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Center for Smart Agriculture

Organic Farming



Module 4: Mulching

Session 1: Definition and uses



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- ‘Mulch’ originally means something that is soft and is beginning to decay.
- Materials that can be used on the soil surface mainly to prevent loss of water by evaporation, to cut down weed growth, to reduce temperature fluctuations and to promote soil productivity are all designated as Mulch.
- Mulching is applying plant residues or other suitable materials not produced on the site to the soil surface.



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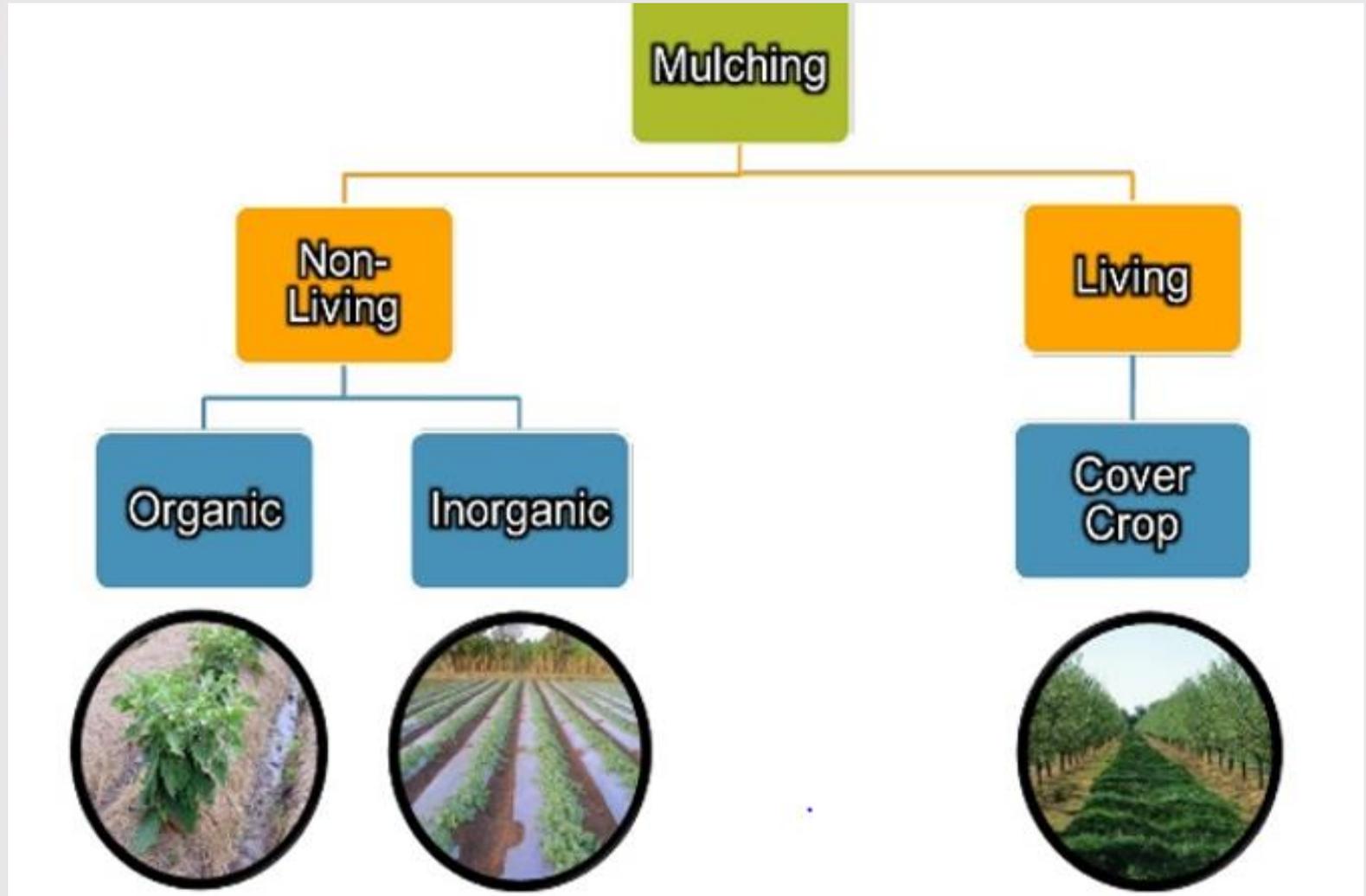
Uses of mulch

In organic farming mulch is used in vegetable or fruit production to:

- Conserve moisture
- Prevent surface compaction or crusting reduce runoff and erosion
- Control weeds
- Improve soil quality
- Protect produce quality



Types of mulching





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Benefits of mulching :

- Improving the infiltration of rain and irrigation water by maintaining a good soil structure: no crust is formed, the pores are kept open.
- Mulching keeps the soil moist by reducing evaporation.
- Feeding and protecting soil organisms: organic mulch material is an excellent food for soil organisms and provides suitable conditions for their growth



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- Mulch reflects a lot of the sun that otherwise heats the soil. This keeps the soil cooler and helps prevent evaporation.
- Weeds do not grow under it as they do not get the light they need to grow.
- Prevent soil erosion, as the wind or running water does not directly come in its .

Organic mulches also improve the condition of the soil. As these mulches slowly decompose, they provide organic matter which helps keep the soil loose.



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- It helps to retain water in the soil and keep it moist for a longer period of time.
- It helps in the development of white root of the plant above the surface of the soil.
- It keeps the insect pests away from the plants because the Mulching film reflects light, thereby controlling the incidence of pests.
- It works as a heat and cold insulator by preventing freezing of soil during winter and drying of soil in the summer.



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Disadvantages of mulching

- **Readily not available-**Some mulching materials like compost, manure are not always available.
- **Create nitrogen deficiency-** Sawdust or straw sometimes creates nitrogen deficiency.
- **Keeps the soil moist-**Sometimes organic mulches may keep the soil too moist. This restricts oxygen in the root zone, where the soils have a poor drainage system.
- **May be harmful-** Plastic mulches may be harmful to the environment or humans.



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Pine Bark



Pine Needles



Straw



Cedar



Leaves





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THANK YOU