

Unit 3

Modern Agriculture

Agricultural land is decreasing due to urbanization in modern time. To increase agricultural production, we have to use modern equipments, improvised seeds, modern irrigation methods and scientifically authorized agricultural methods.

Modern equipments : See and write name of each in blank space :



- Where does the tractor being used in agriculture ?

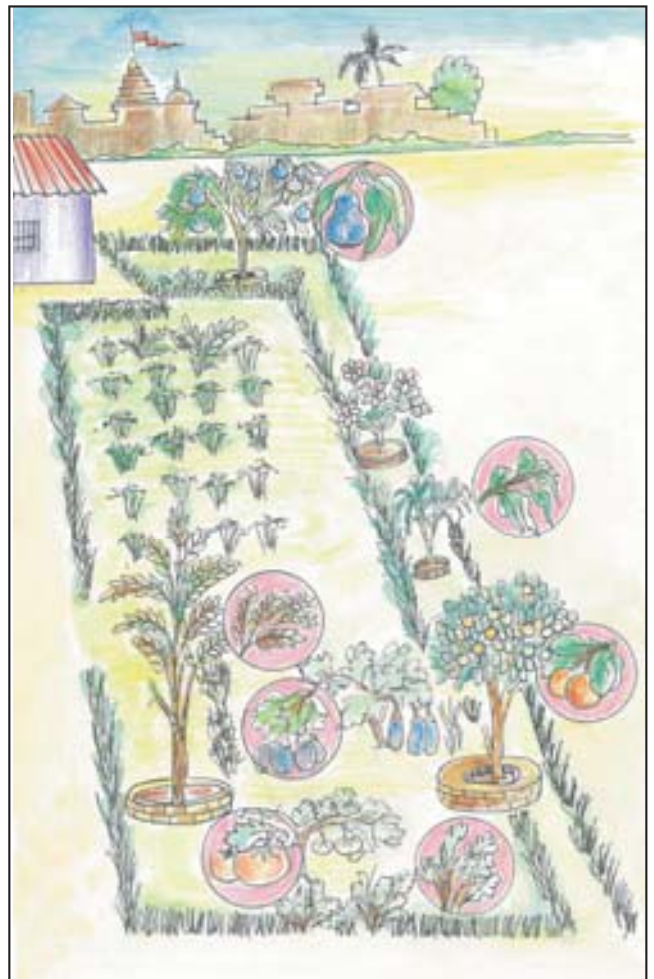
Which instruments are being used to separate seeds from its cob ?

Which instruments are being used to spray insecticides ?

Vehicle like tractor is used to remove weeds. Harvester is used to take crop in large fields. While thracer is useful to separate cereals and pulses.

Kitchen-Garden :

Cultivate Goose berry (amla), Drum stick tree (Saragavo), Sweet neem etc in the land surround your house of school. Cultivate broad bean, Bottle gourd, Bitter gourd and Goosberry along with them. Also grow vegetables like Amaranthus, Spinach, Chilly, Brinjal and Tomatoes.



Terrace-Garden :

As there is scarcity of land in big cities, one can grow a small garden on the terrace of house. We can grow plants in small pots or spreading a plastic sheet on the roof and spreading a 9 inch thick layer of soil over it. We can grow vegetables and flowering plants there. One can also grow climbers and grapes.

**Net-House :**

A net is tied on the sides and also on the top of the farm to protect plants against heat. This is called net-house. Plants can grow better due to moderate temperature. Net-house is used generally for germination seedlings to grow crops like tomato and to produce fertilizers like wormy compost.

Horticulture :

We can use small patch of land for horticulture. Horticulture is very important way of farming in modern age. This farming is very useful to earn more profit in less time and less availability of resources. Strawberry, grapes, papaya, water melon, mango, chiku, pomengranate, guava, citrus like fruits and many types of flowers can be grown using this method.

Grafting is very useful method in horticulture. A farmer can gain more profit by growing 'cuttings' of fruiting trees. One can gain more benefit by producing cuttings of good varieties of crops. Inter crops of vegetables can be taken in the gardens of mango, chiku and coconut. Horticulture is very useful for the prosperity of farmers. We can avoid wastage of water by using drip irrigation method in horticulture.



- Government provides financial support for drip-irrigation and agriculture research.

Seeds Production :

With the help of artificial pollination, hybrid seeds can be produced to get better seeds. Farmers produce hybrid seeds of sunflower, cotton, castor, rice etc.

Hydroponics :

Hydro means water while ponics means hard work. Hydroponic agriculture means growing plants without soil. This method is used in those area where there is a scarcity of agricultural land or agricultural land is unavailable.

There are three methods of hydroponics :

- (1) Water culture method
- (2) Gravel-culture method
- (3) Sand-culture method.

Water-culture method :

One PVC pipe is taken and holes are created at distance. Roots of plants are kept in these pores. Water having minerals like K, Ca, Fe, Mg, Bo and Zn are flown in these pipes. Minerals and water useful for the growth of the plants are is provided by pipe.

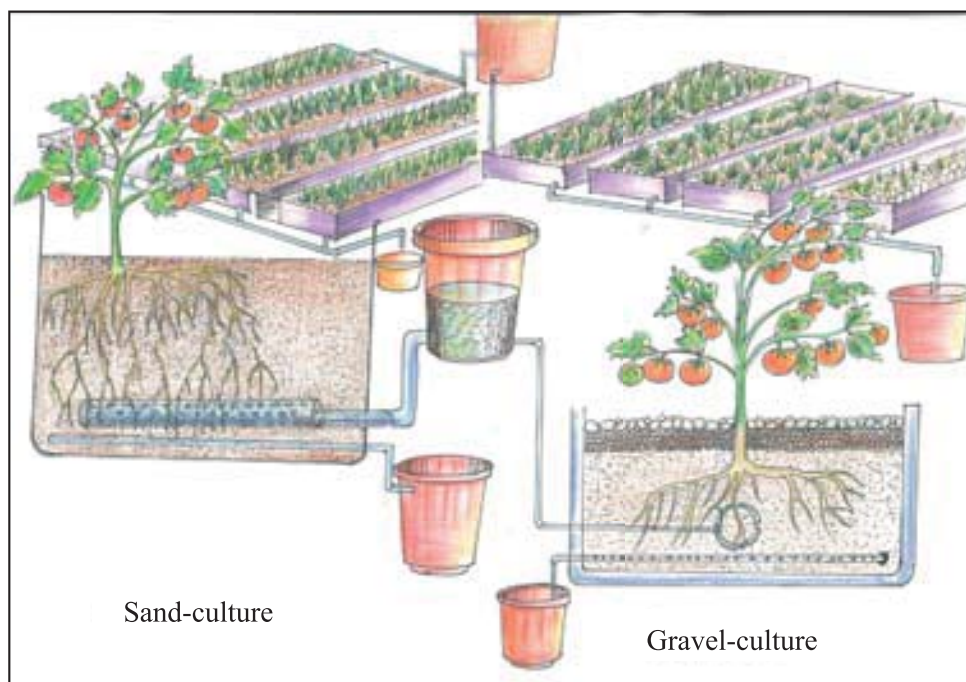


Excess water is collected and flown again in the pipe. Thus, water and fertilizers can be saved.

Gravel-culture method and culture method :

First of all the roof of the building is covered with plastic and a layer of soil (sand) is spread over it. To keep the plants erect, layer of gravel is made over the layer of sand. Plants are grown at a proper distance in the gravel layer. Water having nutrients is spread on these plants. Similarly plants can be grown in the sand culture method by making a layer of sand.

We can cultivate small flowering plants, vegetables, grapes and strawberry by using hydroponics. Growth of plant is faster in this method, hence production of crop is better.



**Buried Irrigation method :**

In this type of method pipe used in drip irrigation is dug 50 cm deep in the soil. Small roots are prevented to enter in to this pipe with the help of tury plan. Entry of soil is prevented in the pores of pipe. Effective farming can be done by this method.

Sprinkling :

Sprinklers are kept at proper distance in this method. Plants are given water by sprinklers starting them at proper time. Fruitbeds, gardens and net-houses are using method. 30 to 300 liter water can be irrigated by this method.

Management of irrigation :

Computer is used to maintain proper water-level. Proper proportion water can be maintained by using proper irrigation method and the supply is cutoff automatically when it is not needed.

Computer is provided information regarding the humidity of soil with the help of measuring equipments set under the soil. These equipments are connected to computer.



- Q.1** Which plants can be grown in kitchen-garden ?
- Q.2** Why modern equipments are used in agriculture ?
- Q.3** What is the difference between hydroponics and agriculture on land ?
- Q.4** What type of production can be taken with the help of cutting method ?

Do this : Visit a net-house and collect information.

Try to develop kitchen-garden.

