

Solarization:

Soil solarization provides a method of reducing or eliminating soil-borne diseases and/or pest. Soil solarization is a process of heating up the soil temperature to levels lethal to many fungi, nematodes, weeds and weed seeds and other pest organisms.

Solarization is done by leaving clear plastic tarp on the soil surface for 4 to 6 weeks during a hot time of the year. The tarp must be clear plastic. Polyethylene plastic 1 mil thick is best. If a clear plastic with UV inhibitors in it can be found then it is best to help prevent the deterioration of the plastic over time.

Before laying the plastic down over the soil surface, first level the soil and destroy all weeds, debris and prepare the soil ready for planting. Make sure to avoid air pockets once the plastic tarp is laid over the soil. Anchor the tarp by burying the edges with soil. For solarization to work best, soil under the tarp must be wet. Soil moisture causes organisms to become more sensitive to heat.

Pest control will be achieved in relation to the soil temperature, depth and duration. Solarization is also most effective during the hottest and longest days of the year. For most areas this is June, July and August with some areas being acceptable during May and September.

Difficult to control weeds such as Johnson grass, yellow nutsedge, field bindweed, and bermudagrass are suppressed but not completely killed in some situations. Nematodes are reduced but control is not completely because heat may not go deep enough to kill all of the population. Home gardens should get satisfactory control for shallow rooted crops. Soil temperature needs to be heated to a degree of 125 degree fahrenheit for 30 minutes or 130 degrees for 5 minutes. The use of a soil thermometer can be useful to make sure the desired soil temperature is reached.