

Use of Plastic Mulch

Black plastic mulch laid before planting helps control weeds, reduce root pruning, and give profitable increases in early yields of warm-season crops. Wavelength-selective and clear mulches typically lead to greater early yields than black plastic, but weed growth under these mulches may be a problem. This is particularly true for clear mulch. Because leaching is retarded, less fertilizer is lost, and nitrogen sidedressing is often unnecessary with the plastic mulch. If nitrogen needs to be added, it can be applied later through the irrigation system.

Try to lay plastic mulches as early in the season as possible. Mulches should be laid as soon as the ground can be worked after a heavy rain. Plastic mulches should be laid over moist soil. If the plastic is laid over dry soil, it will actually delay subsequent transplant growth. It is

better to lay out plastic at midday so it can be stretched tight. However, do not overstretch the plastic because cool nights may actually cause it to tear.

The seedbed should be as fine as possible in order to get a good covering. The plastic is laid by burying about 6 inches of each edge. Black plastic mulch is most effective in warming the soil when it is in direct contact with the soil.

A disadvantage of plastic mulch is disposal at the end of the season. Many landfills do not accept plastic mulches. Photodegradable plastic mulches, which degrade into small pieces of plastic that remain in the environment, are available. Biodegradable plastic mulches that break down completely are available.

Irrigation and Water Management

Vegetables require an adequate supply of moisture throughout their entire growth. While the frequency and amount of water varies according to individual vegetable crop, its age, current soil moisture, soil type, and weather conditions, generally 1 to 1.5 acre inches of water are required each week.

Table 4. Effective Rooting Depth of Selected Vegetables

Shallow (6-12")	Moderate (18-24")	Deep (> 36")
Beet	Cabbage, Brussels Sprouts	Asparagus
Broccoli	Cucumber	Lima Bean
Carrot	Eggplant	Pumpkin
Cauliflower	Muskmelon	Sweet Potato
Celery	Pea	Watermelon
Greens & Herbs	Potato	Squash, Winter
Onion	Snap Bean	
Pepper	Squash, Summer	
Radish	Sweet Corn	
Spinach	Tomato	

Table 5. Vegetable Crops and Growth Period Most Critical for Irrigation Requirements

Crop ¹	Most Critical Period
broccoli, cabbage, cauliflower, lettuce	head development
carrot, radish, beet, turnip	root enlargement
sweet corn	silking, tasseling, and ear development
cucumber, eggplant, pepper, melon, tomato	flowering, fruit set, and maturation
bean, pea	flowering, fruit set, and development
onion	bulb development
potato	tuber set and enlargement

¹ For transplants, transplanting and stand establishment represent a most critical period for adequate water.