Challenges in Improving Agricultural Products

Improve your learning

Q. 1. Suggest some ways in which our country could increase the production of rice to meat at least global limits. (AS1)

Answer : India is one of the largest world's producers of rice.

Rice can be cultivated by the different methods but in India still, rice is cultivated by traditional methods. Rice production is an important part of the national economy in India.

We can increase the production of rice by following methods—

1) By educating the farmers.

2) The atmosphere should be humid and soil should be clayey.

3) By using new methods- using manure and domestic waste.

4) By leaving land uncultivated for few months so that land (soil) gain its fertility.

5) By growing rice at a place where rainfall is more.

6) Increase plantation.

Q. 2. How are biofertilizers more beneficial as compared to chemical fertilizers? (AS1)

Answer : Biofertilizer- Biofertilizer is also known as manure. Organic manure is plant and animal wastes that are used by farmers as a source of nutrients for the plants.

Chemical fertilizers- Inorganic chemicals/materials of synthetic origin that is applied to soil as a source of nutrients for the plants.

Bio fertilizers are more beneficial as compared to chemical fertilizers because —

Bio fertilizers

1. Are eco-friendly so it does not cause any harms to soil and nature.

2. It also helps in increasing the soil fertility. It adds humus to the soil.

3. manure is cheap compared to the fertilizers.

4. It Slows down global warming.

5. Species richness - organic farms are rich in species like an earthworm, birds, butterfly, beetles, spiders, soil microbes etc.

6. Enhance water holding capacity of the soil.

Whereas

Chemical fertilizers help in increasing the crop productivity but make the soil infertile. They change the Ph of the soil. They kill the various microbes, plant species which effect the entire ecosystem. Long-term use of chemicals can also cause greenhouse effect. It contaminates the groundwater as chemical fertilizers are water soluble.

Q. 3. A. Find out the adverse effects of chemical fertilizers needed for growing the high yielding varieties of crops? (AS1)

Answer : Effect of chemical fertilizers are as follows—

1. Reduce the crop productivity.

2. Decrease the nutrients from the soil.

3. Cause infertility of soil.

4. Pollute the environment and water bodies and also harm the aquatic life.

Q. 3. B. Can high yielding varieties be grown without them as well? How? (AS1)

Answer : High yielding varieties give high reliance on fertilizers. So growing HYV (High yielding varieties) without chemical fertilizers will be challenging.

Q. 4. What threats to nature do chemical fertilizers, pesticides, insecticides and herbicides pose? (AS 6).

Answer : Impact of chemical fertilizers, pesticides, insecticides and herbicides pose on the nature are —.

1. They change the Ph of the soil. And contaminate the soil.

2. They kill the various microbes, plant species which may effect the entire ecosystem.

3. Long term use of chemicals can also cause greenhouse effect. It contaminate the groundwater as chemical fertilizers, pesticides, insecticides and herbicides are water soluble.

4. Can also kill the non-target insects and weeds.

5. They may cause many diseases like nausea, vomiting, headache, weakness and difficulty in breathings.

Q. 5. What are the adverse effects of using high yielding varieties of seeds? (AS1)

Answer : High yielding Varieties of seeds are of better quality then the normal seeds. Hyv seeds play an important role in green revolution.

The adverse effects of using high yielding varieties of seeds are—

1. Water loss- Hyv seeds Required a large amount of water For proper yield.

2. Health Problems- Hyv seeds Requires a large amount of pesticides and chemicals to grow which increase the risk of Health problems.

3. Poor product- hyv seeds produce less fodder then then normal seeds.

4. Pollution- Hyv seeds required a lot of pesticides which increase pollution.

5. Expensive- Many farmers are not able to buy as hyv seeds are expensive.

Q. 6. What are the essential measures that a farmer needs to take before sowing the seeds of a crop? (AS1)

Answer : Sowing is the main part of the crop production.

Sowing is the process in which seeds are implanted in the prepared soil.

Essential measures that a farmer should needs to take before sowing the seeds of a crop are —

1. Maintain the proper distance and depth between the seeds to prevent damage of seeds by birds or insects.

2. Should check the quality of seeds.

3. Availability of water for irrigation.

4. Soil should be rich with nutrients.

5. Using of traditional tools and seed drills for sowing.

Q. 7. Suppose you had a farm in a drought striken area of your state what crops would you grow and how? (AS1)

Answer : Drought area has a very less groundwater and abnormally low rainfall.

So we should try to grow crops —

1. Which requires less water.

2. Which can suffer high heat (humidity).

3. We should use hyv seeds (high yield variety seeds) or hybrid seeds.

4. Examples - we will grow pulse crops like pea and kidney bean.

Q. 8. What measures will you take to save your field from seasonal outburst of insects?

Answer : Mng insecticides and pesticides in the field.

2. By putting fertilizers.

3. By using modern methods (pest control methods) which are least costly and easy to use.

Q. 9. What basis would you adopt to explain to a farmer using chemical fertilizers switch over to organic fertilizers? (AS 4)

Answer : We can educate the farmers by showing him that the use of chemicals fertilizers can be harmful as —

1. It reduce the soil fertility.

2. They kill the various microbes, plant species which effect the entire ecosystem.

3. Long term use of chemicals can also cause greenhouse effect.

4. It contaminate the groundwater as chemical fertilizers are water soluble.

We can tell the farmers that if the organic fertilizers are used properly they can increase the crop production and increase the soil fertility. Organic fertilizers are cheaper than chemical fertilizers.

Q. 10. A farmer had been using a particular insecticide for a long time. What consequences will it have on- a) insect population b) soil ecosystem? (AS 2)

Answer : Insecticides are the substance that used to kill the insects.

Impact of insecticides on insect population —

1. Cause the death of non-targeted organism.

2. Insecticides can kill the beneficial insects. Eg- ladybugs, honeybee, beetles etc.

Impact of insecticides on Soil ecosystem—

1. Decrease the biodiversity of the soil.

2. Kill soil microorganisms.

3. Decrease the soil fertility.

4. Affect the food chain.

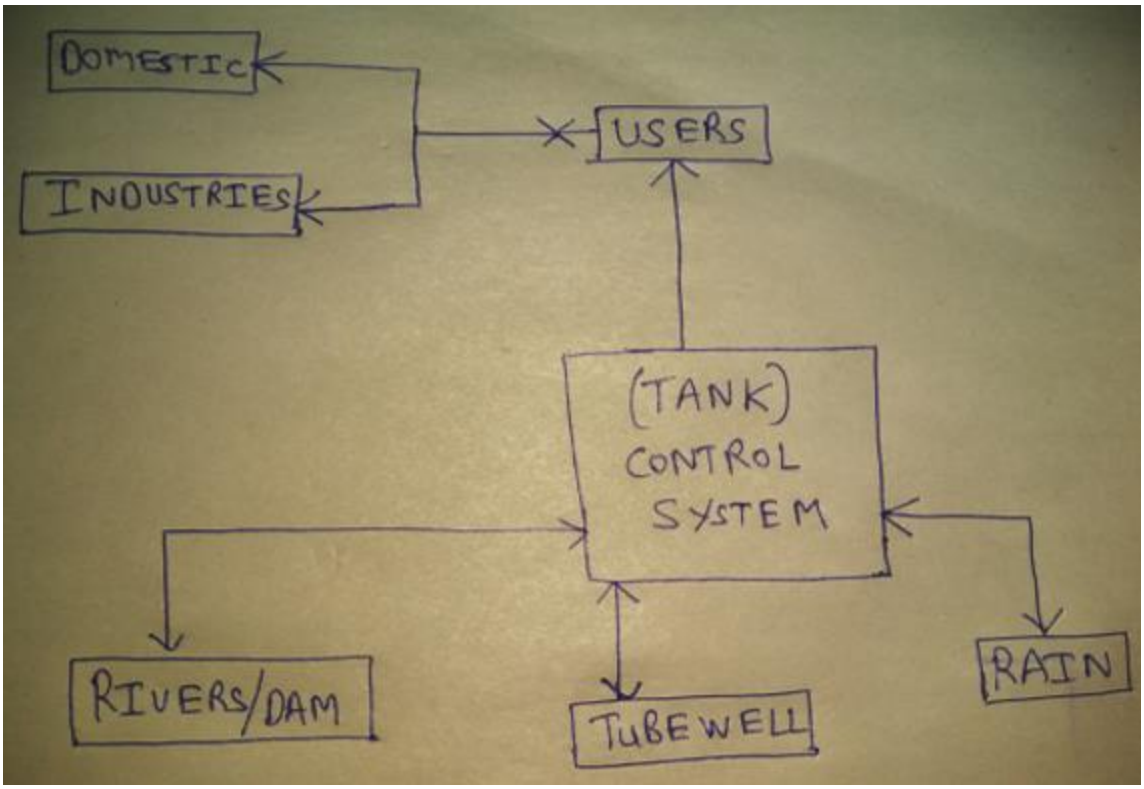
Q. 11. Venkatapuram village is in drought prone area. Somaiah wants to cultivate sugar cane in his fields. Is it beneficial or not? You want to convey him-which questions will you ask him? (AS 7)

Answer : Sugar cane grow in warm temperature and requires a large amount of water.

Somaiah if cultivate sugarcane in his field then it will be not beneficial for her as sugarcane cultivation required a lot of water but she lives in a drought prone area. So sugarcane cannot complete there lifecycle due to shortage of water.

Q. 12. Draw a block diagram of water resources in your village? (AS 5)

Answer :



Q. 13. Ramaiah has soil testing done in his field. The percentages of nutrients are 34-20-45. Is it suitable for cultivating sugar cane crop? Which crops can be cultivate without using pesticides in Ramaiah's field? (AS 2)

Answer : Yes it will be suitable for cultivating sugar cane crop.

Nutrient percentage are 34-20-45 which are the percentage of nitrogen, phosphate and potash respectively.

34 percentage of nitrogen and 45 percentage of potash is good for growing various crops.

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Q. 14. Organic manure is helpful to Bio diversity. How do you support this statement? (AS6)

Answer : Organic manure are plant and animal wastes that are used by farmers as a source of nutrients for the plants. Compost is an example of organic manure.

Compost is made up of plants residues and animal wastes product.

It will we right to say that organic manure is helpful to biodiversity because of following reasons—

1. We all know that organic manure is eco-friendly so it does not cause any harms to soil and nature.

2. Organic manure also help in increasing the soil fertility. It add humus in the soil.

3. Reduce cost production - manure is cheap compared to the fertilizers.

4. Slow down global warming - less use of synthesis chemicals result in less production of harmful gases.

5. Spices richness - organic farms are rich in species like earthworm, birds, butterfly, beetles, spiders, soil microbes etc.

6. Many species found in organic farms provide agriculture sustainability by reducing human input.

7. Enhance water holding capacity of soil.

Q. 15. Make a list of the major weeds in your area (you have already conducted the project). Find out the weeds which are grown in different crops? (AS 4)

Name of the Crop	Weeds that grown on crop

Answer : Weeds are the unwanted plants. They share sunlight and water with main plants. The process of removal of weeds is called weeding.

List of the major weeds in our area are —

Grass

Amaranthus

Xanthium

Parthenium

Jangli jail (wild oat)

Bindweed

Wild sorghum

Trianthema

Motha

Weeds which are grown in different crops are —

1. Kharif weeds

Appears with the kharif crops that is during the monsoon (may-july)

Example- parthenium, math, dudi etc

2. Ravi weeds

Appears with the ravi crops that is during the winter season (oct-dec)

Example- vasanvel, wild oat etc.