CBSE Class 9 Science
Important Questions
Chapter 15
Improvement in Food Resources

2 Marks Questions

1. What do we get from cereals,pulses, fruits and vegetables?

Ans. We get carbohydrates from cereals, proteins from pulses, vitamins and minerals from fruits and vegetables.

2. What factors may be responsiblefor losses of grains duringstorage?

Ans. Factors that may be responsiblefor losses of grains duringstorageare :

- abiotic factors : Unfavourable conditions of humidity and temperature.
- biotic factors : Insects, rodents, bacteria, fungi etc that feed on grains.

3. What are weeds? Give two examples.

Ans. The unwanted plants growing in fields, are called weeds,
Common weeds are – Amaranthus, Chenopodium.

4. What is crop rotation?

Ans. The practice of growing different crops in the same field alternatively, in a pre-planned succession is called crop rotation.

5. What are drones?

Ans. The practice of growing different crops in the same field alternatively, in a pre-planned succession is called crop rotation.

6. What is pasturage and how is it important?

Ans. Flower available for the collection of nectar and pollen is known as pasturage or flora.

(i) Quality of honey and taste of honey depends upon pasturage.

(ii) Pollen grains serve as protein food for bees.

7. What is an layer and a broiler? What are the differences between the two?

Ans. The egg laying poultry bird is called egg layer where as the bird reared for obtaining meat is called chicken or broiler.

The housing (shelter), feed and environmental requirements are different from those of layers the feed for broiler is protein – rich and vitamin rich with a adequate fat.

8. Arrange the following statements in correct sequence of preparation of green manure

(a) Green plants are decomposed in soil
(b) Green plants are cultivated for preparing manure or crop plant parts are used
(c) Plants are ploughed and mixed into soil
(d) After decomposition it becomes green manure.

Ans. b, c, a, d.

9. What are the benefits of poultry farming over cattle farming?

Ans. Benefits of poultry farming over cattle farming are

a) Investment involved is small

b) Area required is small.

c) Maintenance is easy.

d) Returns are quick.

10. Define niter – cropping Mention its advantages.

Ans. Inter – cropping is the practice of growing two or more crops simultaneously in the same field in rows.

Advantages –

1) Productivity is increased

2) It economises space and time of cultivating two or more crops.

3) It helps to maintain soil fertility.

11. What are the advantages of organic farming?

Ans. Advantages of organic farming are –

a) Natural ecosystem is not disturbed

b) Soil fertility is preserved.

c) Harmful effects of chemicals on the living organisms are avoided

d) Pollution of air, water and soil does not take place.

12. Differentiate between mixed cropping and Inter-cropping.

Ans.

	Mixed Cropping	Inter – Cropping
a)	Aim is to minimize risk of crop failure.	Aim is to increase productivity per unit area
b)	Seeds of component crops are mixed before sowing.	Seeds of component crops are not mixed.
c)	Sowing is not done in rows.	Sowing is done in rows in a precise pattern.

13. Give difference between Rabi and kharif crop?

Ans.

	Rabi Crop	Kharif Crop
a)	It is sown in winter season.	It is sown in summer (kharif) season.
b)	It requires cold and dry climate.	It requires hot and humid climate.

14. What is hybridization?

Ans. Hybridization refers to the crossing between genetically dissimilar plants. In this method, the two crop verities are selected, each with at least one of desired characteristics such as high-yield or resistance to disease.

15. List the various methods of weed control.

Ans. Methods of weed control are –

a) Mechanical methods – Weeds are removed by pulling out by hand or by using a khurpa (trowel), hoe

b) Cultural methods – cultural methods include proper seed bed preparation timely sowing of seeds, inter-cropping along with suitable rotation.

c) Chemical methods – weeds can be controlled by the use of chemicals like 2,4,-D.

d) Biological methods – Insect of other organisms of weed plants is used to attack the weeds and reduce their number.

16. What are the characteristics features of ideal shelters for cattle?

Ans. Characteristics of shelter are –

1) The shed is properly roofed to protect the animals from rain, heat and cold.

2) The floor of the shed is made sloping to facilitate cleaning and keep their sitting space dry.

3) Arrangement for clean drinking water is made.

4) The sheds have proper arrangement for disposal of excreta.

17. What are the hazards of using fertilizers?

Ans. Effects of using fertilizers –

a) Effect on soil quality – continued use of fertilizers leads to a loss of organic matter, a deterioration of soil structure.

b) Eutrophication – Excessive use of fertilizers build up nitrates on the soil.

Nitrates and phosphates are washed by rain and carried to lakes, ponds and rivers and causes excessive growth of plants of algae. Algae deplete the oxygen content of the water body.

18. How do insects pest damage crop plants?

Ans. Insect – pests damage / harm the plants in following ways-

a) They cut root, stem and leaf.

b) They suck the cell sap from various plant parts.

c) They bore into stems and fruits.

d) They form galls.

e) They eat stored grains.

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3 Marks Questions

1. How do biotic and abiotic factors affect crop production?

Ans. The biotic factors include living organisms like honey bees and earthworms who help in better crop production while pests(insects and rodents) and microbes that produce bad effect on crop production.

The abiotic factors are the climatic conditions and non living natural resources like soil, water and air. They also affect crop production since favourable conditions of temperature, humidity and mineral nutrition improve crop production.

2. What are the desirable agronomic characteristics for crop improvements?

Ans. The desirable agronomiccharacteristics for crop improvements are as follows :

(i) For cereal crops desirable characteristic is dwarfness since such plants will utilise less amount of nutrients.

(ii) For fodder crops desirable characteristics are tallness and profuse branching so that we can obtain more amount of leaves for feeding our animals.

3. What are macro-nutrients and why are they called macro nutrients?

Ans. There are sixteen nutrients which are essential for plants.Amongst these thirteen nutrients, six are required in large quantities and are therefore called macro nutrients.

Macronutrients:nitrogen, phosphorus,potassium, calcium,magnesium, sulphur.

4. How do plants get nutrients?

Ans. Nutrients are supplied to plantsby air, water and soil.

Source	Nutrients provided
Air	carbon, oxygen
Water	hydrogen, oxygen
Soil	nitrogen, phosphorus,potassium, calcium,magnesium, sulphur,iron, manganese, boron,zinc, copper,molybdenum, chlorine

5. Compare the use of manure and fertilizers in maintaining soilfertility.

Ans.

Manure	Fertilizer
Manure is prepared bythe decomposition of animal excreta and plantwaste so contains large quantities of organicmatter and also supplies small quantities of nutrients to the soil that improves soil fertility.	Fertilizers are commercially produced in factories to supply nitrogen,phosphorus and potassium that ensures soil fertilityinterms of proper dose, time, and observing preandpost-application precautions.

6. Why should preventive measures and biological control methods bepreferred for protecting crops?

Ans. Prevention is better than cure so is true for plants also. Such preventions involve spraying of herbicides, weedicides, insecticides, pesticides, fungicides etc in the crop field.

Since their excessive use can harm the crop plants and cause pollution so proper seed bed preparation, timelysowing of crops, intercropping and croprotation are additionally applicable. Other than these biological control methods like use of resistant varieties is highly useful.

7. Which method is commonly used for improving cattle breeds andwhy?

Ans. The method of cross breeding is commonly usedfor improving cattle breeds for

example in milch animals Exotic or foreign breeds (for example, Jersey,Brown Swiss) are selected for long lactationperiods, while local breeds (for example, RedSindhi, Sahiwal) show excellent resistance todiseases. The two can be cross-bred to get animals with both the desired qualities

8. Discuss the implications of the following statement:
"It is interesting to note thatpoultry is India's most efficientconverter of low fibre food stuff(which is unfit for humanconsumption) into highlynutritious animal protein food."

Ans. Under poultry the birds kept are fed on agricultural waste material and broken grains etc which are not useful for humans but those birds consuming such waste provide us with eggs and meat. It is highlynutritious animal protein food hence the statement made is quite appropriate.

9. What management practices are common in dairy and poultry farming?

Ans. The management practices that are common in dairy and poultryfarming are :

- food requirements
- Proper cleaning and shelter facilities
- Protection from unfavorable climatic conditions and diseases.
- Protection from pests.

10. What are the differences between broilers and layers and in their management?

Ans.

Broilers	Layers
1. used for meat purpose. 2 .Broiler chickens are fed with vitamin-richsupplementary feed for good growth rate andbetter feed efficiency and care is taken to avoidmortality and to maintain feathering ancarcass quality	1. used for egg production. 2. Layers don't need any specific diet as prescribed for broilers their requirements are simpler.

Other than above differences housing, nutritional and environmental requirements of broilers are some what different from those of egg layers.

11. How are fish obtained?

Ans. There are two ways of obtaining fish. They can be obtained by :
1. capture fishing : It is the way of obtaining fish from their natural resources(rivers, lakes, oceans).
2. culture fishery : It is also known as fish farming where selected fishes are reared and bred.

12. What are the advantages of composite fish culture?

Ans. Composite fish culture has following advantages :

- Both local and imported fish species can be used in such systems.
- Due to non-competitive nature of selected fishes food available in all the parts of the water reservoir isused.
- Increases the fish yield from the water reservoir (intensive fish farming).

13. What are the desirable characters of bee varieties suitable for honey production?

Ans. The desirable characters of bee varieties suitable for honey production are :

- high honey collection capacity.
- they must sting less.
- They should stay in a given beehive for long periods, and breed very well.

14. What is pasturage and how is it related to honey production?

Ans. Pasturage refers to the flowers availableto the bees for nectar and pollen collection.The value or quality of honey depends upon the pasturage. Along with this the kind of flowers available will determine the taste of the honey.

15. For increasing production, what is common in poultry, fisheries and bee-keeping?

Ans. For increasing production, steps that are common in poultry, fisheriesand bee-keeping are as follows :

- good varieties/breeds are used.
- good nutritious food is provided.
- hygienic conditions/cleanliness is taken care of

16. What are the benefits of cattle farming?

Ans. Cattle farming has dual benefits :

(i) Draught animals for farm labour (males)i.e. for agricultural work such as tilling, irrigation and carting.

(ii) Milch animals (dairy animals)those are milk producing females.

17. How do storage grain losses occur?

Ans. There are various biotic and abiotic factors responsible for the storage grain losses :

- biotic factors : Insects, rodents, bacteria, fungi etc that feed on grains.
- abiotic factors : Unfavourable conditions of humidity and temperature.

18. Why are manure and fertilizers used in fields?

Ans. Manure helps in enriching soil withnutrients and organic matter and increasing soil fertility. The bulk of organic matter in manure helps in improving the soil structure.

Fertilizers are used to ensure good vegetative growth (leaves,branches and flowers), giving rise to healthy plants by providing specific nutrients like nitrogen,phosphorus and potassium.

19. Define (a) Pisciculture (b) hatcheries (c) swarming

Ans. a) Pisciculture – The rearing and management of fish on a large scale is called pisciculture.

b) Hatcheries – Nurseries where fish eggs or fish seed are put in fresh water fishery, are called hatcheries.
c) Swarming – It is a process in which the new queen leaves the old hives and takes a new shelter, for reproduction is called swarming.

20. What is green manuring? Give examples of green manures.

Ans. Green manure is a manure which is prepared by using herbaceous plant, that is grown and ploughed under and mixed with the soil, while still green. The process of ploughing green plants and mixing with the soil is called green manuring.

Plants used as green manure are –

Sun hemp, cluster bean (guar), lentil (Masur), Cow pea (Lobia)

21. Discuss the preventive measures for the storage of grains.

Ans. Preventive measure for the storage of grains are

a) Drying – For Storage of grains, the moisture Content of grains should be reduced below 14 percent. This can be done by drying in sun followed by drying in shade.
b) Maintenance of hygiene – Godowns and stores should be properly cleaned. Dirt, rubbish, webs or refuse of the previously stored grains should be removed. Cracks and holes in the walls, floor or ceiling should be sealed and made water proof. New gunny bags should be used for storing food grains. After filling the gunny bag, its mouth should be tightly stitched.
c) Improved storage structure – For storage of grains and seeds, proper improved storage structure should be used. In such structure temperature, moisture, Oxygen and Carbon-dioxide can be manipulated as desired.

22. Name three basic scientific approaches for increasing yield of a crop.

Ans. Three scientific approaches for increasing yields of a crop are –

(i) Crop production management : It includes proper irrigation and nutrient management. It can be done by adding manure and fertilizers. Nutrient management can also be done by crop rotation, intercropping and mixed-cropping.

(ii) Crop protection management : Plants needs protection from weeds, insects, pests and pathogens. It can be done by the biological method, chemical method, cultural method.
(iii) Crop variety management : Crop variety can be improved by hybridization or by Transgenic methods. It can be done for obtaining desired plant characteristics.

23. What are the advantages of bee-keeping?

Ans. Advantages of bee-keeping are –

a) It requires low investments and provides additional income to the farmer.
b) Besides honey bee keeping provides other products such as wax, royal jelly and bee venom.
c) Bee helps in cross pollination.

24. Differentiate between capture fishing, aquaculture and mariculture.

Ans. a) Capture fishing – Obtaining fish from water bodies like river, sea, oceans, etc is known as capture dishing.
b) Aquaculture – It is the culture of aquatic organisms in fresh water or marine water.
c) Mariculture – The culture of marine fish is called mariculture.

25. List the steps to be taken to prevent and control diseases in animals.

Ans. Steps to be taken to control diseases are –

a) Providing proper shelters.
b) Ensuring animal hygiene and proper disposal of dead animals and animal wastes.
c) Periodic screening of animals for diseases and immediate isolation of diseased animals.
d) Providing proper diet and suitable medicines under the advice of a veterinary doctor.
e) Hygienic handling of all animal products and by products.
f) Compulsory vaccinations.

26. Give difference between manures and fertilizers.

Ans.

1.	Manure are organic natural substances derived from the decomposition of biological materials (plants and animal residues)	Fertilizers are inorganic or organic substances.
2.	Manure contains organic matter in large quantities.	Organic matter is not present.
3.	They are not nutrient – specific.	They are nutrient specific.

27. What are the components of cattle feed?

Ans. Cattle feed contains two types of substances – Roughage and concentrates – in the form of fodder and grain along with a lot of water.

a) Roughage – It consists of coarse and fibrous substances having low nutrient content- the animals get rough age from hay (straw of cereals) and grain respectively along with a lot of water.
b) Concentrate – foods rich in one or more nutrients (like carbohydrate, fats, proteins, minerals and vitamins) and low in fibres are provided by cotton seeds, oilseeds, oilcakes, and cereal grains like gram and bajra. In winters cattle are mostly fed on green fodder, mainly Berseem and Lucerne, in other seasons they are given maize, bajra, jowar and dry fodder.

28. Define the following (i) White revolution (ii) silver revolution (iii) blue revolution.

Ans. White Revolution – Increased production of milk is known as white revolution. It involved use of new improved high milk – yielding cross breeds of mulch animals.

Silver revolution – Tremendous increase in egg production is known as silver revolution.

Blue revolution – It refers to the increased production of fish.

29. What is green manuring? Give example of green manures?

Ans. Green manure is a manure which is prepared from herbaceous plant that is grown and ploughed under and mixed with the soil, While still green. This process is known as green manuring. Plants used as Green manure are :-

Sun hemp, cluster bean (guar), Lentil (maser), Cow pea (Berseem)

30. What are the main practices involved in keeping of animals or animal husbandry?

Ans. Main practices involved in animal husband day.

a) Breeding – It is done to obtain animals with desired characters. Breeding can develop high milk yielding and high meat-yielding animals.
b) Feeding – It deals with the study of proper food (called feed), mode and time of feeding of different animals.
c) Weeding – It is elimination of uneconomical animals.
d) Heeding – It means the proper care and management of animals.

31. Name the abiotic and biotic factors which affects stored grains and how?

Ans. Biotic factors – Insects, birds, rodents, mites, fungi and bacteria.

Abiotic factors – Moisture, temperature and material of the storage container.

The above factors bring about –
a) Infestation of food grains by insects and micro-organisms.
b) Degradation in quality.
c) Loss in weight.
d) Poor germination potential of grains
e) Discoloration of produce
f) Poor marketability and lower profits.

32. What is the need of crop improvement? what are the desirable agronomic characteristics for crop improvement

Ans. Crop improvement is to develop superior plants having following characteristics like

a) High – yield
b) Varieties with produce of better quality.
c) Disease resistant varieties
d) Varieties with desirable agronomic characteristics like

(i) Dwarfness in cereals so that less nutrients are consumed
(ii) Tallness and profuse branching in case of fodder crops.

33. Define (i) Draught breeds

(ii) Dual purpose breeds

(iii) Dairy breeds

Ans. Draught breed – cattle which are used for work; bullock.
Dual purpose breeds – Breeds where females are used for milk and males, for work.
Dairy animals – Breed which are used for milk only are called dairy animals.

34. What are the symptoms of diseased animals?

Ans. Symptoms of diseased animals are –
a) The animal stops eating and becomes lethargic, looks tired and remains isolated.
b) The animal shiver with high body temperature
c) The animal shows excessive formation of saliva which sometimes hangs from the mouth.
d) The animal passes loose dung and colored urine.
e) The lips and ears of the animal droop
f) Milk –yield, egg laying capacity or working capacity of the animals is reduced.

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5 Marks Questions

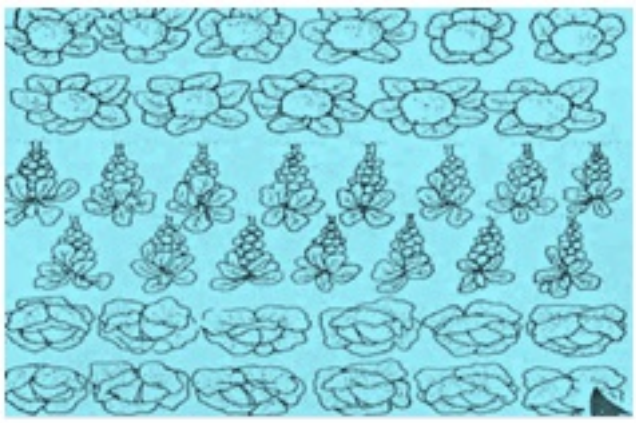
1. Explain any one method of crop production which ensureshigh yield.

Ans. To ensurehigh yield various cropping patterns can be very useful. The cropping patterns to be mentioned here are :

1. mixed cropping
2. inter cropping
3. crop rotation

Mixed cropping is growing two or morecrops simultaneously on the same piece ofland, for example, wheat + gram, or wheat +mustard, or groundnut + sunflower. Thisreduces risk and gives some insuranceagainst failure of one of the crops.

Inter-cropping is growing two or more crops simultaneously on the same field in a definite pattern (as shown below).The crops areselected such that their nutrientrequirements are different. This ensuresmaximum utilisation of the nutrientssupplied, and also prevents pests anddiseases from spreading to all the plantsbelonging to onecrop in a fieldfor example, soyabean + maize, or fingermillet (*bajra*) + cowpea (*lobia*).



Crop rotation is growing of different crops on a pieceof land in a pre-planned

succession.Depending upon theduration, crop rotation is done for differentcrop combinations. The availability ofmoisture and irrigation facilities decide thechoice of the crop to be cultivated after oneharvest. If crop rotation is done properly thentwo or three crops can be grown in a yearwith good harvests.

2. What are the advantages of inter-cropping and crop rotation?

Ans.

Advantages of inter cropping	**Advantages of crop rotation**
Inter cropping ensuresmaximum utilisation of the nutrientssupplied, and also prevents pests anddiseases from spreading to all the plantsbelonging to one crop in a field. This way,both crops can give better returns.	Crop rotation if well planned allows replenishment of soil nutrients without using even fertilisers like growing leguminous plants after a non leguminous crop in the same field will ensure nitrogen enrichment of that soil. Hence it prevents any decrease in the soil fertility.

3. What is genetic manipulation? How is it useful in agriculturalpractices?

Ans. varieties to obtain a new and better variety is called genetic manipulation.

In agricultural practices to reduce the application of insecticides and fungicides or even fertilizers such varieties are being prepared that are :

- high yielding
- pest resistant
- resistant to environmental stress
- don’t need fertilizers for good growth

All these features help not only to improve quality and quantity of products but alsoreduces chances of environmental pollution.

4. How do good animal husbandry practices benefit farmers?

Ans. Animal husbandry is the scientificmanagement of animal livestock. It includesvarious

aspects such as feeding, breeding anddisease control.

As the population increases and asliving standards increase, the demand formilk, eggs and meat is also going up. Also,the growing awareness of the need for proper treatment of livestock has broughtin new limitations in livestock farming. Thus,livestock production also needs to beimproved. This improvement can be brought about by good animal husbandry practices like providing good food and preventing diseases in the cattles that will benefit farmers to obtain better quality and quantity products.

5. How do you differentiate between capture fishing, maricultureand aquaculture?

Ans.

Capture fishing	Mariculture	Aquaculture
It is the method of catching fishes from natural resources.	These are culture fisheries that are maintained in the marine water bodies only to rear and breed marine animals like fish and prawns hence also called marine culture.	These culture fisheries are maintained in fresh water or marine bodies and allows rearing and production larger number of aquatic animals.

6. What is genetic manipulation? How is it useful in agricultural practices?

Ans. Genetics manipulation – It is a process in genetic make up of crop plants is improved to obtain desired characteristics.

Advantages of genetic manipulation
1) It develops high – yielding varieties.
2) It develop disease resistant varieties
3) It develops pest resistant varieties.
4) It develops varieties with short maturation period and uniform maturity.
5) It develops varieties with produce of better quality.
6) It develops varieties resistant to a biotic and biotic stresses.