

PRACTICAL ORGANIC CULTIVATION

1. SOIL Demonstrate the ability to understand soil preparation and cultivation using organic methods and materials.
 - 1.1 Demonstrate appropriate soil cultivation for three different crops.
 - 1.2 Assess soil type, structure and pH
 - 1.3 Process bulky organic matter.
 - 1.4 Prepare soil with concentrated fertilisers.
 - 1.5 Prepare beds of soil for 6 suitable types of edible crops
2. GROWING SYSTEMS Demonstrate the ability to organise a growing site.
 - 2.1 Assess the suitability of a site for Organic cultivation.
 - 2.2 Draw up an organised plan of designated planting areas for the growing site.
 - 2.3 Install 3 suitable elements of infrastructure on a growing site to aid cultivation.
3. PERENNIALS Demonstrate an understanding of establishing perennials using organic methods and materials.
 - 3.1 Select and plant 3 suitable types of edible perennials using organic methods and materials.
4. RESOURCES Demonstrate an understanding of how to obtain organic supplies.
 - 4.1 Organise provision of three resources for Organic systems.
 - a) How to arrange
 - b) Where to access and
 - c) Transportation of
5. PROPAGATION Demonstrate an understanding of how to propagate plants using organic methods and materials.

Using organic methods and materials.

 - 5.1 Prepare 3 suitable varieties of potting media.
 - 5.2 Sow 3 suitable types of seed (indoors & out).
 - 5.3 Transplant and plant out 3 types of plant.
 - 5.4 Raise 3 types of plant stock.
6. CULTIVATION Demonstrate an understanding of how to cultivate food crops using organic methods and materials.
 - 6.1 Cultivate 6 suitable varieties of edible crop using organic methods and materials.
7. MICROCLIMATES Demonstrate an understanding of the use of micro-climates to optimise growth potential.
 - 7.1 Locate 3 suitable crops appropriately on a given site, using environment and equipment to create specific microclimatic advantages.
8. HARVESTING Demonstrate an understanding of how to harvest organic crops using organic methods and materials.

Using organic methods and materials:

 - 8.1 Harvest and process 2 planted crops.
 - 8.2 Store and / or process 2 gathered surpluses.
9. SEED-SAVING Demonstrate an understanding of how to save seed organically.
 - 9.1 Process 3 types of grown plants for seed extraction and storage.
 - 9.2 Save 3 types of seed from grown plants.

UG/OCN – OC & C Unit 3 PRACTICAL ORGANIC CULTIVATION

Element 3. PERENNIALS Demonstrate an understanding of establishing perennials using organic methods and materials.

3.1 Select and plant 3 suitable types of edible perennials using organic methods and materials.

TASK: PLANTING APPLE TREES

Photographic Evidence: 13th February 2003



Description: Planting holes were prepared for 5 Apple trees. The soil was improved with a full range of concentrated Organic fertilisers with the addition of feathers from an old duvet, which will break down and feed the soil in the first years of the newly established tree's life.

Evidence of Learning:

3.1 It was essential to spread the tree's roots and surround them with soil. The graft point was facing south to face the sun to ensure that this vulnerable point healed and did not rot. The maiden saplings were only supported with a short cane because the small trees would be rocked around by the wind. The trees were watered in to settle the soil around the roots.

Tutor / Witness Statement: Debra demonstrated an excellent grasp of the task and the functions essential for a successful outcome.

Learner Signature

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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION

Element 1. SOIL Demonstrate the ability to understand soil preparation and cultivation using organic methods and materials.

1.1 Demonstrate appropriate soil cultivation for three different crops.

1.2 Assess soil type, structure and pH

1.3 Process bulky organic matter.

1.4 Prepare soil with concentrated fertilisers.

1.5 Prepare beds of soil for 6 suitable types of edible crops

TASK: Establish Raised Beds and improve soil.

Date: 24TH Jan 2003 / 28th Feb 2003

Photographic Evidence: See Soil Preparation sequence.

Description: My back garden is a typical ex-council house on Marsh Avenue in Hope. The name is appropriate since the soil drains only slowly and can be wet and claggy, which can be alleviated by a raised bed system. Initial weeding and improvement of the soil began in February, then boards were obtained to edge the beds and establish a permanent bed system.

The soil had been covered with plastic sheeting over the winter to try to suppress the weeds, although the Buttercup had still grown underneath. The weeds were initially scraped off the surface with a sharp spade and taken to stack to make loam. The soil was then forked over and left for the rain, frost and wind to loosen the grip of the weed roots. During the course of a month, the soil was repeatedly forked over and weed roots progressively removed. Once the soil was relatively weed-free and the weather was warmer, soil improvers were added.

Sufficient edging boards were obtained to retain the soil in the beds. Thin tubular metal pins were used to secure the edges in place, pinned on the outside to take the outwards thrust of the soil in the bed.

Evidence of Learning:

1.1 *Different parts of this patch of soil had been improved to a degree, so that the middle was already relatively weed-free and would be more likely to produce a seedbed in the first year. One bed was prepared with more lime to improve soil structure and workability. Another had a larger addition of bulky organic matter for heavy-feeding crops.*

1.2 *The indigenous marshy valley soil had been supplemented by imported clay topsoil by a previous tenant, producing a relatively heavy but workable soil. The structure was very lumpy and boggy and it was hard to develop a workable tilth. There were many Buttercups, illustrating that the area was acidic and compacted.*

- 1.3 *Mature Farmyard Manure (picture 00) and Leafmould (05) were obtained from local supplies. They both required chopping into smaller pieces before distributing. The Bulky Organic Matter was added to the beds only after the basic shape and position of the beds had been established.*
- 1.4 *Powdered Magnesium Limestone (04) was added to raise the pH / reduce acidity and concentrated chicken manure (09) to introduce higher levels of fertility where heavy-feeding crops were planned. These additions were made at different times to gradually change the nature of the soil.*
- 1.5 *Using a variety of soil improvers on the different beds produced a variety of soil conditions suitable for a range of edible crops. At this stage Green Manure seeds were added to help consolidate the soil with the additions over the course of 6-8 weeks.*

Tutor / Witness Statement:

Debra showed competence in converting a standard back garden plot into a system of raised beds with sufficiently improved soil to produce crops in the first year of cultivation.

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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION

Element 3. PERENNIALS Demonstrate an understanding of establishing perennials using organic methods and materials.

3.1 Select and plant 3 suitable types of edible perennials using organic methods and materials.

TASK: Establish a bed of herbs and flowers

Photographic Evidence: 11/05/04



Description: *This bed at the front of my house was prepared the previous year for leeks which did well. At the same time, an edging of perennial herbs was established, including Strawberries (309), Curry plant (310) and two types of Thyme (311). Where the leeks grew, several types of flowers self-seeded and roots re-grew (Helenium, Columbine and Fleabane), which filled up the space previously given over to leeks. Some of the Leeks were left to produce seed. This meant that without more planting, the bed was full enough to be left. It only required a little weeding to produce a great display.*

Evidence of Learning: *The herbs were planted using standard planting out technique with a small watering moat around each to make initial watering easier. Planted close enough to the edge so that the plants covered up the bricks.*

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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION

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3.1 Select and plant 3 suitable types of edible perennials using organic methods and materials.

TASK: Planting an Apple tree in front garden

Photographic Evidence: 8th December 2002 and 11th May 2004



Description: Planting an Apple tree, King of the Pippins, in my front garden. Dug the planting hole in the centre of the lawn in my front garden. Improved with leafmould, compost and concentrated fertilisers. This produces a mound of improved soil, which was then dug out so that the fruit tree's roots could be established. Soil shaped around the root area to facilitate watering in the first year. The tree was only staked with a cane because it was a small maiden whip. A perennial companion planting of Cowslips around the Apple to attract beneficial insects and promote the presence of pollinators for the Apple when it's in flower.

Evidence of Learning: The tree was supplied with ample amounts of bulky and concentrated organic fertilisers to allow it to flourish for the first five years of its life, because unlike an annual crop, the soil can only subsequently be improved by surface cultivation using mulches and liquid feeds. The companion planting of Cowslips should be moved progressively outwards as the rooting zone of the Apple below ground expands outwards.

Tutor / Witness Statement: Debra demonstrated full understanding of the essential functions necessary to establish this perennial fruit using organic methods and materials.

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Element 1. SOIL Demonstrate the ability to understand soil preparation and cultivation using organic methods and materials.

1.3 Process bulky organic matter.

TASK:Stacking weed roots and tops to create a LOAM heap.

Photographic Evidence: 24th January 2003



Description: As weeds were cleared from the area of soil to be cultivated, they were stacked up in a disused corner. Small amounts of lime and manure were added to speed up the breakdown process. The heap was later covered to check the regrowth of the weeds. The heap was also turned so that the material broke down uniformly.

Evidence of Learning: Instead of throwing these weeds away or even burning them, the fertility locked up in them can be recycled over a period of about 18 months. They were not suitable for the compost because the perennial weed roots and the soil on them would have slowed down the composting reaction.

Tutor / Witness Statement: Debra showed competence in managing available organic resources responsibly.

Learner Signature

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Element 4. RESOURCES Demonstrate an understanding of how to obtain organic supplies.

4.1 Organise provision of three resources for Organic systems.

a. How to arrange b. Where to access and c. Transportation of

TASK: Collect and process Leaves to make Leafmould

Photographic Evidence: 13th November 2003 and 11th May 2004



Description: Freshly fallen autumn leaves were collected from the roadside. A one tonne builder's sack was used. The leaves were dry enough that a full bag could be dragged to the storage site. The stacked leaves were turned once a fortnight for two months after collection to extend the heating reaction for as long as possible and help the material break down uniformly.

Evidence of Learning:

4.1 a) The leaves were arranged in a stack which was constructed to be as tall as possible to begin with so that heat would rise through the heap to the top. As the moisture in the heap reduced due to heating, the leaves were spread out to allow rain to soak through and then the heap was re-stacked up. Once the heap heated, it was covered to retain heat and moisture.

b) The leaves were gathered from a roadside verge before they were contaminated with too much dirt, grit or salt from the road. Leaves were selected to favour broad-leaved, deciduous Ash and Oak, which will breakdown to form a usable mould within a year.

c) Freshly collected leaves are relatively light when dry so they can be carried or dragged along in builder's sacks. They take up a lot of volume initially, so need to be contained within a construction made of wire, which also permits air into the heap.

Tutor / Witness Statement:

Debra supervised a team of leaf collectors and arranged for aftercare of the leafheap. Demonstrates the procurement and processing of freely available resources for organic growing.

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4.1 Organise provision of three resources for Organic systems.

a. How to arrange b. Where to access and c. Transportation of

TASK: Obtain supplies of well-rotted horse manure

Photographic Evidence:



Description: *The manure was sourced from a local stables where the material is stacked neatly and responsibly and left to break down for several months. It was bagged into 25 Kg sacks and loaded into the back of my Land Rover for transport to my house. Some of the material was used as a compost activator, because it had lots of worms which will digest compost ingredients. Some of the manure was left in the bags to mature further for use at a later date.*

Evidence of Learning: *The manure had already broken down enough to be incorporated in the soil, because it could be chopped through with a spade. The presence of abundant mature compost worms (*Eisenia Foetida*) also indicated that the material was mature enough to use for rough soil improvement.*

Tutor / Witness Statement: Debra showed initiative and competence in obtaining sufficient bulky organic matter for her needs.

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Date

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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION

Element 5. PROPAGATION Demonstrate an understanding of how to propagate plants using organic methods and materials.

5.1 Prepare 3 suitable varieties of potting media.

TASK: Prepare batches of Seed, Cuttings and Potting Media

Photographic Evidence: 2nd April 2003



Description: All three media required Leafmould to be sieved through a riddle. For the seed compost, older leafmould was riddled through a 1cm grid to produce fine, powdery material, with particles small enough to germinate small seeds in. For general purpose potting on media, the mould was riddled through one inch. Rejected material which did not pass through the riddle was kept to one side for the cuttings compost. By adding sand and Perlite and mixing, we created the finished Seed medium. For the Potting mix, we added fine, riddled soil and ancient compost. To create the cuttings mix, we added sand and grit.

Evidence of Learning: It was fascinating to see the change in the original input materials after they had been processed. It was possible to differentiate between the different samples by touching and rubbing them: silky, velvety and gritty.

Tutor / Witness Statement:

Debra demonstrated that she could prepare and combine the raw materials to produce 3 types of growing media.

Learner Signature

Date

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Element 5. PROPAGATION Demonstrate an understanding of how to propagate plants using organic methods and materials.

5.2 Sow 3 suitable types of seed (indoors & out).

TASK: Prepare drills and direct sow Beetroot seed. Raise seedlings from seed (Squash and Broccoli)

Photographic Evidence: 23rd May 2003 and 11th May 2004



Description: *The seedbed for Beetroots had previously been forked and weeded, but required raking thoroughly to produce a fine enough tilth / particle size. It had not rained for two days beforehand which meant that the soil was dry enough to be workable.*

Two grades of Seed medium were used to raise the seeds. The mix was rougher and more fertile for the Squash which grow so fast and strong that they can handle it.

Evidence of Learning: *The Beetroots are best sown direct outside once the soil has thoroughly warmed up in spring. The Squash should only be planted out once the danger of late frost has passed. The Broccoli were potted on into their own individual pots before being planted out as established seedlings after midsummer.*

Tutor / Witness Statement: Debra proved herself able to propagate.

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Date

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Element 5. PROPAGATION Demonstrate an understanding of how to propagate plants using organic methods and materials.

5.3 Transplant and plant out 3 types of plant.

TASK: Plant out a bed of mixed herbs and companion flowers

Photographic Evidence: 23rd July 2003



Description: *The bed of soil was triangular in shape, about 4 square metres in area and had already been weeded and improved with organic fertiliser. It required a light forking over to break up the sods and create a finer tilth for planting into. The plants were arranged so that they would fill up the space and combine well in the long run. Plant stock used included Alexanders, Box. Lemon Bergamot, Pennyroyal and Clove Pinks. After checking the arrangement, the plants were planted out and the soil was sculpted around them to facilitate watering.*

Evidence of Learning: *The bed was in partial shade which made it suitable for plants which cannot tolerate full sun. Transplanting at this time of year means that the new stock will need watering immediately and then daily afterwards for at least a week or until it rains to wet the soil thoroughly.*

Tutor / Witness Statement: Debra demonstrated competence in planting out and understood the reasons for the choices she made.

Learner Signature

Date

Assessor Sig,

UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION

Element 5. PROPAGATION Demonstrate an understanding of how to propagate plants using organic methods and materials.

5.4 Raise 3 types of plant stock.

TASK: Potting on Tomatoes / Basils / Peppers

Photographic Evidence: 26th March 2003



Description: The Tomato seedlings had to be potted up to allow them to grow on for another month before being planted out in their final positions. The Basils and Peppers needed pricking out from their seed trays into pots to allow them to establish their own individual root system. In all three cases, the plants were watered with a fine rose immediately after being potted on.

Evidence of Learning: The Tomatoes were moved up from 5cm pots into 7 cm pots allowing their roots to develop further. The Peppers and Basils were positioned as centrally as possible within the pots to give them the best chance of establishing a strong root system.

Tutor / Witness Statement: Debra has a full grasp of the craft of raising plant stock.

Learner Signature

Date

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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
Element

TASK:

Photographic Evidence:

Description: *P*

Evidence of Learning: *It*

Tutor / Witness Statement:

Learner Signature

Date

Assessor Sig,

UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
Element

TASK:

Photographic Evidence:

Description: *P*

Evidence of Learning: *It*

Tutor / Witness Statement:

Learner Signature

Date

Assessor Sig,

UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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TASK:

Photographic Evidence:

Description: *P*

Evidence of Learning: *It*

Tutor / Witness Statement:

Learner Signature

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Assessor Sig,

UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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TASK:

Photographic Evidence:

Description: *P*

Evidence of Learning: *It*

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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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UG/OCN – OC&C Unit 3 PRACTICAL ORGANIC CULTIVATION
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