

Q) What is weed?

State the characteristics of Weed?

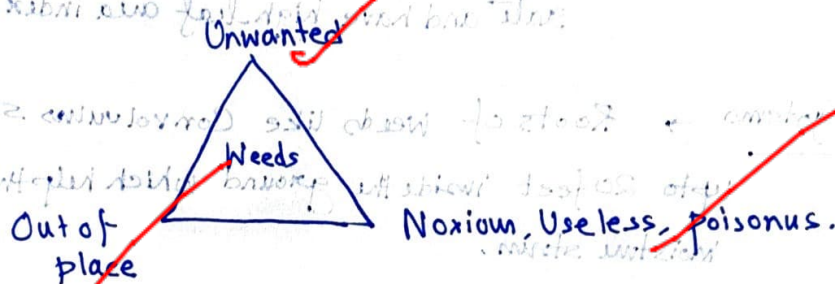
Discuss in detail about weed management in Organic Farming?

For 10 marks → add classification
→ important one line
characteristic
→ (+/-) both effects
in 2/3 points.
10+10+10 = 30

What is Weed

The term weed is first used by Scientist Jethro Tull.

According to him, "Weed is an unwanted plant growing where it is not desired".



Examples → Chenopodium Sp, Panthenium Sp, Phalaris. Minor etc.

Weeds generally compete with the crops for nutrients, light, CO₂, moisture etc and affect various losses.

① Reduction in crop yield → In general increase in 1 kg of weed growth results in 1 kg of crop growth reduction.

Crop

Loss due to weeds (y.)

Rice

9.1 - 51.4

Wheat

6.3 - 34.8

② Loss in Crop quality → specially when crops are grown for seeds if it is mixed with weeds.

③ Weeds are reservoir of pests and diseases.

④ Reduction of Land Value → Thousands acres of Rice growing regions of India have been abandoned due to severe infestation of nut-grass (Cyperus Rotundus).

Characteristics of Weeds

- ① Prolific seed producer → Weeds generally produce huge amount of seeds
↳ Amaranthus Spp : 15,600 seeds/plants.
- ② Dormancy in seeds → Weed seeds can remain dormant for several years
without losing its vigour.
↳ Chenopodium → 20-25 yrs
- ③ Competitiveness & Aggressiveness → Weeds generally have high & fast growth rate and have high leaf area index.
- ④ Deep Root Systems → Roots of weeds like Convolvulus Spp. can reach upto 20 feet inside the ground which help them to tackle moisture stress.
- ⑤ Rapid Dispersal → Weed seeds can be dispersed rapidly by wind, water, insects, human etc. → add physical adaptations that help their dispersal.
- ⑥ Allelopathic Effect → Most of the weeds secrete/excrete certain chemicals into the soil which inhibit the germination and growth of other crop plants in the vicinity.
↳ Angophyllum Repens reduces Sorghum & Halepeme growth.
- ⑦ Vegetative Propagation → When the upper ground parts are destroyed of a weed, they can still be propagated by vegetative means like Rhizome, Stolon, Sucker, Bulb etc. eg - 2, 2...
- ⑧ Morphological Similarity → Phalaris Minor is similar to Wheat.

Other Characteristics

⑨ Longevity and Viability eg - ??

⑩ Water Adaptability

⑪ Regenerate their lost part

⑫ Mature Simultaneously

6/10

Need Management in Organic Farming

In Organic farming, weed management refers to controlling weed population using non chemical, ecofriendly methods to minimise competition with Crops while maintaining...

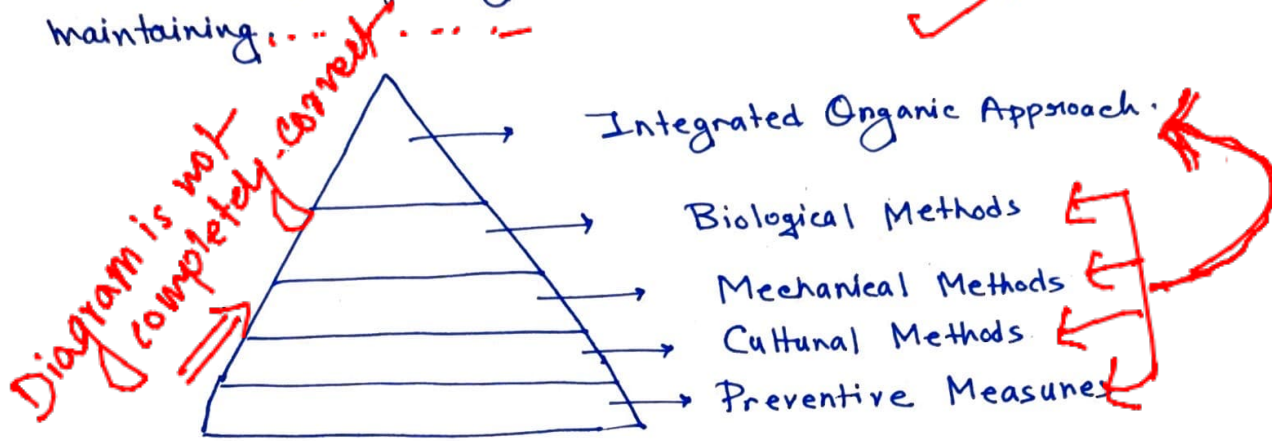


Fig: Weed Management in Organic Farming

A. Preventive Measures

↳ Use of clean, weed free seeds, Well decomposed FYM and compost, cleaned Farm Machinery

B. Cultural Management

↳ crop rotation, competitive varieties, optimum plant population, Intercropping, Stake Seedbed

C. Mechanical Methods

↳ Hand weeding, Hoeing, Tillage, Mowing, Soil Solarisation

D. Biological Control

↳ Cover Crops, Grazing Animals, insects & pathogens, Allelopathic plants

