



6- Period of solarisation

The period is 4-6 weeks. It should be during hottest months of summer (May-August).

7- Removal of the plastic

The plastic can be removed at the end of the solarisation period after 4-6 weeks. It should be carefully removed without disturbing the soil. The planting should be at 5 cm depth after plastic removal.

References:

- (1) Dr. Mohammad Al-Oun (2007): Opportunities and potential for organic farming in the arid lands of Jordan, Coventry University
- (2) Clyde I. Elmore (1997) Vegetable Research and Information Center University of California SOIL SOLARIZATION A Non-pesticidal Method for Controlling Diseases, Nematodes, and Weeds-USA.
- (3) University of California Agriculture and Natural Resources (2008) SOIL SOLARIZATION FOR GARDENS & LANDSCAPES-USA.

A Guide for Greenhouses Soil Solarisation

2017



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Soil solarisation is a natural method used to control soil-born pests (without using pesticides) depends on heating the soil by covering it with plastic sheets during the hot season (summer) for 4-6 weeks in which the soil can capture the highest radiant energy from the sun.

When to do it in the UAE?

The best period for soil solarisation is during hottest summer months (May-August) in which air temperatures are high and days are long.

How to do it?

1- Soil preparation

To prepare the soil: plough it, smooth its surface and remove any stones or weeds. Make sure to break up clods and make its surface smooth to lay the sheets on the soil as close as possible.

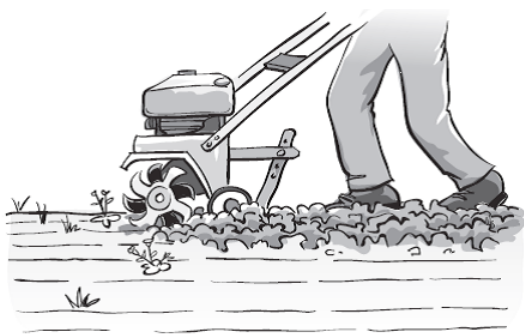


Figure 1: Soil preparation (Reference 3)

2- Adding organic fertilisers (manure)

Organic manure should be applied at a rate of 4 kg per square meter on the growing line. The line width should not be less than 70 cm. Fertilisers should be mixed well with the soil and any stones or weeds to be removed, and then the soil surface should be smoothed.

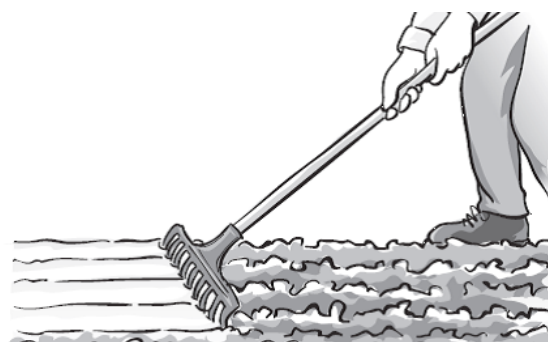


Figure 2: Adding and mixing the organic fertilisers (Reference 3)

3- Irrigate the soil

Irrigating the soil makes it wet which helps increase its temperature to kill soil-borne pests. Once the soil is prepared, install the irrigation network (drip irrigation or sprinklers) and then wet the soil to at least 70 cm deep.

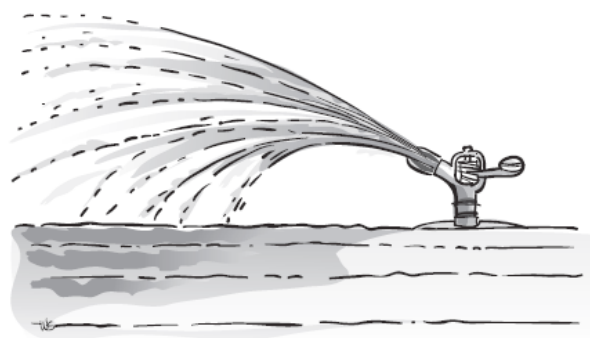


Figure 3: Irrigating the soil (Reference 3)

4- Placing the plastic sheets

Once the irrigation is finished, place the plastic sheets on the soil surface as tight as possible, and make sure that the sheet edges are well covered with soil to have better soil solarisation. It is recommended to use a clear plastic with 2mm thickness for more effective soil solarisation.

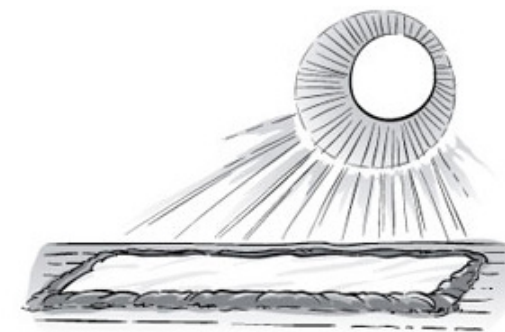


Figure 4: Placing the plastic on the soil (Reference 3)

5- Closing the greenhouse

Once plastic sheets are placed on the soil, the greenhouse should be tightly closed for 4-6 weeks. It is possible to enter the greenhouse to take the soil temperature from time to time.

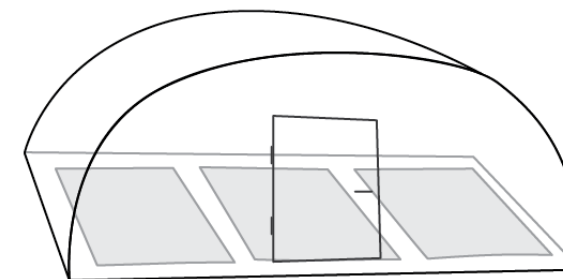


Figure 5: Closing the greenhouse