mixes.</p>

Create a vision for your allotment

Before starting to grow anything, it can be of value to ask yourself the following questions:

- What do I like to eat?
- What grows well where I am?
- Are there any restrictions on what I can grow on my plot?
- What work will be required on my plot to make it ready for growing?
- What type of soil do I have?
- Can I break the work down into individual projects e.g. plot clearance (a potato crop is useful in bringing an underused plot back to a workable condition*), designing layout of plot, building structures, laying paths, etc.
- What crop rotation plan should I adopt? For more information visit the Royal Horticultural Society website ⁽¹⁰⁾



Planning is an essential part of managing an allotment and can be as enjoyable or bothersome as you choose. It offers us the opportunity to sit and reflect about what we want to grow, why we want to grow it, where should we grow it and what we will do with it when it has been grown.

Understanding your soil, how the elements will impact on your allotment will help you create a vision for success. Things to consider include:

- What is already on the plot you are taking on, what are your plans for that?
- What are you growing which will be tall, where will they cast a shadow, what impact might that have on your other crops or the adjoining plots!

- **If you plant fruit bushes together, it makes it easier to net them, pick them and also!! Help discourage weeds growing!**
- **Consider the layout of your vegetable patch. Having at least three separate beds is a good place to start.**

Get yourself a decent template for record keeping (a journal) is as good a place as any to start as this can act as your vision board as well as your journal. There are many premade allotment gardening journals on the market with useful templates which can help get you started.

Why a Record Keeping Journal is helpful



You will be more organised

Journals are not just a vessel for recording your feelings or scribbling out thoughts on deep and meaningful topics – although it's a very useful aid for both. A journal is also a convenient tool to record your plans, to-do lists and varieties of vegetables. Many growers often find themselves frustrated when they learn about an interesting vegetable variety and then forget what it was called, your journal is a helpful place to capture ideas.

It serves as a reminder of accomplishments and mistakes

Success with growing your own is largely about understanding what you have to work with. This includes the soil on your plot, the weather and climate for your particular area and the types of crops you choose to grow. Keeping a journal enables you to record very specific information on these matters and allows you to celebrate what worked successfully and consider those which didn't turn out so well. It is a permanent record for you to utilise as you move from one growing season to another.

You can track progress

Using a journal to track your progress against initial plans and ambitions for the gardening season may be an obvious suggestion, but it's very powerful. After a short time doing this, you will see how you have done over weeks and months. If you keep a journal for a few years, it's a way of comparing progress on particular crops year on year too.

You can collect everything

You can put anything in your journal. It isn't just about words. Many journals have sketches and allotment plans, mind-maps for blog posts, quotes that the owner has come across and articles and pictures they've cut out of magazines.

It helps you to think through plans and ideas

It's easy to jump on ideas for the allotment – where a bed will go and where to plant each of our crops. Sometimes we act without thinking these ideas through and later learn it was a mistake. The act of writing down our ideas and plans naturally helps us to think about them more critically because the mechanism of writing slows us down and enables us to pull together other matters before we implement the idea. The following templates provide you with a basic starting point for planning on paper that can be translated to the allotment itself when you are content with the layout and that you have fully considered all environmental aspects that may impact on your growing.

Also please remember that many jobs on an allotment may often require more than one pair of hands, perhaps a pulling of neighbouring plot holder resources can be of benefit here. The following is one example of a templates which can be used when deciding your layout. Please consider how you will work your beds, so they are accessible and do not lead you to trampling over them and compacting the soil.

Monthly to do's

Being organised on your plot will give you the best chance of success, doing jobs at the right time will ensure you are doing as much as you can, on the factors you can control, to provide you with a decent harvest. Your journal can also act as a reminder/planner for actions to take each month. There are many useful links and articles online as well as in your local library e.g. ⁽¹¹⁾ which offers tips for each month of the gardening calendar.

Garden design grid

There are various tools and templates which can be helpful for thinking through how you will use the space you have in your allotment. You can make up your own, measure your allotment space and make that into a grid. Perhaps using smaller pieces of paper to show where you plan to put a shed/trees etc means you can move it around on paper, before even having to put spade to ground. Be aware when doing this where the sun shines on your allotment and where there maybe shade. Using a compass can help you see which aspect your garden has.



There are many useful tools, tips and resources on the Scottish Allotments and Gardening Society's website ⁽¹²⁾ which you may find helpful to visit.

Getting your plot ready for growing

It maybe before you start you have to prepare your allotment for growing, you may need to:

1. Weed
2. Clear away where plants have overgrown
3. You may even need to remove trees or bushes which you don't want and were planted by previous plot holders. You may find members of the allotment association are willing to help if you ask them.
4. Trees, shrubs and other woody plants such as brambles are best cut down and dug out; woody waste can be shredded and composted. Before felling any trees, you must check with the relevant local authority officer to see if any trees on your plot are subject to any Tree Preservation Orders before felling. Failing to do so may lead to action being raised against you.
5. Vegetation can be buried during digging after removing the roots of perennial weeds such as bindweed, couch grass, ground elder and nettles. Do not compost these.
6. Smothering weeds with opaque mulches (carpet is not permitted) requires at least one growing season to work well. This can be an effective way of dealing with parts of a plot that are not intended to be planted for that season (it's easy to overdo it with a new allotment so take your time and don't worry if it takes several seasons to fully bring an overgrown plot into cultivation).
7. Growchapel aims to be an organic growing space, so chemical weed control is not permitted.
8. There aren't really shortcuts to weeding as if we don't remove every part of the weeds' roots, they will just pop back up again. Its why perhaps using a tiller to clear your allotment, it may save time initially BUT it chops the roots up, spreads them around the allotment and before you know it.....even more weeds. Weeding by hand initially takes time, but it saves time in the long run. To help stay on top of weeds, regularly, when its dry, hoe the ground as this brings any traces of the weeds to the surface. You can dispose of weeds in general waste or, where the allotments allow, burning them BUT don't add to cold composting bins please as they just take root again!



It is worth remembering, weeding is an ongoing task. Weed Identification is also really important The following link will be useful in helping to identify weeds and how to deal with them. ⁽¹³⁾

Please note any instances of Japanese Knotweed or Giant Hogweed on Glasgow City Council plots should be reported immediately to Glasgow City Council at land@glasgow.gov.uk or at by using the “Get in touch” option at the following link: <https://glasgow.gov.uk/article/19432/Japanese-Knotweed>

The Gardening Year in Weeds:

January

Dandelions, docks and creeping buttercup grip the soggy soil waiting for better weather. These dandelions are some of the first spring flowers and a good food source for emerging bees. Just pick the flowers off before they go to seed

February

Bright yellow Coltsfoot flowers may appear and fade before the leaves emerge. Keep removing perennial weeds and their roots.

March / April

Young shoots of nettles, ground elder and mustard garlic have a place in the kitchen, before you dig them out! The soil reservoir of seeds starts to germinate as the soil warms up; time to prepare seed beds for your own crops.

May

Horsetail makes its appearance from long, deep underground 'boot-lace' rhizomatous stems. It doesn't like well nourished and well cultivated soil, neither does it like constant picking; keep it from building up photosynthesised stores!

June

Bindweed will have entwined itself up any innocent stem towards the sun and will then produce its daily white trumpet flowers. Free your plants of this stranglehold, tracing the stems back to the white fleshy roots: remove all.

July

Burrs of Cleavers (Sticky Willie) sticking to your clothes is a late reminder to remove as much of this fast smothering annual as possible before the seeds ripen.

August

Dock seed heads if left to ripen will typically populate you and your neighbours plots with a further 60,000 plants! Probably best removed ASAP for world peace...

September

Left unchecked, Chickweed soon forms a carpet over beds which is both edible and a useful winter covering for the soil; catch it before it seeds in early Spring

October

The last of the hangers on are still visible. It's a good time to remove couch grass root. A therapeutic exercise chasing the root to its end in one piece – very satisfying! The roots of all perennial weeds can be 'drowned' before composting; the water is great on fruit trees and bushes.

November/ December

A covering of annual weeds (though green manure is better) can provide useful protection to otherwise bare soil from winter wind & rain. Add them to the compost bin in early spring.



Non-chemical (Cultural) Control Methods

For growers who wish to grow organically, non-chemical or cultural control methods will be required to manage your plot without using chemicals. We will start with weed control, cultural controls can apply to pest and disease management also.

Cultural control methods for weeds include the following:

Manual removal and cutting back

- Hoeing
- Hand pulling or hand weeding with a fork
- Weeding knife
- Repeated cutting back
- Flame gun

Weed barriers

- Mulching
- Edging boards or strips
- Root barriers

And weed suppressant fabrics

Such cultural controls will not be a one-off fix and will need repeated as weeds grow. Further information on cultural controls for weeds can be found at the following link ⁽¹⁴⁾



Familiarising yourself with your allotment

When you have your allotment cleared and are now thinking about what you are going to do with it and have a sense of some of the ongoing maintenance, take some time to get to know it. By now you may have found out where the toilet and composter and communal storage sheds are. However, you may also want to think about:

- Any limitations which, for instance, prevents fruit tree planting or the erection of structures such as greenhouses, polytunnels or sheds, and if there are problems such as theft and vandalism.
- How strong does the sun hit your plot, what direction is it facing.
- What is the wind like where your plot is and what impact that may have on your plans to grow/support young plants?
- What is your soil type? Maybe speak to other plot holders, also be aware of crop rotation as vegetables can take different nutrients from the soil so where you put your tatties one year, may not be where you plant them in your allotment the next.





Becoming aware of the type of soil in your allotment

Take a soil test to find out the soil pH and whether it is lacking in any nutrients. This will help plan any lime or fertiliser application. Learn about your soil type. One easy way to do this is to scoop up a bit of damp soil and roll it in your hands:

Sandy soil

- feels dry and gritty and it won't roll into a ball if you try to form one.
- Sandy soil water can soak right through, and your plants may struggle to get their roots down far enough for a good drink

Clay soil

- feels sticky and will easily roll into a ball.
- Clay soil drains slowly but can be heavy to work with
- and in spring remain colder for longer as it holds onto water

Silty soil

- won't form a ball when you roll it and feels almost 'soapy'
- it can wash away in heavy rain and be eroded by strong winds

Loam soil

- is great for gardening, it forms a smooth, wee bit gritty, wee bit sticky, ball if you roll it in your hand and crumbles easily.
- Loam is a balance of sand, clay and silty soil. It helps retain water while allowing drainage and room for air to move down to your plant's roots

Don't worry, whatever soil type you have, there are things you can do which can help make it work for you and the plants you have to grow. Speak to the allotment association committee for more information on working your soil. There are many advantages of being an allotment member and sharing knowledge is just one of them. You may also find this planet natural website site helpful.⁽³⁴⁾

Soil Make Up/Profile

Soil is a many varied things and understanding its components and make up is essential. You may find different soil types within the boundaries of your plot and being able to remediate the soil effectively will help you grow successfully. Please remember that “soil make up” indicates the “soil type” Remember, we can have the fanciest tools, greatest plants, amazing seeds, super shed BUT without good soil, we will struggle to find anything grows well. For plants to thrive they need good soil, which can also help prevent problems with insects and disease. Soil itself is a living ecosystem of fungi, bacteria worms! All of this is needed for our allotments to thrive. It’s rare we have perfect soil, but understanding our soils make up and profile can help us make the most of the land we have to care for. We don’t just care for the soil for ourselves, but for the generations to come.



How do we find out what particles, and in what amounts, make up our soils?

To find out, you will need to do a jar settlement test (or mudshakes if you prefer) for which you will need a clean jar with a lid, some water, a trowel and spade and somewhere to put the jar where it won't be disturbed.

1. Use the spade to cut through any layer of grass on the surface and pull it back enough to allow access to the soil below.
2. Take your trowel and scoop out some soil (no more than half the volume of the jar).
3. Drop the soil into the jar
4. Add the water leaving around an inch of space in the jar.
5. Put the lid securely back on the jar and shake it vigorously.
6. Leave it on a flat surface and leave it to settle undisturbed for a day or two at most. The various particles will settle in the jar and you should see something similar to the image on the next page.

Jar testing for soil type



Due to difference in particle sizes of the clay (small), silt (medium) and sand (large) you should have 3 distinct bands. You may also have some organic material which floats on the surface or remains suspended above the clay layer in the water. Your soil type will be determined by the percentage of each particle size within the jar as shown above.

The more we know about our soil, the easier it becomes to plan our layout and what we can plant that will do well. Some plants prefer slightly acidic or slightly alkaline soil where they can flourish. Putting a calcium loving plant in an acidic soil will affect how well the plant grows or the volume of crop it yields, similarly trying to grow a plant that prefers an acidic soil in alkaline ground will provide disappointing results.



A pH and nutrient test will also allow you to decide which type of fertilisers may be required to be added to the soil, dependant on the results of the nutrient test. These test kits can be purchased from most garden centres and some DIY stores.

Some growing practices can improve soil fertility, with no chemical nutrient inputs by harnessing the benefits gained naturally from deep-rooted plants. These deep-rooted plants are grown alongside a plot and cut before the end of the growing season to be left on the ground to be broken down by soil organisms. These deep-rooted plants draw up nutrients from deep within the soil profile (that are out of reach of standard fruit and veg varieties) and make these nutrients available within the soil once again.

A layer of well-rotted wood chips (rotted for at least 3-5 years old) is added to the area with the cut plants and then cultivated into the soil.

This improves soil fertility, increases the number of beneficial insects which naturally control pests, and avoids any chance of run off (excess fertilisers being leached into the water table and eventually water courses) which can lead to algal blooms within watercourses suffocating the naturally occurring life in the watercourse.

- Clay soils are heavy, high in nutrients, wet and cold in winter and baked dry in summer
- Sandy soils are light, dry, warm, low in nutrients and often acidic
- Silt soils are fertile, light but moisture-retentive, and easily compacted
- Loams are mixtures of clay, sand and silt that avoid the extremes of each type
- Peat soils are very high in organic matter and moisture
- Chalky soils are very alkaline and may be light or heavy

QUICK FACTS





Nutrition and Feeding

Like any other living organism, plants require to take in nutrients to stay healthy. Much of the nutrients a plant requires will be drawn from its surrounding environment. When a plant is not thriving despite your efforts in preparing the soil correctly, watering and mulching, it can be a sign that the soil or compost is lacking in nutrients. Other factors such as waterlogged soil, very dry soil, the soil being too alkaline or acidic can also affect a plant's ability to take up nutrients from the soil.

Fruit and vegetables can be particularly susceptible to all the above and so you will need an understanding of how nutrient deficiencies occur, what this looks like in a plant and how to rectify it.

In horticulture we speak about macronutrients and micronutrients which simply means plants need large amounts of macronutrients and small amounts of micronutrients. These are essentially minerals that the plant requires to maintain healthy growth, produce flowers, fruits and seeds and maintain healthy root and shoot growth.

Macronutrients are:

- **Nitrogen (N)** which promotes green leafy growth
- **Potassium (K)** which controls water uptake by the plant and photosynthesis, it is also required for flowering, fruiting and general hardiness.
- **Phosphorous (P)** which is required for healthy root and shoot growth. While rare in soil it can occur in heavy clay soils and areas with high rainfall.

Micronutrients are:

- **Magnesium (Mg)**
- **Manganese (Mn) and Iron (Fe)**
- **Molybdenum (Mo)**
- **Boron (B)**
- **Calcium (Ca)**

Information on symptoms and remedies

Deficient in	Symptoms	Remedy
Nitrogen	Spindly yellow plants or yellow leaves, sometimes with pink tints.	In the long term, mulching with organic matter (such as well rotted garden compost or manure) provides a steady trickle of nitrogen to stabilise levels. In the short term, applying high nitrogen fertilisers such as sulphate of ammonia or poultry manure pellets will remedy the problem.
Potassium	Yellow or purple leaf tint with browning at the leaf edge and poor flowering or fruiting.	Apply high potassium fertilisers such as sulphate of potash, tomato feed or certain organic potassium sources derived from sugar beet processing.
Phosphorous	Slow growth and dull yellow foliage	Apply fertilisers such as superphosphate or bone meal.
Magnesium	Yellowing between the leaf veins, sometimes with reddish brown tints and early leaf fall.	In the short term, apply Epsom salts as a foliar feed in summer. Dilute the salts at a rate of 20g of Epsom salts per litre of water (1/3oz per pint) plus a few drops of liquid detergent. Apply two or three times at fortnightly intervals, spraying in dull weather to avoid leaf scorch. In the long term apply to the soil around the roots either Dolomite limestone (calcium-magnesium carbonate) at 100g per sq m (4oz per sq yd) or Epsom salts (magnesium sulphate) at 30g per sq m (1oz per sq yd)
Manganese and Iron	Yellowing between the leaf veins with browning of leaf edges on acid-loving plants	Apply chelated iron and manganese treatments, such as Sequestrene, to the soil around the plant roots.
Molybdenum	Elongated twisted leaves on cauliflowers or other brassicas growing in alkaline soil.	Liming the soil will help in the long term, as making the soil more alkaline will help to make the molybdenum more available.
Boron	Stunted growth and tip dieback on lettuce, brown cracks in celery; rotten swedes, turnips and celeriac; dimples in pears with brown patches underneath	Applying borax (disodium tetraborate) to the soil before sowing vegetables or as a foliar spray feed applied to pear trees. Soil application rates for borax are: 35g per 20 sq m (1oz per 20 sq yd). Mix well with a large quantity of light sand before spreading so that the chemical is evenly distributed. Foliar spray application rates for borax are: 70g borax in 22-litres water (2½oz in 5 gallons), plus a few drops of detergent to act as a wetting agent, sprayed at petal fall.

Information on symptoms and remedies

Deficient in	Symptoms	Remedy
Calcium	New growth at the leaf tips and margins begins to wither and die back, and the new leaves are often deformed. Appears as blossom end rot on tomatoes and peppers and oval spots leading to cavities in carrots and as browning in brassicas	Liming the soil and adding organic matter will help make calcium available to the plant.





Earth worms, the gardener's friend

No conversation around soil would be complete without mention of the unsung hero of soil, the worm family.

Charles Darwin said of the worm: *“The plough is one of the most ancient and most valuable of man’s inventions, but, long before he existed, the land was in fact regularly ploughed, and still continues to be ploughed by earthworms. It may be doubted whether there are many other animals which have played so important a part in the history of the world as have these lowly organised creatures”*

Why earth worms matter

By their activity in the soil, earthworms offer many benefits: increased nutrient availability, better drainage, and a more stable soil structure, all of which help improve farm productivity.

Improved drainage

The extensive channelling and burrowing by earthworms loosens and aerates the soil and improves soil drainage. Soils with earthworms drain up to 10 times faster than soils without earthworms. In zero-till soils, where worm populations are high, water infiltration can be up to 6 times greater than in cultivated soils. Earthworm tunnels also act, under the influence of rain, irrigation and gravity, as passageways for lime and other material.

Improved soil structure

Earthworm casts (the squiggly pile of soil left behind by the worm) cement soil particles together in water-stable aggregates. These can store moisture without dispersing. Research has shown that earthworms which leave their casts on the soil surface rebuild topsoil. In favourable conditions they can bring up about 50 tonnes/hectare annually, enough to form a layer 5 mm deep. One trial found worms built an 18-cm thick topsoil in 30 years.

How to encourage earthworms

Earthworms do not like soil that is too acid, alkaline, dry, wet, hot or cold, their presence is a good indicator of soil conditions suitable for plant growth. **Ensure soil pH is above 4.5.**

Earthworms do not like acid soils with pH less than 4.5. The addition of lime raises pH and adds calcium. Earthworms need a continuous supply of calcium, so are absent in soils low in this element. South Australian research found that earthworm numbers doubled when pH rose from 4.1 to 6.7.

Increase organic matter

Earthworms feed on soil and dead or decaying plant remains, including straw, leaf litter and dead roots. They are the principal agents in mixing dead surface litter with the soil, making the litter more accessible to decomposition by soil micro-organisms. Animal dung is also an attractive food for many species of earthworms. The following practices provide food for earthworms.

Green manure crops

Green manure crops are fodder crops turned into the soil to provide organic matter to benefit the following crop. The crops are grazed or slashed, sometimes pulverised, and then left on the surface or turned into the soil.

Reduce use of some fertilisers and fungicides

Highly acidifying fertilisers and some fungicides reduce worm numbers.

Keep soil moist

Worms can lose 20% of their body weight each day in mucus and castings, they need moisture to stay alive. Groundcover such as mulching or green manures reduces moisture evaporation. Decaying organic matter (humus) holds moisture in the soil. In dry times some species burrow deep into the soil and are inactive until rain 'reactivates' them.

Improve drainage

Worms need reasonably aerated soil, you may need to drain or mound soil in wetter areas to prevent waterlogging.

Reduce soil compaction

It is difficult for earthworms to move through heavily compacted soil, do not work wet soil or to a minimum in wet conditions.

Reduce cultivation

Ploughing soil reduces earthworm numbers. Researchers have found that after four years, zero-tilled ground had twice as many worms as deeply cultivated soils. However, shallow cultivation may not affect worm numbers.

Protect from weather extremes

Earthworms are intolerant of drought and frost, and do not like dry sandy soils. They are active only when the soil is moist, are inactive when it is dry. Organic matter cover helps reduce the effect of climatic extremes and retains soil moisture.



Soil Preparation/Growing Mediums

It's often repeated that if you ask 3 gardeners a question, you'll get 6 different answers (at least). Many topics in horticulture are hotly debated, and rightly so, how else do we learn? Our purpose in developing this handbook is not to offer any preference to any chosen practice, you'll all be capable of reaching your own decisions; it is to provide information and signposting for growers to further information to support them in making such choices.

In this section we will look at the subjects which will introduce you to several terms, some which you may not be familiar with, others you may already know and some you may already be practicing. Hopefully after reading this you'll be better informed and keen to put this knowledge to good use.

Cultivation can be described as “the act of preparing land and growing crops on it”

Primary Cultivation

This involves operations, in our case digging, which cut and shatter the soil with relatively deep penetrating tools (a spade) 15 cm to 75 cm and leave a rough surface texture. This is normally done in autumn with the soil turned to the elements over the winter. It has the benefit of exposing some pests which will happily be eaten by many birds and allowing frost to work the soil improving the crumb structure over the winter.

Avoid carrying out primary cultivation (or any cultivation for that matter) on wet ground as this will lead to soil compaction where the soil becomes squashed together excluding air and water. Generally, if the soil sticks to your boots, it's too wet to work.

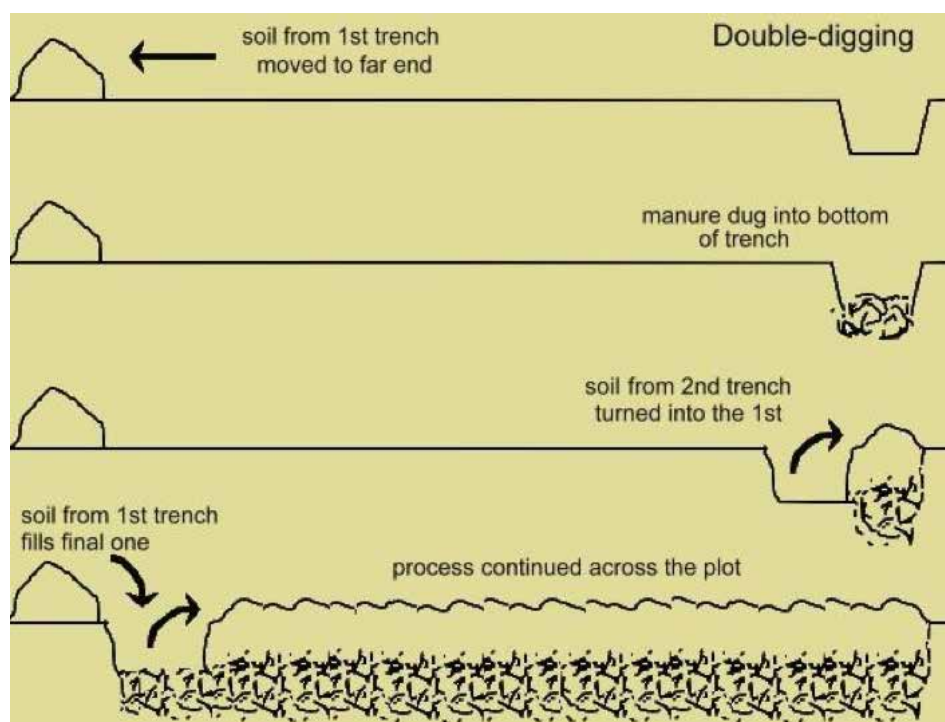
Compaction can be avoided by the use of narrow strip beds easily accessible from paths or where this isn't possible (why not, didn't you consider this when planning your plot layout?) can be alleviated by using boards which will distribute your weight over a wider surface area minimising soil compaction.

Secondary Cultivation

Secondary cultivation involves operations that work, level, and firm the top 5 cm to 15 cm of soil. Secondary cultivation is often carried out to produce a fine seedbed or planting bed, ready for sowing seed or planting. It usually involves actions such as: hoeing, raking, levelling, fertilising and mulching. This is normally carried out in the spring as the soil begins to warm up. The same care should be taken not to work a wet soil as in primary cultivation. A considered plot layout design can go a long way to ensuring the soil you grow in is as healthy as you can support it to be.

Double digging

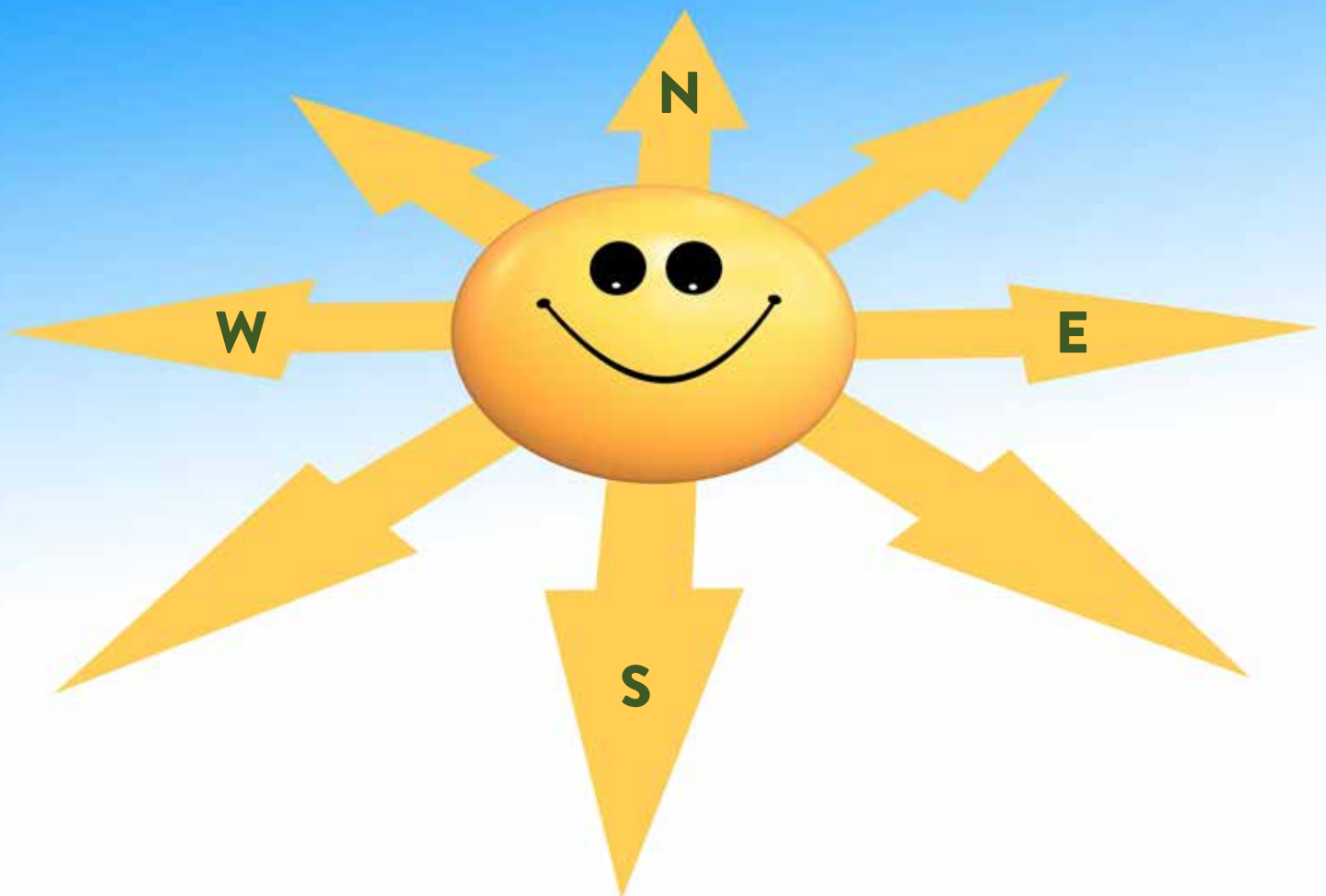
Double digging is a gardening technique used to increase soil drainage and aeration. It involves the loosening of two layers of soil, and the addition of organic matter. Double digging is typically done when cultivating soil in a new garden, or when deep topsoil is required. On poor or heavy soils, or for vegetable gardens, double digging might be required every 3–5 years. Using a wheelbarrow to move the soil. The techniques are shown in the following image. You may find this video on double digging of interest ⁽¹⁵⁾



Aspect - This essentially means the direction your site faces

As direction will have an impact on what you can grow and where you can grow it, understanding your site's aspect is critically important to your chance of successful growing; it is also linked to daylight hours and sun movement.

For example, as the sun rises in the east and sets in the west, a westerly facing site will get later afternoon sun than an easterly facing site but may take a little longer to warm up through the day. A site facing south will get more all-day sun than a northerly facing site. You can determine this simply by understanding where North would be in relation to your plot. The following diagram gives an indication of the above and the related sun movement.





Water shedding and drainage – How water moves through your plot

After a rain drop or snowflake falls on your plot, it may infiltrate the soil, or it may run over the land surface to a low spot in the land (which in the natural environment would be a body of water such as a loch, burn, river or bog.)

Drainage is simply how quickly the water will move through the soil type you have. Some soils drain better than others and many fruit, vegetables, flowers and herbs do not thrive in areas of high water -table or poor drainage. If your plot is at the bottom of a hill or valley, you may find yourself subject to more water shedding than a plot in a flat area. Plots close to rivers can have a higher water table than other plots.

Ensuring you understand your soil type will also improve your understanding of how water will move through your plot and will determine any steps you can take to improve this should improvements be needed.

When initially assessing your site, have a look at what's growing. Some plants where present, suggest that drainage could be improved. If the plot has the following growing, it may be an indicator you will need to improve the soil. Creeping buttercup, sedges, reeds, rushes, brooklime, flag iris would all suggest drainage could be improved. Areas of standing water that only disappear through evaporation tell us the soil needs improved also.

A percolation test is simple to carry out and will give a better idea of the drainage capability of your plot. Here's how to carry out this test:

How to perform a percolation test in your garden soil

- Dig 1-foot by 1-foot holes in several places on your planting site.
- Let the soil dry out for a few days.
- Cover the holes to keep water out (and to make sure no one — human or beast — falls in).
- After the holes dry out, fill them with water and determine how long the holes take to drain completely.
- Use a timer so you don't forget what time you started. Then use the following list to determine your soil's likely drainage pattern:
- If the water drains out within 10 minutes of filling it, the soil drains too well. It will probably dry out too fast for most plants.
- If the water drains out within 30 minutes of filling it, the soil is still draining fast, but it's probably okay for plants that like well-drained soils.
- If the water drains within 30 minutes to 4 hours of filling it, you have ideal drainage. Most plants thrive in this type of drainage situation.
- If the water takes longer than 4 hours to drain, the soil is poorly drained and probably won't be good for most plants. You may wish to consider raised beds or digging field drains.



Shade/Sun Movement

Some plants will tolerate shade better than others and provide a harvest. Most of vegetables, fruit, herbs and flowers however will require lighter conditions to provide a harvest. Understanding how the sun moves across your plot and what will create shade will help you plan your plot layout (see Section 2 Planning) more effectively. The obvious causes of shade are trees, shrubs, buildings and structures. You should consider all these when developing your plot layout.

Trees will outcompete other plants for available nutrients, water and soil oxygen and this should be borne in mind when planning your layout but will also provide a buffer from winds.

Walls and buildings can provide sheltered growing spaces and act as “heat banks” (particularly east facing walls) slowly releasing heat captured from the sun during the day back into the environment at night. They can however also cause winds to vortex which can damage plants.

Tracking the sun’s movement and measuring daylight hours across your site can be as easy as putting a stick in the ground on a sunny day and watching how the shade created by the stick develops and moves through the day and taking a note of the time it takes to do so.





Frost Pockets

Understanding frost pockets will influence your plot layout. As cold air is heavier than warm air, it naturally seeks to move to the lowest point of a plot. It would be wise not to plant fruit trees/bushes at the lowest point of your plot as their emerging flowers will be damaged by frost and without flowers there is no fruit.

It's worth noting however that some brassica's and root crops flavour improves when they have been subject to a frost due to naturally occurring sugars providing almost an anti-freeze effect within the plant.

Planning your allotment layout

Even before you get your allotment you can begin to think about how you would lay one out. If you are on a waiting list for an allotment, take it as an opportunity to prepare for having an allotment. There is so much information available on growing on the internet through instructional videos, blogs, and dedicated websites and there is always the library for those who prefer to read from a book.

Please remember there is nothing stopping you from practicing at home in preparation for the day when you have an allotment. For example, you could start your seeds off on a south facing windowsill, or have you thought of turning some of your own garden over to growing, where you don't have access to a garden, do you have a balcony which you could use for growing in pots?

It can be of value to speak with current plot holders in your area, learning from their experience on what has worked well for them, things they wouldn't do again, does the site operate collective/co-operative purchasing, or are there any restrictions on what can be grown on site etc.

Check with your local authority if they provide or signpost to any training that may be useful in getting started. Some local colleges provide an introductory course to horticulture, please remember there may be a cost for this service.

Permanent features in your allotment

When thinking about your allotment layout, consider some actions you take may commit that part of the allotment for a long time. Fruit trees can live for decades, fruit bushes again, are long term features which may require cages and netting. Start with those which you don't plan to move any time soon as if you change your mind and try to replant them, you may find these impacts on their development.

Fruit Cages/ Brassica Cages

These are used to protect your fruit bushes/ brassicas from hungry birds. You can either drape netting over the bush or build a simple frame around the plants and attach your netting. These shouldn't require any permission as the cage should not exceed the size of the fruit bush too greatly.

Sheds

If putting up a shed is allowed, then this also needs to be done early in your allotment development so you know how much room it will take up, where you plan to put it e.g., in a back corner where the shadow it casts may have less impact on your plants. Usually, a shed measuring no more than 4.32 square metres (8ft x 6ft) should be sufficient for use on an allotment plot. Securing them with a padlock or d-lock is highly recommended, as is securing any equipment left inside them. The walls of a shed can form micro-climates, providing the ideal position for cold frames or mini greenhouses, warming up the air and helping seeds to germinate quicker.

Sheds are not meant to be slept in overnight, have running water or electricity. They are shelters from the elements and spaces in which to keep your tools. To ensure you are not breaching local planning guidance, ensure you have written permission from the landowner before erecting any shed, polytunnel, fruit cage or greenhouse on an allotment.



Water

Plants need water, so knowing where your source of water is, or if you don't have one near your plot means you may consider installing a water butt. Adding guttering to your shed connected to a water butt is an excellent way of harvesting rainwater.

Compost bin

The back of the plot is also a good place for the compost bin. Have a mini compost bin at home and bring it to the allotment as kitchen and garden waste can be turned into excellent fertiliser for the soil, good for your pocket as saves money, good for the environment as saves waste. Check out ⁽¹⁶⁾ for ideas on building a compost bin.



Greenhouses

Can either be made of plastic or glass. Generally, glass offers better growing conditions however some tenancy agreements do not support the use of glass on sites, it is advisable to check your agreement before purchasing any such structure. Depending on the greenhouse's structure, it may require a firm base (slabs on a compacted sand/grit base or sleepers on open ground) and as such you will require written permission from the landlord. Like the sheds, guttering and a water butt make an excellent addition to your greenhouse, providing free water for your crops.

Polytunnels

Are easy to acquire and erect. Usually made from UVI polythene stretched over a frame. Polytunnels can suffer from condensation so good ventilation is essential. Please check with your Local Authority regarding consent, and you may need to talk to your local Planning Authority. Consider whether you will remove and replace the skin at the end of each growing season to avoid damage to the skin. Be aware Polytunnels can reflect light so be aware of any impact on the houses near the allotments and perhaps explore cover which is less reflective.



Cold frames/ Cloches

Offer an alternative to greenhouses and polytunnels. They are inexpensive and require no permission. They do not protect from the frost, however they are useful for hardening off seedlings or using year-round to grow salad crops. If you recycle you can build your own cold frame out of an old window frame and some wooden planks. A cloche is a mini, portable structure that is placed over a young plant (or row of plants) to help bring them on. Often you will see old plastic bottles being used as cloches – to make one, just cut the bottom of an old bottle and stick it over the plant and into the ground.

The Growing Year

With the weather often being unpredictable it can be hard to describe what a growing year can look like, due to late frosts, very warm summers. It is worth finding out about the growing calendars for your allotments. You may also find this link to the Old Farmer's Almanac for Scotland of interest ⁽¹⁷⁾. The following offers an idea of the general calendar for fruits, vegetables and herbs.

General Calendar (Vegetables)

This link includes information on when to sow, plant out, feed, water, mulching, soiling up etc. ⁽¹⁸⁾

General Calendar (Fruit)

A simple and easy to use guide for planning your fruit growing (although the apricot may require further specialist adaptations for Glasgow). ⁽¹⁹⁾

General Calendar (Herbs)

Again, another easy-to-use guide is on the Garden Action website for herbs with an indication of how difficult it may be to grow each herb. Star Anise is frost tender so will need specialist adaptation to grow successfully in Glasgow. ⁽²⁰⁾



Preparing the seed bed

Soil need be only forked to a relatively shallow depth. If it is a new bed (i.e. never previously used to grow plants), the bed will need to be dug and prepared as with any new bed.

If plants have previously been grown on the bed, the preparation required is much less as the soil will have been broken up and most stones removed.

The biggest challenge to any grower is to decide when the soil is suitable for working - not too dry and not too wet. This depends to some extent on the type of soil, a clay soil can turn from a sticky mass to hard as rock very quickly. Choosing the right time is one of the hardest choices, especially for new growers - it is largely a matter of experience with the particular soil type in the garden.

Assuming the seed bed is established, the likelihood is that there will be some seedlings in it when you come to prepare it for a new sowing, so any preparation will just apply to the area you require and care must be taken to avoid disturbing the existing seedlings. To prepare for a new sowing:

- **Lightly fork over, or hoe, the top 5 to 7.5cm (2 to 3 inches) of the bed. If the bed has not been used for some time, or the soil is very wet, it may be necessary to leave the soil for a day or two to dry out.**
- **When the soil is dry enough for it to freely break up, rake the surface back and forth to give a suitable tilth - some clods may need a hit with the back of the rake or even breaking up by hand. Larger seeds generally benefit for a rather coarse tilth while fine seeds need a fine tilth.**
- **As you rake back and forth, remove any stones, weeds or other vegetation. Keep raking to get the surface fairly level.**

Using a seed bed

Once the seed bed is ready, choose a day when the soil is moist and little wind to plant your seeds.

Normally a 'drill' (or number of drills) is created on the surface of the seed bed - a drill is a shallow depression into the bottom of which seeds are sown. The drill can be formed either by pulling a hoe or a gardening trowel (backwards) through the surface of the prepared bed with the earth pulled to the sides, the depth required varies from seed to seed. A line stretched above the soil before drills are made will help keep them straight.

The way the seeds are sown along the bottom of the drills will depend upon the seed been planted, typically one of three variations will be specified:

- **Very thinly - 2.5cm (1 inch) between seeds.**
- **Thinly - 1.2cm (½ inch) between seeds.**
- **At stations - several seeds together at given spacing.**

Check on the seed packet or refer to your calendar to determine the appropriate spacing for particular vegetables. Using more seeds than necessary will waste seeds and cause extra thinning later.



Once the seeds have been sown, they are normally covered by pulling the back of a rake or hoe over the surface of the bed to fill the drills.

Identify the drill and the seeds sown by inserting a short stick at each end of each drill and attaching a waterproof label with the name of the plant marked on it.

Stretching a line between the end sticks above each drill will help keep birds off the seeds and young seedlings. Watch out for other pests - for example slugs; young plants are tender and will provide a good meal for several pests.

Planting and growing

Successful growing begins with successful sowing. Prior to sowing you should consider weather conditions, location and soil condition. As long as the soil is warm and moist, seed can be sown and it will germinate quickly. In practice, this usually means when the threat of the last frost has passed, usually late May/early June in Scotland, and before the first frost returns, usually late summer (September), although due to the shorter growing season in Scotland it is advisable to start early by utilising propagators, greenhouses or if you do not have access to such equipment, a south facing window sill can offer an alternative.

If you can provide the crop with protection, such as cloches or fleece, direct (into the ground) sowing can begin earlier than would normally be recommended providing the soil is warm and moist.

The following link provides further information on sowing outdoors although some dates may need to be revised (using your calendar⁽²¹⁾)

You can sow seeds, sets or tubers. These may be unfamiliar terms, a brief description is provided below.

Essentially **seeds** are the unit of reproduction of flowering plants capable of developing into another such plant or if you prefer, they are an embryonic plant clothed in a protective outer covering.

A **set** is essentially a small bulb, e.g. onions/shallots that is planted to produce an earlier cropping plant.

Tubers are a thickened underground part of a stem or rhizome, e.g. in the potato, serving as a food reserve and bearing buds from which new plants arise.

Another increasingly popular and time saving method is to grow from **plug plants**. These are young plants that have been germinated and grown on in a nursery and purchased to be planted generally into their final location. This can remove the need for a seed bed from your plot but are more expensive to buy than seed, nor do you learn how to sow seed and enjoy the satisfaction of nurturing a plant through its life stages from seed to crop before harvesting. Again, the choice would be down to the individual.

Prior to sowing directly, you should refer to your site assessment notes to determine what seeds should be started where and if these are the final location for each plant. You should also consider orientating your sowing, so each variety has access to the best conditions for them to grow well e.g. avoid frost pockets for planting fruit, sow carrots in an area with the lightest free draining soils, plant across a sloping ground rather than up and down the slope etc.

Propagation

Plant propagation is the process which grows new plants from a variety of sources: seeds, cuttings, and other plant parts. Plant propagation can also refer to the man-made or natural dispersal of seeds.

Much of your propagation may be done indoors (greenhouse, polytunnel, potting shed, south facing windowsill) or undercover outdoors (under fleece, bell cloche or tunnel cloche, or cold frames).

Putting some time into planning your propagation can ensure you are not producing gluts (too much of a crop that needs harvested at one time), provides back up if you have poor germination or if seedlings suffer damping off (a disease or condition, caused by several different pathogens that kill or weaken seeds or seedlings before or after they germinate. It occurs most commonly in wet and cool conditions) and allows successional (or succession or successive) planting.

This can also be known as a catch crop which is a quick maturing crop that can be planted between the harvesting of one crop and the maturation of another or in a piece of land lying empty or where a crop has failed.

Successional planting is a way to extend your harvest by staggering plantings of crops or planting varieties with staggered maturing dates. There are four methods of succession planting.



Different vegetables in succession

Some crops, such as peas, have short growing seasons and the space they were using can be replanted with a later season crop, like swiss chard. The best vegetables for succession plantings include: basil, beans (pole), beetroots, broccoli, carrots, chicory, cilantro, dill, endive, green onions, kale, kohlrabi, lettuce, mustard, pak choi, radish, rutabaga, spinach, swiss chard, and turnips.

Paired vegetables in the same spot

Often you can seed the early season vegetable at the same time you are planting. Intercropping, or pairing up plants, is an excellent way to squeeze even more productivity from your plot.

Same Vegetable, Different Maturity Rates

An easy way to keep your harvest coming in is to choose more than one variety of a crop and make them early, mid, and late-season varieties. Sometimes the seed packet will be labelled as such, and sometimes you will just have to read the “days to maturity” number, vegetables to sow with different maturity dates include beans (pole), broccoli, Brussel sprouts, cabbage, carrots, cauliflower, celeriac/celery, collards, corn, kale, peas, squash, and tomatoes.

Same Vegetable, Staggered Plantings

Space out plantings of the same vegetable every two to four weeks. Many vegetables fade after producing their initial crop, setting a heavy yield initially, then smaller and smaller yields throughout the summer. Rather than planting your entire row of beans all at once and having feast or famine, you can plant part of the row at the beginning of the season and then plant more in about two to four weeks. A new crop will continually sprout. As the first plants start to flag, you can replant that area with beans or use it for a different crop.

Tips for Successful Succession Planting

Make sure you have enough seed to get you through the season.

Add some compost or leaf mould to the beds, between plantings, to keep the soil rich.

Don't hesitate to pull out vegetables past their prime. Use them while they are at their best and then use the space for something else. <https://www.thespruce.com/succession-planting-1403366>

Seed Sowing

Now we have covered ideas around planning and succession, we will return to sowing seed for germination (the process of a seed starting to grow, or the act of causing a seed to start growing).

Due to climatic conditions in Scotland, most of our sowing will be carried out indoors to encourage germination before thinning out (The act of thinning out seedlings produces healthier plants and higher yields by allowing room for proper growth. It also reduces competition for water and nutrients from nearby plants. It allows for good air circulation between plants leading to stronger healthier plants).

Pricking out (A technique of moving seedlings from where they germinated and spacing them in pots or trays)
Potting on (A technique of moving a plant in a small pot/modular seed tray into a larger pot to encourage stronger roots).

Before hardening off (the act of moving plants outdoors for specific lengths of time so they become acclimatised to the sunlight, temperature, dry air, and colder nights) at later date.

Transplanting

This is the act of transferring the plant from a pot to the soil into final positions in the plot. Ensure your transplanting is carried out on dry day with light or no winds as the plant will suffer shock from transplanting. Make sure that you water you plant in well after transplanting to minimise the risk of shock.

Most small seeds can be started in a seed tray with bigger seeds starting in a modular plug tray. Always sow your seeds specifically in a seed compost which has a fine grade and contains few nutrients which could damage the seed in a higher concentration. Very small seeds can be mixed with a fine sand and scattered over a seed tray.

Generally seeds should be planted to twice the depth of the size of the seed e.g. if a seed is 5mm it should be planted in a drill (trench in seed tray, or soil for planting seeds) 10mm deep and backfilled with growing medium. Using a cold frame is ideal for hardening off plants providing the lid is open during the day. It also frees up space in your greenhouse, potting shed or polytunnel for later cropping seeds to be started off. Some seeds are even happy to germinate in a cold frame as it provides a warmer environment than if you were to sow directly into soil. This can allow you a head start and have vigorous young plants ready to be planted when the soil warms up.

Greenhouses, potting sheds, polytunnels and south facing windows are also ideal for starting off seeds due to a higher and more consistent ambient temperature than outdoors. Ensure that there is good air flow within these structures and they do not become too humid as this can hasten damping off.

The following link provides more information around seed sowing and thinning seeds out ⁽²²⁾

Alternative Growing Techniques

As mentioned earlier in this section, this guide is to provide information and advice; how you wish to grow will be down to you to decide based on all information available to you.

While many growers will seek to follow horticultural practices derived from thousands of years of practice, alternative growing methods are also gaining traction across the world. These alternative practices are often referred to under the catch all title of permaculture which covers techniques from no dig formats to food forest, hugelkulture and others.

Many growers utilising alternative methods do so because they choose to employ natural processes with as little interference to the ecosystem as possible. Our research leads us to understand permaculture or permanent agriculture was initially developed by Australians Bill Mollison and David Holmgren in the 1970's, since when permaculture has spread wildly throughout the world. The term initially meant 'permanent agriculture', however it evolved to also represent 'permanent culture'. It is described as the ethical, scientific and synchronistic design of natural systems to ensure a sustainable philosophy of living. It also aims to facilitate abundance for the future of humanity by producing all the food and materials it needs on a local scale. At its core, permaculture is simply the collaboration of humans and nature in action.

This website on permaculture may be of interest. ⁽²³⁾



The aims of permaculture are described as “to create systems that are ecologically-sound and economically viable, which provide for their own needs, do not exploit or pollute, and are therefore sustainable in the long term” – Bill Mollison

Growing Medium

Growing mediums are materials that plants grow in. Growing mediums are specifically designed to support plant growth and can either be a solid or a liquid. Different components are blended to create homemade and commercial growing media. Different types of growing media are used to cultivate various plants.

This can cover every type of compost, nutrient gel, clay pumice (pellets), soil mixes, perlite or vermiculite to name a few. They are specifically chosen to provide the following 3 major functions:

- **Physically support plant growth**
- **Allow for maximum root growth**
- **Supply roots with necessities such as water, air, and nutrients**

Roots develop in pore spaces between the individual particles of the growing media. Water and air move through the pore spaces. Air is responsible for the health of soil microorganisms and is needed for root growth while water is needed to fuel plant growth. Microorganisms in the growing media help supply plants with nutrients necessary for their growth. Choice of growing medium will largely be dependent on the type of plants you wish to grow.

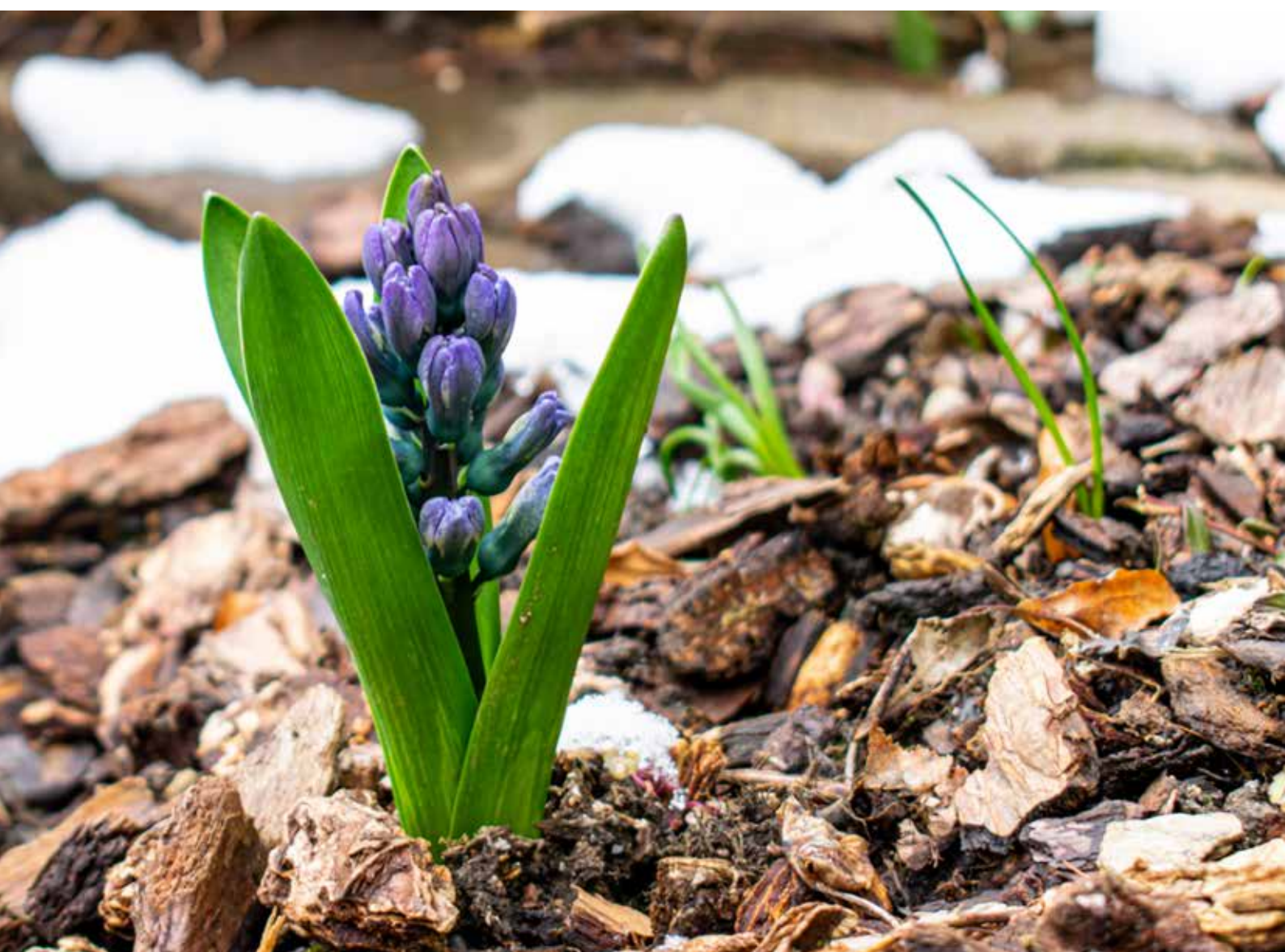


Mulch

Can be either a verb or noun. As a noun a mulch arises from the German language and refers to a soft material (such as decaying leaves, bark, compost, hay, straw, hemp) used to cover and insulate the soil.

As a verb it means to cover (with a mulch). Mulching provides several benefits such as:

- **Inhibits weed germination and growth. (Weeds compete for resources with desirable garden plants and can act as a vector for pest and disease.)**
- **Holds in soil moisture, protecting your plants from drying out quickly**
- **Moderates soil-temperature fluctuations (This benefit is especially valuable during that turbulent-weather period in spring when you don't want your plants to be stressed.)**
- **In cold-winter areas, protects plant roots from winter cold and helps prevent frost-heaving, in which plants are literally pushed out of the ground by the natural expansion and contraction of the soil as it cools off and heats up**
- **In hot-summer areas, helps keep plant roots cooler**
- **Depending on what you use, adds welcome nutrition to your garden as it breaks down**
- **Mulches also limit soil capping and reduce erosion of soil by wind and water.**





Green Manures

The purpose of a green manure crop varies depending on each situation but some of the benefits they offer are:

- **Increasing organic matter and soil humus.**
- **Increased Nitrogen fixation.**
- **Protection of the soil surface.**
- **Prevention of erosion.**
- **Maintaining or improving soil structure.**
- **Reduced susceptibility to leaching. (loss of nutrients through water moving through the soil)**
- **Access to unavailable nutrients from lower soil profile.**
- **Provide readily available nutrients to the next crop.**

The RHS describes green manures as “*fast-growing plants sown to cover bare soil. Often used in the vegetable garden, their foliage smothers weeds and their roots prevent soil erosion. When dug into the ground while still green, (this should be done before the crop flowers and sets seed) they return valuable nutrients to the soil and improve soil structure.*”

Further information on the use of green manures can be found at the following links⁽²⁴⁾:

Nutrient Teas

Plants enjoy a tea too. We brew the **tea**, strain out the solids and sediment, and drink the **tea**. Our bodies take up the **nutrients** we need, and the excess is flushed out in our elimination processes. A similar process takes place in the garden with the use of **natural fertilisers often called nutrient teas**.

These organic fertilisers can be made from perennial weeds (roots and all), nettles, comfrey, chickweed, to mention a few; even the waste product from making the teas can be safely composted.



Manures

Manure is the decomposed form of dead plants and animals (organic matter) which is applied to the soil to increase the production. It is a natural form of fertilizer and is cost-effective. Animal excreta usually mixed with straw or hay (use herbivore excreta only, meat eating animal excreta can cause issues) is also used as manure. The livestock manure is rich in nitrogen, phosphorus, and potassium.

Manure is highly rich in organic matter and humus and thus improves the soil fertility. These are better in the long run and do not cause any pollution. It is a valuable and renewable resource.

Advantages of Manure

- A good source of macronutrients (Nitrogen(N), potassium (K) and phosphorus (P)) which are essential for healthy plant, flower and fruit growth.
- Improves soil fertility.
- Reduces soil erosion and leaching.
- Improves the physical properties of the soil and aerates the soil.
- Improves the water and nutrient holding capacity of the soil.
- It helps in killing weeds and pests.
- Crops grown on the land treated with manure produces healthy crops.



What to be aware of with Manures

- Fresh manure on a plot can scorch plants; make sure it is well rotted (Fresh manure will generate heat as it breaks down and there may be visible steam rising from the heap. Well-rotted manure would not).
- Know where and who you are buying it from. Manure while hugely beneficial, can contain residual drugs used to treat livestock. These can damage soil life. If you are unsure, leave it in sunlight for around 6 weeks but not close to any water sources as the drugs can leach into these.
- Never use manure derived from meat eating animal faeces.
- It's often cheaper to purchase bulk loads, check if your allotment site buys collectively.
- Ensure you wear gloves and wash your hands after handling.

Compost

Compost is organic matter that has been decomposed in a process called composting. This process recycles various organic materials otherwise regarded as waste products and produces a soil conditioner. Compost can be made in several ways, from simply piling up old plant material, to using complicated plastic bins.

Basically, plant waste + moisture + warmth + air + micro-organisms + time = compost.

Plant waste is either 'green' (leaves, flowers, weeds, grass cuttings) or 'brown' (bark, stems, roots, hedge trimmings). Aim for a mix of both. Don't forget you can use kitchen waste and small-pet litter (hamster and gerbil - not cat and dog faeces!)

Micro-organisms (bacteria and fungi) either come in naturally from the soil underneath the heap or they are added in as a sprinkling of fresh soil every so often. They feed on the waste, breaking it down into hot compost. Don't put large quantities of the same waste in the heap together, particularly grass clippings. Instead, mix a variety of other waste. Ensure you stir it up to let the air in.

Compost heaps and bins benefit from being emptied and turned from time to time, so that the bits at the edges also rot down. Composting is an effective and free way of dealing with naturally occurring waste from your plot which in return provides an effective soil conditioner.

We have only touched on the basics of composting here. More detailed information can be found at the following link. ⁽²⁵⁾

Housekeeping

We really can't finish this section without discussing the importance of good housekeeping. It is important to ensure you always apply good housekeeping practices on your plot. In our understanding of housekeeping we include cleanliness and best practice under this term too.

Whether it be ensuring you have the right protective clothing, boots, gloves and goggles/eye protection when working around fruit trees/bushes or ensuring you keep your tools in an orderly, safe secured space to ensuring you leave your plot in a tidy safe state before leaving after each visit, housekeeping can save you a lot of time and trouble, some say it can even help you feel more content.

An untidy plot is not only troubling but can be dangerous to visitors (authorised or otherwise), friends, family and fellow plot holders. Plots are a great place to recycle materials that might be regarded as waste in another situation and anything that diverts waste from landfills must be a good thing.



Please bear in mind though, that where a plot holder takes materials onto their plot and for whatever reason they are not used, the responsibility for managing this waste lies with the plot holder. There are recycling facilities across Glasgow where you should take any non-organic waste materials coming from your plot. See this link for information.⁽²⁶⁾

Housekeeping is especially important when dealing with manures, fertilisers, compost, tools and yourself. We have mentioned previously the importance of ensuring you know where and how your manure is produced before purchasing, failure to do so could impact on your soil health and the health of the plants you are growing.

You should never compost diseased plant materials, if you do, you multiply the chance of spreading such disease throughout your plot.

Also avoid composting the roots, flowers and seed heads of perennial weeds, the compost heap may not kill these off and when you apply the compost you spread these weeds over your plot. Poor management of a compost heap/bin can also create conditions where the compost can do more damage than good and you find yourself with a smelly heap to deal with. Please ensure you read the Appendix on composting for further information.

Working safely may seem like an obvious choice when on your plot, however it takes only a small lapse of practice to leave a fork or a rake in a position where it could cause injury to others or yourself.

Failing to practice good housekeeping on your plot can also allow weeds to become established and encroach onto surrounding plots, this is never welcomed by your neighbours on an allotment site.

Good housekeeping can also save you money, looking after tools properly will extend their useful lifespan and save you unnecessary expense in replacing them.

Working a plot can provide contentment, healthy locally produced food and can be a beneficial social past time where you can meet likeminded individuals, share knowledge and provide support and encouragement to each other. Plots are often a reflection of you and your practice, and where good housekeeping isn't practiced, you can find yourself missing out on such benefits as mentioned before.

Please ensure you remember (and apply) good housekeeping practices on your plot.





Rainwater Harvesting

Though not a tool or sundry, it may be suitable at this point to touch on rainwater harvesting as water use is a key component of managing a plot. Glasgow does not lack in available rainwater and using what nature provides is also best practice. Harvesting rainwater lessens demand on mains water and we have sites in Glasgow which manage successfully without a mains water connection or standpipes on site.

Rainwater is easily harvested by attaching guttering to structures on your plot such as greenhouses and sheds and capturing the runoff in containers (water butts etc). This can then be transferred to a watering can with a funnel and rose to water plants. Plants prefer watering that mimics rains and a watering can fitted with a rose is the best way of doing this.

All water butts should be securely covered to keep out debris which could contaminate the water and from a safety perspective to keep out children. They should also be insulated or painted a light colour to reflect sunlight to keep them cooler in summer and limit the risk of legionella bacteria building in the standing water. The following link contains further information around minimising health risks on your plot. ⁽²⁷⁾

While discussing housekeeping we should also mention safe storage of materials and chemicals. Materials when stored away tidily are easier to retrieve, less likely to cause a slip trip or fall, and makes best use of available space. This is good practice to follow.

The use of chemicals on a plot should be a decision that is reached either by the individual or collectively as an association. Many growers choose growing organically for many reasons even where an association permits the use of chemicals on plots.

There are non-chemical control methods (cultural controls) that do not require the use of chemicals on your plot. We will look at all control methods later.

Where chemicals are chosen as part of a control method, the plot holder has the responsibility to ensure they are stored safely and securely. Chemical control methods should always be used within the manufacturer's guidelines and solely for the purpose for which they were chosen.

Chemicals must be kept in the original packing and never decanted into other containers.

They should be stored out of the reach of children and animals as ingestion of chemicals can be dangerous or even fatal.

Knowing that poor practice can cause injury or fatality, spread disease through your crops or impact adversely your neighbours sends a clear message that you should always follow best practices on your plot. It is your responsibility to do so.



Pests and Diseases

Pests and disease can destroy your enjoyment of growing (and the food you are growing) and should be dealt with as soon as they are identified. They could also take a full handbook by themselves, we will start with the basics and recommend you do some further reading in future.

When it comes to dealing with pests and diseases, prevention is better. Curing an infestation or dealing with a disease can be much more complicated than preventing them in the first place.

Maintaining clean tools and a tidy plot and growing robust healthy plants are vital in reducing opportunities for pests and disease to feed on or attack your crops. Fewer chemical controls are available for pest and disease management as concerns for the natural environment rise, so it is important to know what cultural control methods can be applied.

Good housekeeping is one of the most effective ways of keeping pests and diseases to a minimum as previously covered.

Simple steps such as plant selection, good garden hygiene, applying good cultural controls and encouraging natural predators are a must do.



Cultural Controls for Pests and Disease

- The right plant, in the right place. Give a plant a good environment and it will flourish and be more resistant to pest and disease.
- Select varieties with tolerance or resistance to pests and disease. The potato variety “Charlotte” fends off slugs. Others are resistant to blight.
- If purchasing plug plants, ensure they are healthy before buying.
- Test your soil using a pH and nutrient test kit. This should be done annually in a vegetable plot and any missing nutrients added to the soil.
- Plant well, ensure you break up the bottom of any planting holes and tease out the roots of the plant going into it. Mycorrhizal fungi can be added to planting holes to help establish new plants.
- Plant well. Spacing properly between your crops will ensure good air flow and allow ease to weed as required.

Mulch. This will lessen stress on plants and suppress weeds which can be a gateway for disease.

- Look after plants well by giving them the correct amount of water they need.
- Be vigilant. Keep an eye out for signs of pest activity or disease. Slugs are a massive issue in the West of Scotland as they like damp conditions; be prepared to remove them by hand (gloves on, of course) and deal with them.
- Act quickly. Nip it in the bud, remove mouldy leaves, if you see aphids wash them off with a hose.
- Garden hygiene. Don't allow clutter to build up. Cut out diseased parts of plants. Dispose of dead and diseased plant material properly, dry it out and burn it if permitted. If not take it to the recycling centres referred to earlier.
- Garden hygiene. Reduce disease potential in gutters, potting benches, greenhouses, pruning knives, water butts, tools, pots and seed trays by ensuring they are kept clean and disinfected when not in use.
- Garden hygiene – Keep yourself and your boots clean. It's amazing what a muddy boot can pick up and transfer all over your plot. Your clothes can also be a haven for some pests and spores.
- Keep an eye on the weather forecast. Dull damp days in summer are ideal for the spread of airborne fungal diseases.
- Practice Crop Rotation which will save a build-up of pests and disease in the soil.
- Keep your soil as healthy as possible. Healthy soils promote healthy plants. Healthy plants are more tolerant of pests and disease. Using mulches like willow bark can add “natural tonics” such as salicylic acid into the soil.
- Use Barriers. You may wish to protect fruit trees and bushes by netting them. If you do, please ensure they are checked regularly for any birds or animals which may have become entangled in them. Felt disks around the base of brassicas can prevent club root and grease bands around fruit tree trunks can deter egg laying by moths for example.
- Use companion planting. (The close planting of different plants that enhance each other's growth or help protect from pests and diseases.) Further information on companion planting can be found at the following link: <http://www.organicgarden.org.uk/gardening/gardening/companion-planting/>
- Encourage beneficial insects which prey on pests such as hoverflies.
- In controlled environments such as greenhouses or polytunnels the use of pheromone traps is useful in preventing infestations.



Other organic cultural control methods can also be incorporated into your practice.

- Insecticides derived from natural materials and natural oils and soaps are gaining popularity compared to synthetic chemical products. While better they can still cause damage to non-target species such as the beneficial insects mentioned earlier.
- Some gardeners use garlic oils and chilli oil in solutions to deter pests.
- Green manures when worked into the soil can increase beneficial microbes when breaking down in the soil.
- Certain brassicas such as mustard can act like a bio fumigant releasing natural occurring toxins which target certain nematodes in the soil.

This list is not exhaustive and many of the links and sites we have shared can provide more information, or links to resources, which can help you learn more about the control of pests and disease in your allotment.

For those comfortable with using chemical controls and where their use is permitted, you have a responsibility to read the label of the product you intend to use. **Always do this before use!!**

Labelling regulations on chemical controls such as weed killers, fungicides, insecticides etc, are strictly controlled and contain specific information that must be adhered to when being used. **It is illegal not to follow the instruction on the label!!**



Harvesting and Storing

By now you should have enough basic information to begin growing with the aim of harvesting your own produce. In this section we provide information on not only harvesting but also what to do after you have harvested your produce.

While growing is a pleasure, it might be a bit strange if we didn't intend to use the produce for anything when harvested. Yes, we know the obvious and ultimate answer is to eat it but what happens when you have more tomatoes than you can eat? Or bucket loads of beetroot? Or if you can't face the sight of another strawberry, far less eat one... well for a month or two at least?

During the long dark days of January when you're sitting with a cuppa and planning your plot for the coming year and rifling through seed catalogues or trawling websites for that new variety that will excite you wouldn't it be excellent just to spread a thick dollop of your own homemade blackcurrant jam on top of your scone to compliment that cup of tea?

With a plot, no matter how well you manage it, you will experience a glut and times when fresh produce is unavailable. The secret is ensuring you get the best from your produce for the longest time.



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How do you know when it is time to harvest?

This will be influenced by local climate however, remember the calendar, seed packets and your notebooks? They will all provide a guide to how long the plant takes to be ready to harvest from the time it was planted, and the rest will be down to your observations.

As the time approaches you can test one or two individuals to check if they are ready; too soon and the flavour may not have fully developed and too late the crop might be a bit soft, or woody and will not have the same storage qualities.

Windfall (fruit falling from trees) is usually an indication that the crop is ready for harvesting but use your own sense and observations as not everything will be this obvious.

How do you harvest?

That will be dependent on the crop you are harvesting, from twisting an apple stalk of a tree, to gently unearthing your potatoes or root crops with a fork, there are a multitude of techniques. This is another subject that could fill its own handbook and once again we would direct you to many of the instructional videos available on the internet.

Again, take care when harvesting, being gentle in your treatment of your crops will improve their storage potential if this is what you intend to do with them. Ensure you loosen the soil before lifting crops and return any excess soil from the crop to the bed it has been lifted from. It's far too precious to be haphazard with.



Storage

When harvested, storing fruits and vegetables will provide produce long into the winter if stored correctly. Different fruit and vegetables require to be stored differently. The following link provides information to some excellent information on storing your crops ⁽²⁸⁾.

There are other ways to process fruit and vegetables when harvested that will also extend the time you will have to eat them. Pickling, preserving, dehydrating, freezing and fermenting different fruit and vegetables will provide nutrients and beneficial bacteria in your diet long after they have been harvested.

For further information on these techniques visit this link for the gardening channel ⁽²⁹⁾ and grow veg ⁽³⁰⁾.

Another way to preserve your crops is to keep them in a clamp. This is a relatively old technique on which further information can be found at this link ⁽³¹⁾.

Microgreens

Another area we wish to look at in relation to extending the time you have produce available to you is the area of microgreens which are the shoots of salad vegetables such as rocket, celery, beetroot, etc., picked just after the first leaves have developed. They may only contain a stem, seed leaves and the first true leaves of a plant when harvested. They are nutritious and quick to grow.

As lighting technology has progressed these easy to grow, young plants can now be grown indoors at little expense. They are popular with “foodies” and many chefs would be loath to send a plate out without these as a garnish.

Further information on growing microgreens and their proposed health benefits can be found here.⁽³²⁾

Whilst not usually preserved but rather eaten fresh, edible flowers are an increasing popular addition to many meals. You may be surprised by how many flowers are edible and they can enhance meals with colour and taste. Here is some useful information on edible flowers⁽³³⁾.



Acknowledgments

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“Gardening adds years to your life and life to your years.”
– Unknown

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