

Science

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(Chapter – 15) (Improvement in Food Resources)

(Class – IX)

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Q.1 Which of the following conditions will give the most benefits? Why?

(a) Farmers use high-quality seeds, do not adopt irrigation or use fertilizers.

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

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

Sol. (c) Farmers using good quality seeds, adopting irrigation, using fertilizers, and using crop protection measures will derive most benefits.

(i) The use of **good quality seeds increases the total crop production**. If a farmer is using good quality seeds, then a majority of the seeds will germinate properly, and will grow into a healthy plant.

(ii) **Proper irrigation methods improve the water availability to crops.**

(iii) Fertilizers ensure healthy growth and development in plants by **providing the essential nutrients such as nitrogen, phosphorus, potassium, etc.**

(iv) Crop protection measures include various methods to control weeds, pests, and infectious agents. If all these necessary measures are taken by a farmer, then the overall production of crops will increase.



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Q.1 Why should preventive measures and biological control methods be preferred for protecting crops?

Sol. Preventive measures and **biological control methods** should be **preferred** for protecting crops because **excessive use of chemicals leads to environmental problems**. These chemicals are also poisonous for plants and animals. Preventive measures include proper soil and seed preparation, timely sowing of seeds, inter cropping and mixed cropping, usage of resistant varieties of crops, etc. On the other hand, biological control methods include the usage of **bio-pesticides that are less toxic** for the environment. An example of bio-pesticides is *Bacillus thuringenes*, which is an insect pathogen that kills a wide range of insect larvae. Therefore, both preventive measures and **biological control methods are considered eco-friendly methods of crop protection**.

Q.2 What factors may be responsible for losses of grains during storage?

Sol. During the storage of grains, various **biotic factors** such as **insects, rodents, mites, fungi, bacteria**, etc. and various **abiotic factors** such as **inappropriate moisture, temperature, lack of sunlight**, etc. are responsible for losses of grains. These factors act on stored grains and result in degradation, poor germinability, discolouration, etc.

