

Weed Management on Organic Farming

**Department of Horticulture
Nilgiris**

Advantage of weeds

- Umbrella for Micro Organisms
- Maintaining the soil temperature and soil texture
- Very good fodder for livestock.
- Proper utilisation of solar energy and carbon harvesting
- Good source of Biomass
- Best source of mulching.
- Residues are the source of nutrients

Disadvantages of Weedicide

- Soil erosion
 - Destruction of soil Micro organism
 - Chemical residues in the farm produce
 - Contamination of drinking water
- Genetic modification in crops which leads susceptible to pest and diseases

Weed Management

1. Weeds to be managed to cultivate the crop without any yield loss.
2. Eradication of weed is not our motive.

Crop rotation

- Monoculture that is growing the same crop in the same field results in a buildup of weed species that are adopted to the growing condition of the crop.
- When the diverse crop is used as a rotation, weed germination and growing cycle are disturbed

Cover Crop

- Dense ground cover cropping suppresses the weeds in the next crop.
- **Eg.Wheat,buck wheat**
- Cover crop can suppress weeds in the subsequent crops
- It reduce weed seed contribution to the soil
- It protect the soil erosion and improving the soil structure and fertility.

Inter cropping

- Intercropping with fast growing legumes crops can control the weed population and also helps to nitrogen fixation

Eg Beans

Mulching

- Reducing the weed growth by limiting the light penetration.
- Soil moisture and temperature are maintained and create conducive climate condition for micro organism development. Eg., Straw, grass mulch, crop residues.
- Thin layer of saw dust and crop residues in 1: 4 ratio will maintain the C.N.Ratio and soil mineralisation takes place.
- Weed mat ,mulching sheet can also controlling the weeds.

Allowing the weed to grow

- Weed seeds are allowed to germinate by irrigating the field.
- After 20-30 days it can be incorporated in the soil which increase the bio mass in the soil.
- Weeds can be controlled up to 60%

Proper Decomposition of FYM and Compost manure

- Weeds are spread through the application of the FYM from external sources.
- If the FYM are properly decomposed the weed seeds are lost their vigor to germinate

Mechanical weed control

- Weeding at regular interval without waiting for increased population of weeds.
- Hand weeding to remove the weeds wherever the weeds disturbing the main crop
- Utilisation of brush cutter in the bunds and hedges in regular interval and also in Tea field.

Planting Strategies

- Maintenance of crop canopy and high density planting of Horticulture crops reduce the weed incidence.
- Transplanting is encouraged to reduce the weed population

Biological control

- Crops like buck wheat, oats, wheat, carrot and radish which are releasing powerful
- allelopathic chemicals from their roots which suppress the weed population.

- Bio agent to control weeds.

Parthenium hysterophorum - Zygomma bicolorata

Lantana Cammaria

- Crocidosema lantana

Teleonemia scrupulosa

Approved Herbicide in Organic farming

- **Corn Gluten Meal**
- It is a by product of corn starch production. It can be applied as pre emergence weedicide.
- It inhibit the root formation.
- solaum nigrum, Agrostis palustris , Purslane digitaria ischaemum, barnyard grass, Abutilon theophrasti.
- Broad leave weed are more susceptible than grass.
- weed control upto 84%