

Module 2 : Soil

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Objectives: This module teaches people how to:

- Choosing the right soil for your container
- Choosing the right soil for your plants

Definitions

Leaching the loss of water-soluble plant nutrients from the soil due to rain in irrigation

Weathering The means by which soil rocks and minerals are changed by physical and chemical processes into other soil components

Advantageous a condition or circumstance that puts one in a favourable or superior position

Disadvantages an unfavourable circumstance or condition that reduce the chances of success or effectiveness

Inorganic Not consisting of or deriving from living matter

Organic relating to or derived from living matter

Soil

The majority of the land's surface is composed of soil, which is a loose surface substance. It is made up of both inorganic and organic particles and substances. The structural support that plants utilized in agriculture receive from the soil, in addition to their supply of water and nutrients, is provided soil.

The chemical and physical qualities of soil can differ substantially from one another. A wide variety of soil types can be produced by a combination of diverse processes, including leaching, weathering, and the action of microorganisms. In terms of agricultural output, each has some qualities that are advantageous and disadvantageous.

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The soil's physicochemical properties and composition

All of the properties of soil that are visible and touchable make up their physical qualities, which include the following:

- texture
- colour
- depth
- structure
- Porosity
- Stone content

There are four distinct categories of soil, which include:

- Silt soil
- Sandy soil
- Clay soil.
- Loamy soil.

The ability of water and air to pass into and through the soil profile is directly related to the quality of the soil structure, which in turn contributes to the health of plants. The soil holds water, which is necessary for plant growth. Certain physical features of soils can be altered through careful management, despite the fact that some soils have a naturally superior structure compared to others.

Monitoring the soil's physical properties is essential for gaining an understanding of the current state of the soil. In addition to this, it is essential to make certain that the management techniques are not the cause of the deterioration of the soil. One example of this is when there is an excessive amount of constant movement human or physical interaction in a given area, which results in compaction and a reduction in the number of spaces between the aggregates, which causes a reduction in the amount of air and water that enters and moves through the soil.

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Choosing the right soil for your containers

Because soil is the foundation in which healthy plants can be grown, it is imperative that you always use soil of good quality when growing plants in raised beds.

When it comes to potting soil for container gardening, you should never skimp on quality because you really do get what you pay for. Your plants will develop much more successfully if you begin with a high-quality mixture. A high-quality container soil mix can be quite a bit more expensive to purchase, but it can make all the difference in the world when gardening in containers.

If you ever visit your local gardening stores, you'll be amazed at how many different brands and types of dirt there are. When I first started gardening, I questioned why are there so many different types of dirt and how am I supposed to know which one is going to work best for me? You should never assume that they are all the same there are numerous kinds of soil available for container gardening, each of which was developed with a particular goal in mind. Some of them are ideal for cultivating flowers and other kinds of plants. While some are specifically designed for growing vegetables and other edible plants in a container, others are not.

It is important to choose the right soil for however it doesn't have to be overwhelming. Always make it a point to read the label to check if the soil was designed for a certain application.

The best choice for the majority of plants that are grown outside is often to use a container soil mix that is of high quality and can be used for a variety of purposes.

Before you make the purchase, you should, pinch off some soil from bag and examine the consistency of the container garden soil mix. As I mentioned earlier, not all of them are made the same way, and different businesses rely on different recipes.

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Therefore, it is highly recommended that you check things out for yourself. The following are some characteristics that distinguish a high-quality potting soil mix for containers:

- The medium is airy and frothy in texture.
- It has excellent drainage, yet at the same time, it retains moisture.
- It is permeable, allowing water and air to easily access the plant roots and so promotes plant growth.
- There are no weed seeds that have started to germinate in the bag, nor are there any little bugs flying around it.
- There is not a significant quantity of bark or sand included in the mixture.
- The texture is moist without being gummy, and the smell is enticing.

Choosing the right soil for your plants

The organic and inorganic matter that exists on the surface of the earth and acts as a medium for the growth of plants is referred to as soil. If you have good soil, your plant's roots will be able to sprout and spread more quickly, which will boost their ability to take in the water and nutrients they need to be robust and prolific.

When deciding which soils to use, it's a good idea to get things started by doing a soil test. It will tell you what nutrients your garden is lacking so that you can look for garden soil or topsoil that provides those nutrients. This will allow you to have a more successful gardening experience.

Garden centres typically have a diverse selection of different types of soil. Because of this, it is essential to be aware of the function that will be served by the soil that you intend to purchase. You should get topsoil if you are going to be filling in a hole. If you want to improve the soil in your yard or in a bed and you also want to cultivate plants, you should buy enriched topsoil or compost. When establishing a container garden, you have the option of selecting a potting mix.

Choosing the right kind of soil and even making your own potting soil can save you money in the long run when it comes to growing plants.

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1. Figure out what your plant needs to thrive.

You may identify your plant by looking it up on the internet, browsing through a book on plant identification, or reading the tag that comes with the plant when you buy it. You can get information about the specific requirements of the plants that you will be adding to your garden by using the following methods, and you can then use this material to choose the type of soil that is suited for the plants' individual needs:

- Take, for instance, the amount of moisture that your plant requires in order to thrive. Sandier potting soil that is able to drain more quickly is going to be necessary for a desert plant than the soil that is used for a wetland plant.
- Consider the PH level that is optimal for the growth of your plant some plants need a more acidic environment specifically one that has a pH of 6.0. Most potting mixes have a pH of 7.0.
- Plants that are native to an area will have certain soil requirements. Always study up on further information regarding the unique requirements of your plant or inquire about the optimal soil and pH levels at your neighbourhood garden store.

2. Select the type of potting soil you want to use: organic or ordinary.

Different plant types will have varying nutrient requirements, some of which may not always be met by the plant's natural environment. When it comes time to choose the best soil for your plants or garden, the following information will equip you with the knowledge you need to make a decision that is based on facts:

- Organic potting soil is better for the environment than conventional potting soil because it contains living organisms, decomposing plant matter, worms, and other natural components. It is made up of little organisms that are responsible for the addition of nutrients and minerals to the soil.
- Peat, manure, and black humus are some of the elements that are typically found in conventional potting soils. Humans are responsible for the production and addition of any fertilizer or nutrients found in potting soil that is not organic.

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3. Determine how frequently your plants will need to have their soil replaced.

If you have plants that need new soil at the beginning of each growing season, conventional soil may be a better choice for you than organic potting soil. This is because, while organic potting soil can be reused, conventional soil is only good for one growing season and can be thrown away afterward.

- If you choose to use organic soil for your garden, you will be able to safely recycle things that are good for the environment by putting them in pots or spreading them out in your outdoor garden.
- Conventional soil must be abandoned after just one season when potted plants are no longer able to absorb nutrients from this soil. On the plus side, you get to start every season anew with fresh, clean soil. Nevertheless, conventional soil must be discarded after only one season.

Great job finishing module 2 read over the information again if you need then take the quiz.

After completing your meditation and write in your journal how you felt after

Module 2: Quiz

1.Name 3 physical properties of soil:

2.How many distinct categories of soil are there: 3,4,6,8

3.Does soil hold or release water?

4.What is the ph level of most potting mixtures?

After completing your meditation and write in your journal how you felt after