1. Crop Production and Management

Evaluation

1 A. Question

Choose the correct answer:

Sowing is done in large scale by _____ (manual sowing / seed drill)

Answer

Seed drill

Sowing is the process of putting seeds into the soil for agriculture. On a large scale (i.e. involving a large number of area) it is done by a seed drill. In a seed drill, seeds are sown by funnel or three pipes having a sharp end. It ensures that the seeds at equal distance and proper depth which avoids damage by birds. This method is relatively quick and effective, and hence employed in large scale by farmers.

Additional Information: Why manual sowing is incorrect? Seeds may also be sown manually, where the seeds are put into the soil by hand, called *manual sowing*. However, it is time consuming, and there are limitations like non-uniform seed distribution or risk of seed damage by birds.

Funnel delivering seeds into soil

1 B. Question

Choose the correct answer:

We can prevent pest at home in natural way by using

(Thulsi leaves / Neem leaves)

Answer

Neem leaves

Fresh fruits and vegetables contain lots of moisture. (You must have heard elders advising consumption of more fruits and vegetables in summer as they keep you hydrated). This also facilitates the growth of micro-organisms such as different bacteria and fungi, which grow well in moisture. Neem leaves are natural repellents for bacteria and fungi, even some insects and prevent hence food spoilage.

Note: A Pest is any destructive insect or other animal attacking crops, food, livestock, etc.

1 C. Question

Choose the correct answer:

Pick the odd one out. (Hand fork, harrow, sickle, hoe)

Answer

Sickle

Hand fork, harrow and hoe are used for manual weeding for protecting the crops from weeds (unwanted plants which take up soil nutrients)

A sickle is used for harvesting of crops, which involves cutting down and gathering mature crops.

1. Hand fork 2,3,4. Hoe (different types)

1 D. Question

Choose the correct answer:

Government has established _____ to satisfy consumers and farmers in marketing. (Uzhavar Sandhai / Co-operative bank / Private shops)

Answer

Uzhavar Sandhai

Most farmers sell their crops to middlemen who further sell directly to consumers. But often, these middlemen exploit the farmers as well as consumers, buying from low prices from the farmers and selling the agricultural products at high prices to consumers for profit.

The 'Uzhavar Sandhai' by the Tamil Nadu Government assists the farmers in marketing their products by themselves and eliminates the need for middlemen. This benefits both the farmer and the consumer, as farmers get fair prices for products and consumers are also not overcharged. Loans are also provided to farmers at low rate of interest by government.

1 E. Question

Choose the correct answer:

Choose the fermented food. (wine / fresh juice / milk)

Answer

WineFermentation is the process of breakdown of a substance by microorganisms such as yeast and bacteria.

Alcohol is usually formed by fermentation of sugar by yeast.

Since wine is a type of alcohol, it is the correct answer.

2. Question

Arrange the following steps of preparation of soil in correct order.

a) Sowing b) Levelling c) Ploughing

Answer

1. c) Ploughing

2. b) Levelling

3. a) Sowing

Before the seeds are sown, the soil must be ploughed and levelled so the seeds can obtain maximum nutrients from soil.

1. Ploughing: The upper layer of the soil is exposed to external environment and may get depleted of its nutrients. Hence, ploughing is used to turn over the upper layer of soil, which help provide aeration to the roots and in bringing fresh nutrients to the surface. It also pushes down any weeds that may be growing to lower layers so they can degrade.2. Levelling: It breaks down any big pieces of soil crumbs which ensures uniform aeration3. Sowing: It is the process of putting seeds into the soil.

3. Question

Match the following

a) Furrow irrigation — to irrigate grapes, banana etc.,

b) Basin irrigation — used where soil can't retain water.

c) Sprinkler irrigation — between two rows of crop.

d) Drip irrigation — paddy field.

Answer

a) Furrow irrigation — between two rows of crop.

b) Basin irrigation — paddy field.

c) Sprinkler irrigation — used where soil can't retain water.

d) Drip irrigation — to irrigate grapes, banana etc.

a) Furrow irrigation: There are channels of water made in the soil between two crops and the water enters between the furrows. It is employed for crops that are arranged in rows like sugarcane, banana, paddy, etc.

b) Basin irrigation: Here, the field is just filled with water. It is good for crops which grow well when their roots are submerged in water such as paddy.

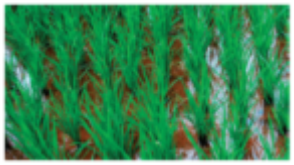
c) Sprinkler irrigation: Sprinklers spray water in the soil at regular periods of time. This method reduces water wastage especially when soil can't retain water. For example: Lawn

d) Drip irrigation: This method also helps save water. The water falls drop by drop and is delivered directly to the roots. It is used for grapes, banana, brinjal, etc.

4. Question

Name the types of irrigation related to the following figures.

A)_____



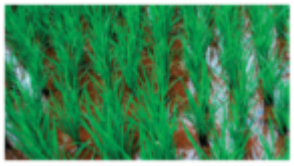
B)_____

C)_____

D)_____

Answer

A) Furrow Irrigation: Here we can see a furrow or channel made between the crops. Hence, it is furrow irrigation



B) Basin irrigation :There is plenty of water the entire area of soil. Hence it is basin irrigation

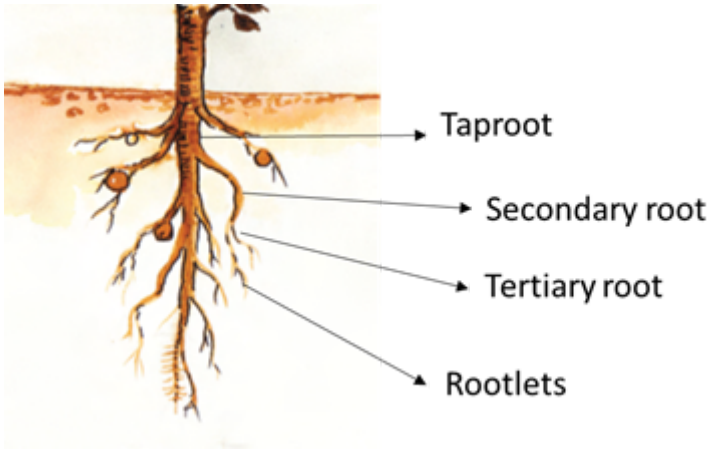
C) Sprinkler Irrigation: Sprinklers are seen which are distributing water on the soil. Hence, it is sprinkler irrigation

D) Drip irrigation: The water is put in such a way that it directly reaches the roots of the plant. Hence, it is drip irrigation.

5. Question

Label the diagram of the taproot system and write its significance.

Answer



The taproot system branches vertically downwards and spreads out into branches, namely secondary root, tertiary root and rootlets. This enables the roots to derive nutrients from deeper portions of the soil.

6. Question

Classify the following chemicals based on the uses given below.

(Phosphorus, 2-4-D, Potassium, Dalapon, Nitrate, Metachlor)

Fertilizers	Weedicides
1.	1.
2.	2.
3.	3.

Answer

Fertilizers	Weedicides
1.Phosphorus	1. 2-4-D
2.Potassium	2. Dalapon
3.Nitrate	3. Metachlor

Fertilisers are nutrients added to the soil which help in healthy growth of plants. Over time, after repeated cultivation of the soil, the minerals in the soil may get depleted which, and fertilizers may need to be added. Hence, fertilizers are mostly minerals such as Phosphorus, Potassium, and Nitrate (these three are very essential, and commonly found in many fertilizers)

Weedicides are chemical substances that destroy the weeds but do not harm the crops. For example 2-4-Dicholophenoxyacetic acid (2-4-D), Dalaplon and Metachlor

7 A. Question

● Mani is repeatedly cultivating same paddy crop in his field and getting poor yield.

● Nathan likes to go for changing the crops every season and getting good yield.

● From the above statements find out and justify the best method of agricultural practice.

Answer

Nathan's method of changing the crops every season is the best method of agricultural practice

Crops need nutrients to grow, which they readily take from the soil. However, each crop is different; It may depend on certain specific nutrients for it growth, which it would take from the soil in large quantities, Hence, after repeated growth of the same crop on the soil, the soil may get depleted of some of its essential nutrients and may no longer be able to support the growth of the plant.Crop rotation is a method of growing different crops alternatively, in the same field in a successive season. For example, growing pulses in one season and legumes in next season.

7 B. Question

Classify the following items based on the storage methods.

(Apple, Wheat, Potato, Rice, Grape, Sorghum)

Dry storage	Cold storage

Answer

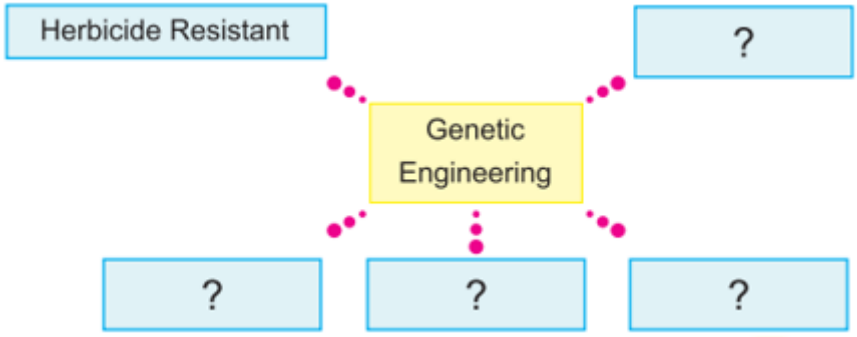
Dry storage	Cold storage
Wheat	Apple
Rice	Potato
Sorghum	Grape

COLD STORAGE: Fruits and vegetables contain a lot of moisture. This favours the growth of microorganisms that may spoil the food. Hence, they must be stored in cold storage. Since the microorganisms find it difficult to grow well in cold temperatures, the food can be preserved for longer periods

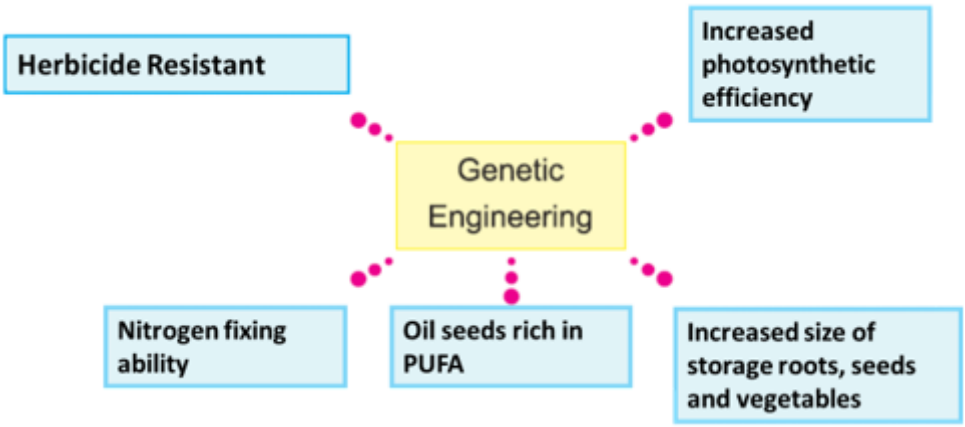
DRY STORAGE: Grains such as wheat, rice and sorghum do not contain much moisture as seeds are dry. They must be preserved in an environment that prevents exposure to moisture. (Even air contains a lot of moisture in the form of spread out water molecules). Hence, they are stored in dry environments such as jute bags, godowns, silos, etc.

8 A. Question

Complete the circles based on applications of Genetic Engineering



Answer



Genetic engineering is the process of introducing desirable genes into a crop that normally do not possess them. These new plants whose genes are

modified are called transgenic plants. Desirable traits can be given to the plants such as :

l Herbicide resistance

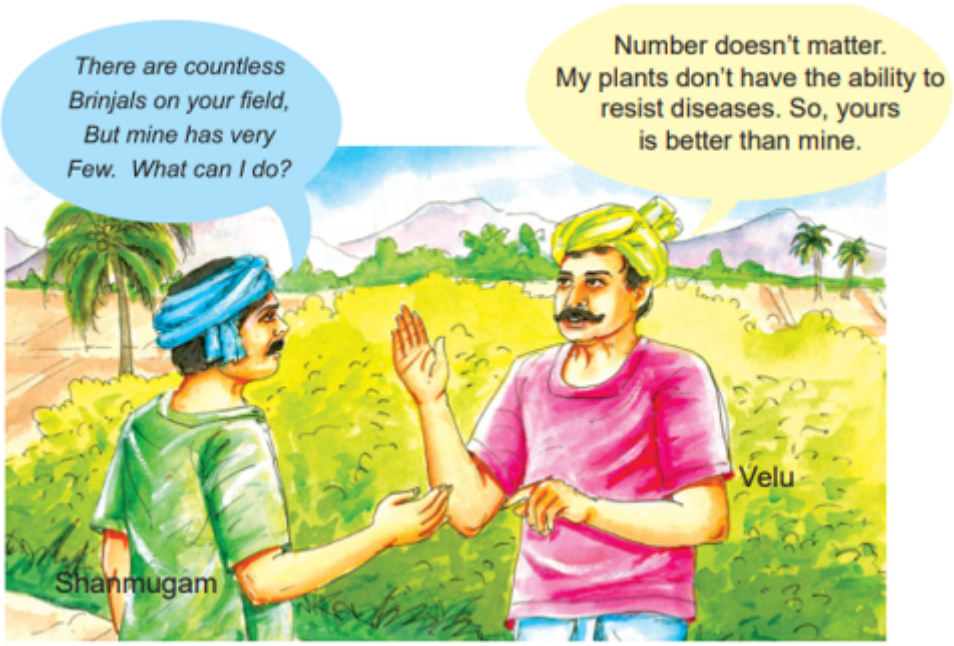
l Increased photosynthetic ability involving better utilization of sunlight, especially during less sunny days

l Improving their ability to fix nitrogen from the soil without dependence on microorganisms which are mainly responsible for converting atmospheric nitrogen into an absorbable form for plants

l Oil seeds such as soya seeds when rich in PUFA (healthy fat) helps patients suffering from heart disease

l Increased size of storage roots, seeds, and vegetables which would provide more calories and nutrients

8 B. Question



From the above statements, suggest techniques to overcome the problems of Shanmugam and Velu.

Answer

1. The number of plants can be increased by improving the condition of soil before planting seeds such as ploughing and leveling and providing adequate nutrition to the soil by adding fertilizers along with good irrigation.

2. Pesticides may be used on plants which do not have the ability to resist diseases.Seeds which are genetically modified to show resistance to diseases may also be bought from the market.

9. Question

List some more common crop plants

Common crop plants.			
S.No	Crop group	Crops	
1.	Cereals	Wheat,----------	
2.	Pulses	peas,----------	
3.	Vegetables	potato, ----------	
4.	Fruits	apple,----------	
5.	Oil seeds	coconut,----------	
6.	Sugar yielding crops	sugarcane----------	

Answer

1. Cereals - wheat, maize, rice, barley, sorghum

2. Pulses - peas, beans, lentil

3. Vegetables - potato, pumpkin, spinach, cauliflower

4. Fruits - apple, banana, mango, orange

5. Oil seeds - coconut, soya-been, castor, mustard, groundnut

6. Sugar yielding crops - sugarcane, sugarbeet