

## SELECTED ASPECTS OF GROWING VEGETABLES AND HERBS

This is a self-guided Distance Education course. It has been written as an accompaniment to the second edition of John Mason's book *Growing and Using Vegetables and Herbs*. Read the book, work through this course, and check your knowledge using the automated self-tests, practical task and optional assignment.

### Part 1.

#### VEGETABLE GROWING PROCEDURES AND REQUIREMENTS

Growing your own vegetables and herbs means you can be assured that your family is eating the freshest, cleanest produce available.

If you are starting a new vegetable garden, find an area that gets sun for most of the day. Ideally the site should be sheltered from wind and have fertile, well-drained soil. As many gardens are not blessed with these conditions, you may need to spend some time preparing the site before you start planting.



#### PREPARING THE SITE

Remove all existing plants including lawn grasses and weeds from the site. Make sure no weed roots are left in the ground as these will soon resprout.



Vegetable beds should always be a few centimetres higher than the surrounding soil. This helps to improve drainage and gives sufficient depth for the vegetable roots to grow. Digging in a good quantity of well-rotted organic matter such as aged manure or compost will raise the soil level. Some people also buy good quality loam (garden soil), but generally even the best soils need to be improved with the addition of organic matter.

At this stage, check the pH of the soil – inexpensive kits are available from hardware shops and garden centres. Most vegetables prefer a slightly acid to neutral pH (pH 6.0 to 7.0). Spread lime over the bed if the soil is too acid.

The soil should be dug over so that it is fine and crumbly, then level the bed with a rake and leave it to settle for a week or two before planting.



Squash 'Golden Crookneck'

## Purifying Contaminated Soil

A healthy, productive vegetable patch is only possible if the soil is clean with a good balance of organic matter and soil organisms. Contaminated soils may be a result of chemical or oil leakages, or overuse of fertilisers and herbicides. In severe cases, or if you want quick results, it's best to replace the soil, but generally less drastic action will fix the problem:

1. Hose the soil thoroughly and regularly to leach out the contaminants. If possible use fresh rainwater (stored in a tank) to hose the soil.
2. Improve drainage to assist the leaching process.
3. Keep the soil warm and moist to assist the rate of contaminant breakdown. Thick sheets of straw mulch are ideal for this purpose.
4. Build up the soil with layers of organic material – compost, animal manures, straw, sawdust, lawn clippings, etc.
5. Leave the soil for at least one warm growing season before planting vegetables.

## GROWING VEGIES IN SMALL GARDENS

### Growing Vegetables in Pots

It is possible to grow vegetables and herbs in every garden – even the smallest balcony can be utilised as growing space. Pots provide a number of advantages for growing vegetables:

- Pots take up very little space.
- They can be moved around to provide the best growing conditions; for example, they can be moved to a sunny, sheltered spot in winter or to a lightly shaded area in summer.
- Pots can be placed within convenient reach to the kitchen; for example, outside the kitchen door or on a sunny window sill.
- Pots can be placed at various heights, using tiered stands or window boxes, allowing people with limited physical movement to grow vegetables.
- Potting mixes are formulated to provide good growing conditions and, in areas with poor soils, may be the only feasible way to grow vegetables.



Chinese Cabbage

Vegetables in pots need more frequent watering than those grown in garden beds. Choose the biggest pots you can – these will hold more potting mix and will require less frequent watering. Also use a quality potting mix that has water crystals added to the mix (or add these yourself). Terracotta pots are particularly susceptible to drying out; plastic or glazed pots provide better water retention. Covering the potting mix with mulch (eg. straw) will also help to keep the moisture in.



Broad Beans

All potted vegetables need regular liquid feeds (eg. fortnightly) during the growing season.

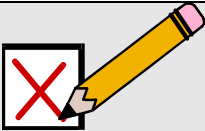
## MAKE THE MOST OF VERTICAL SPACE

If garden space is limited, use vertical space to maximise your area for growing vegetables and herbs. Hanging baskets, wall-mounted pots, tiered pot stands, wall trellises and window boxes are ideal for this purpose.

## SET READING

Read the following chapters from Growing and Using Vegetables and Herbs before attempting Self-Assessment Test 1:

- Chapter 3, Growing Vegetables and Herbs



### SELF ASSESSMENT

Perform the self-assessment test titled 'Test 1'.

If you find yourself getting the answers wrong, go over the notes from this lesson again and then repeat this test until your answers are correct.

## SOWING VEGETABLE SEED OUTDOORS



Seed can be sown directly into position in the vegetable bed or sown in specially prepared seed beds and containers from where germinated seedlings are later transplanted into the vegetable bed. Most commercially-supplied seeds come with instructions for sowing. In general though, the following rules should be remembered when sowing seeds:

1. Use good quality seed.
2. Sow at the right time of year. Environmental factors, particularly temperature and moisture levels play an important role in the successful germination of seeds.
3. Do not sow too deeply. In nature seeds are generally dispersed from plants onto the ground surface.
4. Do not sow too thickly. Germinating seedlings will compete for space and nutrients. Pest and disease problems are also generally increased.
5. Have the soil in your vegetable bed well prepared, or use a good quality seed raising mix when using a container.
6. Maintain adequate moisture for seeds to germinate but don't over water.



Straight rows can be marked in the vegetable using a length of taut string or straight-edged of wood. Then using a pointed or sharp-edged object make a slight furrow or trench along the row depth recommended for that particular vegetable Sow your seed thinly along the row. Avoid sowing directly from the seed pack, particularly with fine as it is very hard to get an even distribution of such Large seed can often be easily placed evenly the furrow, however fine seed may need to be mixed with some fine sand to get a more even spread. For very large seed such as melons, cucumbers and beans it is usually easier to drill a hole with a sharp stick or dibber to the required depth and the seeds placed directly into position.



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Once sowing is completed lightly cover the seed by replacing the soil that has been removed while making the furrow or hole. This soil should then be lightly firmed down.

Generally it is recommended that (most) seeds be given a thorough watering taking care to disturb the soil surface as little as possible. Fine mist sprays or watering cans with a fine-nozzle would be suitable for most vegetable seeds.

As seeds germinate and emerge from the soil they can be thinned out to the required distance apart. Any gaps can often be filled by seedlings thinned out from elsewhere in the bed.

## SOWING SEED INDOORS



Snow Pea

Vegetable seeds are often planted into a pot or seedling tray and germinated indoors. This allows you to get your plants started before the weather is good enough outside. For most vegetables here is how to do it:

\*Use a pot or seedling tray with lots of holes in the bottom (drainage is most important).

\*Wash your pot or tray in household bleach to kill any diseases then rinse off in hot water and allow to dry.

\*Use a "clean" propagating mix. An ideal mix has no soil (thus little chance of disease) and drains very well. A standard propagating mix is 75% coarse sand and 25% peat moss or vermiculite.

\*Fill the container to within 1cm of the rim and soak (by immersion) in water.

\*Sow the seed on the surface. Be careful with small seeds not to sow them too thickly. Remember each seed might grow into a plant. If seedlings are too close together they are more susceptible to disease.

\*Cover the seed with a sufficient layer of propagating mix. Usually a layer 2 to 3 times the diameter of the seed is sufficient.

\*Place in a greenhouse or cold frame.

\*Keep watered and don't allow seeds to become dry.

\*Once most seedlings have 4 leaves they can be removed from the gently washing the propagating mix from the roots.

\*Do this by immersing the whole pot in water as you remove the seedlings.



pot by

\*Seedlings can then be either planted individually into pots, or if conditions are good, planted into the vegetable garden.

\*If grown on a little longer in pots do not let them get too big before planting out.

Borage – flower spike

## TRANSPLANTING SEEDLINGS

This involves the movement of seedlings grown elsewhere to their permanent cropping position. Seedlings are obtained from a variety of sources including those that you may raise in special seedling beds, those grown from seed into containers and those left over from thinning out of other sections of the vegetable patch (suitable for some vegetables but not all).

Large quantities of vegetable seedlings are grown commercially in punnets (usually small plastic rectangular containers) to supply commercial and domestic vegetable growers.

Both the seedlings to be moved and the site to which they are being moved should be well watered the day before transplanting is to occur. For container growing, plants (i.e. punnets) may need watering up to an hour or two before transplanting commences to maintain sufficient moisture in the root zone.



The watering helps reduce the shock to the plant of the transplanting procedure, in particular by helping to keep soil or seedling mix bound together around the roots of the seedling. If the soil etc is dry it generally crumbles away from the root ball readily during transplanting. This exposes the roots to the atmosphere where they are more likely to dry out causing damage to the plant than if some soil remains around the plant roots.

Seedlings should be gently lifted out of the bed or container in which they are being grown, taking care to maintain as much soil around the roots as possible. A hole is then made in the bed with a sharp stick or dibber and the seedling planted into the hole, making sure that the seedling is at the same depth as it was in the seed bed or container.

Soil is firmed around the plant to hold it in position and the plant is then well watered.

## GROWING HERBS

There is no one ideal set of growing conditions for herbs; they come from many different types of plants which have adapted to different types of environments from all over the world - consequently they all require different growing conditions.

One of the things that they do have in common, however, is that they generally have a scent, and in most cases a sunny position is needed to fully develop the oils or chemicals which give the herb their characteristic scent/taste etc.

An ideal situation for most herbs is to the conditions required by vegetables:

- Raised beds
- Moist but well-drained soil (dig compost heavy clay or light sand, treat clays with gypsum; and mulch well to prevent soil out too fast).
- Full sun for at least part of the day, but exposed to frost and wind (windbreaks necessary in some areas).
- Fertile soil (NB: Some herbs do prefer which are not over-fertile).
- Weed-free soil (remove all weeds planting, then cover soil with a layer of mulch to help keep weeds down).



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Some herbs can be damaged by extreme conditions such as heat/sun in summer and cold in winter. Most herbs, however, are fairly hardy.

Herbs that may be susceptible to extreme cold or severe frosts include *Anthemis nobilis*, *Artemisia dracuncululus*, *Lavandula officinalis* (some varieties are a problem), *Origanum Majorana*, *Mentha pulegium*, *Petroselinium crispum*, *Rosmarinus officinalis*, *Salvia officinalis*, *Salvia sclarea* and *Thymus vulgaris*.

Herbs which are extremely hardy to cold include *Allium sativum*, *Chrysanthemum balsamita*, *Hyssopus officinalis*, *Melissa officinalis*, *Mentha arvensis*, *Mentha aquatica* var. *crispa*, *Mentha gentilis*, *Mentha piperita*, *Mentha rotundifolia*, *Mentha spicata*, *Ruta graveolens*, *Tanacetum vulgare* and *Thymus serpyllum*.

## SET READING

Read the following chapters from Growing and Using Vegetables and Herbs before attempting Self-Assessment Test 2:

- Chapter 5, Vegetables for Your Garden
- Chapter 6, Herbs for Your Garden



### **SELF ASSESSMENT**

Perform the self-assessment test titled 'Test 2'.

If you find yourself getting the answers wrong, go over the notes from this lesson again and then repeat this test until your answers are correct.