NCERT Solutions for Class 9 Science Chapter 12: Here are the NCERT Solutions for Class 9 Chapter 12 Improvement in Food Resources, which will help students fully grasp the chapter's fundamental ideas and prepare them for the CBSE Class 9 exam. Students can prepare for the Science exam and build their confidence by using the NCERT Solutions for Class 9.

Students can quickly and effectively get their doubts answered with its assistance. Class 9 Science NCERT Solutions are written by highly qualified professionals with extensive knowledge in the field to ensure comprehension. Chapter 12 of NCERT Solutions for Class 9 Science Enhancement of Food Resources Describe the tasks and inquiries presented in the NCERT textbooks.

NCERT Solutions for Class 9 Science Chapter 12 Overview

Chapter 12 of the NCERT Science textbook for Class 9, titled "Improvement in Food Resources," focuses on how to enhance the production and quality of food. It covers various methods and practices used in agriculture and animal husbandry to increase food supply. The chapter discusses the role of modern farming techniques, crop rotation, and the use of fertilizers and pesticides.

It also explores advancements in plant breeding and animal breeding to improve yields and resistance to diseases. Additionally, the chapter highlights sustainable practices and the importance of ensuring food security for growing populations. Through practical examples and concepts, the chapter aims to provide students with a clear understanding of how food resources can be improved to meet global needs.

NCERT Solutions for Class 9 Science Chapter 12

Below we have provided NCERT Solutions for Class 9 Science Chapter 12 for the ease of the students -

Q1. What do we get from cereals, pulses, fruits and vegetables?

Ans:

Carbohydrates are the primary source of energy are found in cereals.

Protein from pulses is necessary for development and growth.

Fruits and vegetables are rich sources of vitamins, minerals, carbs, proteins, and fats that are necessary for general development.

In-text Question 1.2 Page Number: 205

Q1. How do biotic and abiotic factors affect crop production?

Ans:

There are two main elements influencing the crop:

Insects, rodents, pests, and a host of other biotic factors lower crop productivity and propagate disease.
The crop that is raised is destroyed by abiotic variables such as humidity, temperature, moisture, wind, rain, flood, and many more.

Q2. What are the desirable agronomic characteristics for crop improvement?

Ans:

The essential agronomic features required for crop improvement are:

- Profuse branching along with tallness in any fodder crop.
- Dwarfness in any cereals.

In-text Question 1.3 Page Number: 206

Q1. What are macro-nutrients, and why are they called macronutrients?

Ans:

Plants consume macronutrients, which are the basic components, in greater quantities. The macronutrients that plants require include

• Protoplasmic constituents as macronutrients.

• Proteins contain phosphorus, nitrogen, and sulphur.

There is calcium in the cell wall.

• A substantial part of chlorophyll is magnesium.

Q2. How do plants get nutrients?

Ans:

Plants need 16 fundamental nutrients in order to grow. Water provides carbon and oxygen, while the soil provides the other nutrients.

In-text Question 1.4 Page Number: 207

Q1. Compare the use of manure and fertilizers in maintaining soil fertility.

Ans:

Manure adds nutrients to the soil, improving its quality.
By adding additional organic matter, or humus, to the soil, manure improves drainage in clayey soils and the ability of sandy soils to retain water.
Soil erosion is lessened by manures.
They give soil-friendly bacteria food, which aids in crop growth.

The effects of fertilisers are

Fertilisers accelerate soil erosion by making the soil too dry and powdery.
Because the soil's porosity reduces as organic matter levels rise, plant roots are unable to receive enough oxygen.
Soil composition varies, becoming either basic or acidic.

In-text Question 1.5 Page Number: 208

Q1. Which of the following conditions will give the most benefits? Why?

(a) Farmers use high-quality seeds; do not adopt irrigation or use fertilisers.

(b) Farmers use ordinary seeds, adopt irrigation and use fertiliser.

(c) Farmers use quality seeds, adopt irrigation, use fertiliser and use crop protection measures.

Ans:

The best results will come from option (c), as using high-quality seeds alone won't be enough until the soil is adequately irrigated, fertilised, and shielded from biotic influences.

In-text Question 1.6 Page Number: 209

Q1. Why should preventive measures and biological control methods be preferred for protecting crops?

Ans:

Since excessive chemical exposure causes environmental issues, biological approaches are recommended to protect crops from pests, diseases, and rodents while also boosting yield.
Bio-pesticides are a safe alternative to chemical pesticides for protecting crops because the former harms both plants and the animals that consume them.

Q2. What factors may be responsible for the losses of grains during storage?

Ans:

Biotic and Abiotic factors are responsible for the loss of grains during storage like

- Rodents
- Pests
- Insects
- Fungi
- Bacteria
- Sunlight
- Flood
- Rain
- Temperature
- Moisture

In-text Question 1.7 Page Number: 210

Q1. Which method is commonly used for improving cattle breeds and why?

Ans:

In general, the best technique used to raise the calibre of cow breeds is cross-breading. Using this technique, a new, improved variety of cattle breeds or progeny are produced from breeding two excellent cattle breeds. When breeding, attention is taken to produce a high-yielding, high-quality offspring that is resistant to weather.

In-text Question 1.8 Page Number: 211

Q1. What management practices are common in dairy and poultry farming?

Ans:

A well-thought-out, hygienic shelter for poultry and birds of prey.
Dairy animals, poultry, and birds are given proper, high-quality food and fodder.
significance for the prevention and treatment of bacterial, viral, or fungal diseases in animals.
Animal shelter that is feasible for sunlight and has good ventilation.

Q2. What are the differences between broilers and layers and their management?

Ans:

Broilers

A grill is a type of poultry bird produced for meat. Broilers are fed diets high in protein and low in fat. Poultry feeds are maintained to have high levels of vitamins A and K.

Layers

A layer is a type of poultry bird that lays eggs. Broilers have different housing, environmental, and dietary needs than egg layers. Enough room and adequate illumination are necessary for layers.

Q3. Discuss the implications of the following statement: "It is interesting to note that poultry is India's most efficient converter of low-fibre foodstuff (which is unfit for human consumption) into highly nutritious animal protein food."

Ans:

Raising domestic birds for eggs and chicken meat is the goal of poultry farming. Animal feed, primarily roughages for high-quality feathers, eggs, poultry, and nutrient-rich dung, is what these domestic birds eat. According to some, poultry "is India's most efficient converter of low-fibre foodstuff into highly nutritious animal protein food" because of these factors.

In-text Question 1.9 Page Number: 213

Q1. How are fish obtained?

Ans:

Fishes are obtained in two ways:

Capture fishing: Obtaining fish from natural resources.

Culture Fishery: Culturing of fishes in freshwater ecosystems, like rivers, ponds and lakes, also including marine.

Q2. What are the advantages of composite fish culture?

Ans:

The benefits of raising fish in composite cultures are

Five or six different species of fish can be raised in a single fish pond since they do not compete with one another for food.
Food resources are fully utilizeable.
Fish survival rates also rise.
Greater yield

In-text Question 1.9 Page Number: 213

Q1. What are the desirable characteristics of bee varieties suitable for honey production?

Ans:

- The variety of bees should yield a large amount of honey.

- The bees should stay for a longer period in bee hives.
- The bees should not sting much.
- Bees should be disease resistant.

Q2. What is pasturage, and how is it related to honey production?

Ans:

Pasturage is the term used to describe flowers that are easily accessible to bees for the purpose of collecting nectar and pollen. The taste of honey is largely determined by the types of flowers that are accessible; therefore, pasturage is the primary factor in high-quality honey.

Exercise Questions 1.1 Page Page Number: 214

Q1. Explain any one method of crop production which ensures high yield.

Ans:

One technique used for high-yield plant breeding is plant breeding, which is done to enhance crop types through plant breeding. Plants with desired traits are selected from a variety of locations, and then hybridization or cross-breeding is carried out among these diversities to produce a crop or plant with the desired qualities.

Q2. Why are manure and fertilisers used in fields?

Ans:

Fertilisers and manures are applied to the soil to increase its quality and increase output. They aid in the management of illnesses as well. By adding nutrients to the soil, manure and fertilisers restore the soil. They are great providers of nitrogen, phosphorus, and potassium, all of which are necessary for plants to grow healthily. The major ways to increase soil fertility are through manures and fertilisers.

Q3. What are the advantages of inter-cropping and crop rotation?

Ans:

Inter-cropping

- Checks pests and rodents and hence decreases the chances of the spoiling of whole crops
- Decreased chances of soil erosion
- Reduced loss of crops with high yield
- Less water requirement

Crop rotation

- Farmers can grow two or three crops annually
- Pulses take nitrogen directly from the atmosphere and hence require a minimal amount of fertilisers
- Both fruits and vegetables can be grown easily
- Best use of land with a proper supply of nutrients

Q4. What is genetic manipulation? How is it useful in agricultural practices?

Ans:

Genes are transferred from one organism to another through a technique known as genetic manipulation. In this case, a transgenic plant is created by introducing a gene with a specific character inside the chromosomal cell.

For instance, the genetically engineered crop known as "BT Cotton" has bacterial genes that shield the plant against insects. These serve as insect protection for crops such as corn, rice, cauliflower, brinjal and cabbage.

Q5. How do storage grain losses occur?

Ans:

Storage grain losses occur due to various abiotic and biotic factors.

Abiotic factors

- Humidity
- Air
- Temperature
- Flood
- Wind

Biotic factors

- Insects
- Rodents
- Pesticides
- Bacteria
- Mites
- Birds

Q6. How do good animal husbandry practices benefit farmers?

Ans:

Good practice of animal husbandry benefits farmers in the following ways:

- Yields in good quality cattle
- Better quality of milk production
- Use in agriculture for carting, irrigation and tilling

Q7. What are the benefits of cattle farming?

Ans:

The advantages of raising cattle are

Agricultural uses for cattle exist.
Production of superior livestock
Meat and milk production
The leather and wool industries require cattle skins.

Q8. For increasing production, what is common in poultry, fisheries and bee-keeping?

Ans:

Cross-breeding techniques are utilised in beekeeping, fishing, and poultry to increase productivity. Regular and appropriate maintenance procedures are helpful in enhancing productivity in addition to these strategies.

Q9. How do you differentiate between capture fishing, mariculture and aquaculture?

Ans:

Fish are caught with the capture fishing technique in a variety of natural resource sources, including lakes, ponds, rivers, and the sea.

Fish culture in marine environments, such as mullets, prawns, oysters, and bhetki, is done for commercial purposes.

Fish are cultured in freshwater and marine environments through the process of aquaculture.

Benefits of NCERT Solutions for Class 9 Science Chapter 12

The NCERT Solutions for Class 9 Science Chapter 12, "Improvement in Food Resources," offer several key benefits to students:

Conceptual Clarity: The NCERT Solutions for Class 9 Science Chapter 12 provide clear and detailed explanations of concepts related to improving food resources, such as modern agricultural practices, crop and animal breeding, and sustainable farming. This helps students understand how these methods contribute to increasing food production and quality.

Enhanced Understanding: By working through these NCERT Solutions for Class 9 Science Chapter 12, students can better grasp complex ideas like crop rotation, the use of fertilizers and pesticides, and the role of genetic improvement in food resources. This deeper understanding is crucial for appreciating the importance of food security.

Practice and Application: The solutions include various types of questions and problems that allow students to practice and apply their knowledge. This reinforces learning and improves their ability to solve similar problems in exams.

Exam Preparation: The solutions help students review and practice important questions and topics from the chapter, aiding in effective exam preparation and boosting their confidence.

Problem-Solving Skills: By working through the solutions, students develop their problem-solving abilities and learn how to approach and tackle questions related to food resource improvement.

Error Identification: The solutions guide students in identifying and correcting mistakes in their own work, which helps in improving accuracy and understanding.