



7

MAINTAINING THE GARDEN

Plants need special care to grow properly. Some of these plants are quite sensitive to changes in weather conditions and can wither and die in a short period of time under harsh conditions. If you are planning to grow flowers and hoping for good results, then you need to do more than just water and weed your garden. You need to consider doing other important activities like pruning, and controlling pests and diseases etc.

A healthy garden requires regular maintenance throughout the growing season. Most plants require sun, water and nutrients to produce well. General garden maintenance includes pest and disease prevention also. Usually it doesn't require much time if you decide to maintain the garden on a regular basis.



OBJECTIVES

After studying lesson, you will be able to:

- explain the meaning of gardening;
- identify and use appropriate tools for gardening;
- prepare the ground well before planting;



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- adopt correct procedure for watering, weeding, mulching, composting etc.; and
- prepare Organic Manures and identify well decomposed compost.

7.1 MEANING OF GARDENING

Gardening is the practice of growing and cultivating plants as part of horticulture. In gardens, ornamental plants are often grown for their flowers, foliage, or overall appearance; useful plants, such as vegetables, fruits, and herbs, are grown for consumption. There is no plant which is not medicinal according to Indian culture. So plants are also grown for medicinal or cosmetic use also.

Gardening is considered by many people to be a relaxing activity. It is the art and vocation of keeping a landscape healthy, clean, safe and attractive. Residential gardening takes place near the home, in a space referred to as the garden. Although a garden typically is located on the land near a residence, it may also be located on a roof, on a balcony, in a windowbox etc .

Gardening is also undertaken in non-residential areas, such as parks, amusement parks, and around tourist attractions and garden hotels. For these, gardeners are appointed to maintains these gardens.

Qualities of a Gardener

- to have a love of nature and the outdoors.
- physical fitness and the ability to undertake manual labour.
- knowledge about plants and the environment.
- good management skills.

- to be practical and have good problem-solving skills.
- the ability to use appropriate tools.

7.2 TOOLS OF GARDENING

To do any activity well it is advised to use appropriate tools. Some of the tool of gardening are described below:

1. Trowel



Fig. 7.1 Trowel

A trowel in general is a small, single-hand implement for digging, scooping, spreading, or otherwise manipulating dirt or other bulk materials. In gardening and horticulture, they are useful in planting and potting, for digging holes and breaking up clumps of soil. Gardening trowels typically have strong, narrow blades with sharp points. They are good for making rows, furrows and weeding.

2. Shovel

A shovel is a tool for digging, lifting, and moving bulk materials,



Fig. 7.2 Shovel



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such as soil, coal, gravel etc. It is a hand tools consisting with a broad blade fixed to a medium-length handle. Shovel blades are usually made of sheet steel or hard plastics and are very strong. Shovel handles are usually made of wood.

3. Fork Hoe



Fig. 7.3 Fork Hoe

This is a multipurpose garden maintenance tool, it is a rake, shovel and soil sift in one. This lightweight tool is ideal for breaking up soil and clods, mix fertilizer, smooth out soil clearing up weeds or fallen autumn leaves and much more.

4. Long Handle Hoes

They are used to make rows, furrows, seed holes, cover seeds, till soil and cut and remove weeds



Fig. 7.4 Long Handle Hoes

5. Loppers



Fig. 7.5 Loppers

Loppers are a type of scissors used for pruning twigs and small branches, like secateurs with very long handles. They are the largest type of manual garden cutting tool. They are usually operated with two hands, and with handles typically between 30 centimetres and 91 centimetres long to give good leverage.

6. Wheelbarrow

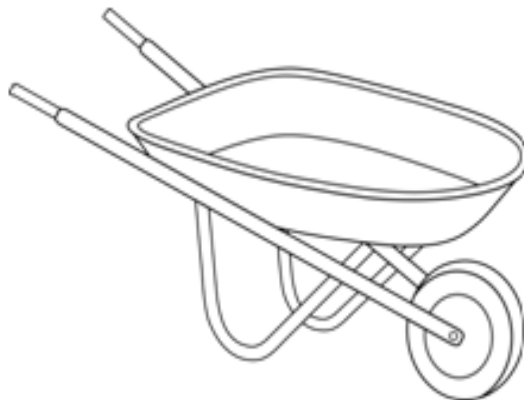


Fig. 7.6 Wheelbarrow

A good barrow is strong yet light enough to easily transport when full. It is used for carrying bags, fertilizers, plants and garden waste.



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7. Garden Knife



Fig. 7.7 Garden Knife

A small knife is often needed in the garden for cutting string, sticks and flowers, trimming fruit and vegetable plants and many other jobs.

8. Garden Secateurs



Fig. 7.8 Garden Secateurs

Any garden needs constant maintenance and a good garden secateurs is an invaluable tool to have for any pruning jobs.

9. Gloves

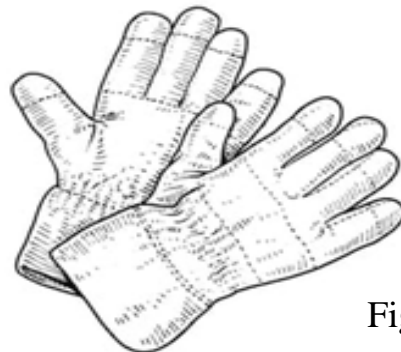


Fig. 7.9 Gloves

These help protect the hand while working and to avoid unwanted blisters

10. Buckets



Fig. 7.10 Buckets

For transporting water etc.

11. Watering cans

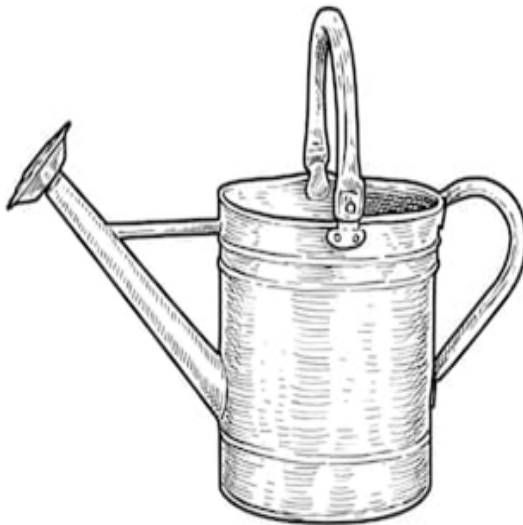


Fig. 7.11 Watering Cans

For watering of plants



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Garden Water Hose

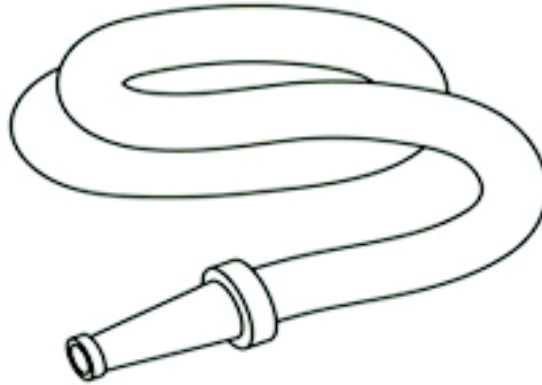


Fig. 7.12 Garden Water Hose

A garden hose is essential for carrying water to the garden. Hoses are usually made from rubber or vinyl; rubber is more expensive. Make sure the hose is long enough to reach comfortably to all parts of the garden.

Care of tools

Cleaning—Start by washing the dirt off your tools with a garden hose by scrubbing with a wire brush. Dip the tools in a diluted solution of any household bleach. Turpentine can be used for any items that might be covered in sap and vinegar can be used to soak items coated in rust. Rub wooden handles with linseed oil.

Sharpening—Hoes, shears, scissors, knives, loppers, prunes, and shovels all need to be sharpened sometime and regularly.

Storing—Store Tools in a clean dry place after cleaning and wiping them



INTEXT QUESTIONS 7.1

Match column A with column B

| A | B |
|---------------------|-------------------------------|
| 1. Trowel | (i) Dirt and hand sores |
| 2. Loppers | (ii) cutting strings |
| 3. Long Handle Hoes | (iii) Carrying garden waste |
| 4. Garden Knife | (iv) Seed holes |
| 5. Wheelbarrow | (v) Scissors with long handle |
| 6. Garden Secateurs | (vi) Pruning |
| 7. Gloves | (vii) digging, scooping, |

Notes



7.3 GARDENING ACTIVITIES

1. PREPARING THE SOIL FOR PLANTING

- Determine the type of soil you have and plan to get the required mix.
 - Clay soil will hold water but does not drain well. It is usually highly alkaline and will need a lot of organic matter added to it.
 - Sandy soil will drain well but requires frequent watering. It will also need to be improved with organic material.



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➤ Very organic soil is usually highly acidic and will have both good drainage and moisture retention. You may need to add lime to increase the pH level.

- Add plenty of organic material to your soil before you plant.
- Dig and aerate your soil each season.
- Check your soil for good drainage by digging a hole a foot deep (30cm) and filling it with water. The water should drain out in around 15 minutes. If it takes much longer or drains too fast the may need to take steps to rectify it.

2. SELECTING SEEDS

- Buy seeds of a reputable seed company.
- You can select seed available at your home also.
- Choose a variety that will do well in your climate.

When selecting seeds ensure that they free of the following:

- Mildew
- Blight
- Rust
- Aphids
- Worms
- Virus



3. SEED SOWING

- Timing is important- not too cold and wet to sow
- Temperature matters - As a rule, the seed of most (but not all) species germinates best in gentle heat.
- Moisture is important - As a rule, most seeds' germination and growth depends on keeping the soil just slightly damp to the touch.
- Humidity is important for successful germination.
- Light levels matter.
- Depth and spacing matter - Sowing seed too deeply is a classic beginner's mistake, as is sowing too densely.
- Consider the space available to grow. Plants need space to grow and to promote health with airflow to reduce disease like mildew and blight. If you have a small garden, look for bush, compact or container varieties to grow.

4. WATERING

Water the plants regularly. In the summer season, you need to water them at least once every day. Plants lose a lot of water during this summer and they can wither or have stunted growth if they are not well watered. With regard to the amount of water to use one needs to consider the species of the flowers and their water requirements. Other factors that you can consider are the type of soil in the garden and the amount of rainfall in the area.

**Notes**

Excess watering and poor watering methods can cause fungal diseases on plants.

5. FERTILIZING

Garden soils lose fertility with time, subjecting plants to inadequate nutrients. When you notice signs of low soil fertility, you need to immediately apply appropriate fertilizers. The best fertilizers for flowers are the water-soluble or liquid ones. Some fertilizers can scorch plants when used incorrectly like when high amounts are used or when applied at the wrong time. To avoid this problem, follow the manufacturer's directions for the fertilizer. Perform a soil test to help pick the correct fertilizer. Organic fertilizers take longer to release in the soil, but they create a healthier soil over time.

6. MULCHING

Mulch is any material that is spread or laid over the surface of the soil as a covering. It is used to retain moisture in the soil, suppress weeds, keep the soil cool, prevent soil erosion and adds nutrients to the soil. Organic mulches also help improve the soil's fertility, as they decompose. For mulches choose the ones that do not spoil the beauty of the plants. Some recommended mulches include grass, leaves, wood chips, and polythene papers.

7. DEWEEDING

Weeds compete for nutrients available in the soil and the with useful plants. Besides they can harbor pests and diseases. In order

to get the best from your flowers, you need to remove any weeds that grow in your garden.

If you are growing flowers in a smaller garden or using pots and vases, you can control weeds by just uprooting them. For a larger garden, you need to use garden tools like a hoe and pick, and need to weed after every week.

**Notes**

8. PROVIDING PLANTS WITH ENOUGH SUNLIGHT

Sunlight is the source of energy in plants, and so you need to ensure that the plants are getting enough of it. Some flowers need many hours of sunlight every day while others, like the indoors, need just a few hours. So you need to know the light requirements of your plants in order to provide them with enough light.

9. PREVENTING AND CONTROLLING PESTS

Pests can easily kill plants, so it is important to prevent them from attacking the garden. You can prevent some pests by keeping the garden free from weeds, refuse and by installing barriers and traps. Some pests that you should be aware of include bugs, mites, aphids, whiteflies, and gnats.

If plants are attacked by pests, one needs to use appropriate pesticides to kill the harmful organisms.

10. PREVENTING AND CONTROLLING DISEASES

Like pests, diseases are quite harmful to flowers. Most plant diseases are caused by fungi, bacteria, and viruses. You

**Notes**

can prevent fungal diseases by avoiding excessive use of water in your garden and by using clean weeding and pruning tools.

11. PROTECTING PLANTS FROM ANIMALS

Some animals, like cows and goats can destroy plants by feeding on the foliage. Other animals like dogs and cats can also be destructive on garden plants.

The best way to protect your garden from animals is to install a barrier.

12. PINCHING AND PRUNING PLANTS

Pinching is the process of removing stem tips to encourage lateral growth and promote good shape. It is recommended to pinch back plants to increase branching and promote the formation of more flowers.

13. THINNING AND CULLING PLANTS

Thinning is the process of removing excess plants to create room for the growth of the remaining plants. On the other hand, culling is the process of removing undesirable plants (inferior, weak, infested or diseased) to give more room for the remaining plants or to control pests and diseases.

14. STAKING PLANTS

Staking is done to provide support for plant stems. It involves fixing a stake or rod in the ground and tying a stem on it. This is

done on plants with weak stems or where plants are required to grow in a certain direction

15. DEADHEADING PLANTS

Deadheading is the process of removing old or dead flower heads from a plant to encourage more blooming. It can also keep the plants looking tidy.

16. REPLACING THE SOIL

Soils lose their physical properties with time, lowering their capacity to sustain plant growth so it needs to be replaced.



INTEXT QUESTIONS 7.2

Explain the following in one sentence only-

1. Fertilizing
2. Mulching
3. Deweeding
4. Thinning
5. Culling
6. Deadheading
7. Pinching

7.4 PREPARING ORGANIC MANURES

Organic manures are composed of dead plant and animal remains and contain plant nutrients. They are applied to the soil to increase

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crop production. In the farms manures from cow or buffalo dung, compost made from plants, leaves and kitchen waste, and leguminous crops used as green manures

Benefits of compost

- Maintains soil fertility level.
- Increases the nutrient level of the soil by improving soil structure and aeration.
- Helps to retain plant nutrients and moisture.
- Well-decomposed compost buffers soil reaction and controls soil temperature.
- Increases soil microbial activity which helps mineralization of applied chemical fertilizers, making them more available to crops.

Preparation of compost

- Arrange composting material in a pit or heap. If composting is done in a heap, the site should be levelled and protected from rain by a roof so that nutrients will not drain off.



Fig. 7.13 Watering the compost



Fig. 7.14 Turning the compost

- Compost is decomposed by fungi and bacteria. For proper microbial growth, add starter materials like wood ash.
- Add enough water to keep compost moist; the material should be spongy - not too dry, not too wet.
- Turn the compost pit or heap at 30-40 day intervals for proper aeration.
- Cover the compost pit or heap with mud or straw or plastic sheets. This practice enhances decomposition.

**Notes**

CHARACTERISTICS OF WELL-DECOMPOSED COMPOST

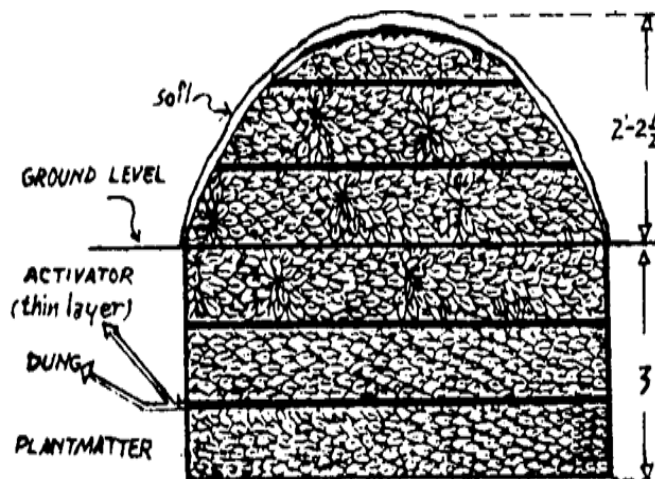


Fig. 7.15 Cross Section of the Composting Pit

- Crumbly
- Does not stick in the hand
- Dark grey or blackish in color
- Original material cannot be distinguished.



Notes

7.5 SCOPE

One can find many job opportunities or get self employed in Horticulture. Horticulture is the branch of agriculture that deals with the art, science and business of plant cultivation. This includes plants that are edible and ornamental. It also includes conservation of plants, restoration, landscape, design and construction.



WHAT HAVE YOU LEARNT

- Meaning of Gardening
- Qualities of a gardener
- Tools of gardening
- Care of tools
- Preparing the soil
- Selection of seeds
- Seed sowing
- Watering
- Fertilizing
- Mulching
- Deweeding
- Providing sunlight
- Preventing and controlling pests
- Preventing and controlling diseases
- Protecting plants from animals
- Pinching and Pruning plants

- Thinning and Culling plants
- Staking plants
- Deadheading plants
- Preparing organic manure
- Benefits of compost
- Preparation of compost
- Characteristics of well decomposed compost



TERMINAL QUESTIONS

1. What is the gardening practice?
2. List the qualities of a gardener
3. List the tools of gardening and describe any 5.
4. What points will you consider for sowing of seeds.
5. Explain the process of making compost
6. What are characteristics of well made compost?
7. What are the benefits of compost?



ANSWERS TO INTEXT QUESTIONS

7.1.

1. - (vii)
2. - (v)
3. - (iv)
4. - (ii)





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5. - (iii)
6. - (vi)
7. - (i)

7.2.

1. Adding fertilizers to enhance the nutrients of the soil
2. Mulch is any material that is spread or laid over the surface of the soil as a covering.
3. Pulling out of unwanted plants
4. Thinning is the process of removing excess plants to create room for the growth of the remaining plants
5. Culling is the process of removing undesirable plants (inferior, weak, infested or diseased) to give more room for the remaining plants
6. Deadheading is the process of removing old or dead flower heads from a plant
7. Pinching is the process of removing stem tips to encourage lateral growth and promote good shape.