



Fact sheet

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Mulches for Vegetable Gardens

Stephen Reiners, Ph.D., Extension Specialist, Vegetable Crops & Peter J. Nitzsche, Morris County Agricultural Agent

A good mulch is a valuable addition to any vegetable garden. First, mulches conserve soil moisture, decreasing the amount of water you need to apply. By keeping soil moisture more uniform, drought-induced problems (like blossom end rot of tomato) can be reduced. In addition, natural mulches allow rain to penetrate the soil slowly, eliminating runoff in a heavy storm.

Mulches also reduce weed growth. This means less time spent weeding, freeing you to do more enjoyable jobs in your garden. Nothing dampens a gardener's enthusiasm more than the thought of spending an entire weekend weeding.

Mulches modify the soil temperature. Clear and dark colored synthetic mulches are effective in elevating soil temperatures. The warmer soil quickens plant growth resulting in earlier yields. Light colored natural and synthetic mulches moderate soil temperatures even in the hottest summer, reducing plant stress.

Finally, mulches may help to decrease disease problems in the home vegetable garden. Tomatoes, squash, and cucumbers can rot if soil-borne disease organisms splash from the soil onto the fruit. A mulch provides a barrier, resulting in cleaner fruit with fewer rotting problems.

Mulch Types

Mulches may be divided into two basic types; natural and synthetic. Natural mulches are materials like grass clippings and leaves, which add organic matter to the soil as they decompose. Gardens mulched with natural materials will need some additional nitrogen early in the season to feed the microorganisms which break them down. This nitrogen will be released to the plants later in the season when the breakdown process is complete. These materials

must be applied to a depth of at least three inches to be effective. Natural mulches tend to keep soil temperatures cooler, so they shouldn't be applied before the soil warms in the spring. Mulching too early could result in cool soil temperatures, slowing growth and delaying harvest. In the summer, these materials protect against high soil temperatures.

Natural Mulches

Salt Hay—One of the best natural mulches for the garden. Use weed free salt hay to avoid adding weed seeds to the garden. A typical bale can cover a 10' x 10' garden with about three inches of hay.

Grass Clippings—Less desirable than hay because they tend to get moldy and may add weed seeds to the garden. The advantage of grass clippings is that they are readily available. Make sure you dry the grass slightly before applying it to the garden and use only clippings from lawns that have NOT been treated with herbicides.

Leaves—Tend to mat down and breakdown slowly. If you must use leaves, shred them first.

Paper—Includes everything from newspapers, to rolls of paper designed for garden use. Unlike other natural mulches, a thin layer will effectively control weeds. Old newspapers are the least desirable. They are unsightly and tend to blow away. It's best to save newspapers for recycling. Rolls of paper mulch are similar to synthetic mulch. The advantage is that paper is biodegradable and can simply be turned into the soil at year's end. Disadvantages include limited availability and high cost.



Wood Chips, Pine Bark Nuggets, Licorice Root, Woody Materials—These materials are fine with shrubs and perennial plants but have no place in the vegetable garden. They decompose slowly, rob nitrogen from the soil and, due to their bulk, may interfere with next spring's garden preparation.

Synthetic mulches include plastic, woven fabric, nonwoven fabric and foil. Depending on color, they tend to warm the soil, allowing for earlier yields. Both black and clear synthetic mulches warm the soil, but the highest temperatures are achieved with clear plastic. They are applied in thin layers (1–2 mils), but must be removed at the end of the growing season because they cannot break-down in the soil. Some synthetic mulches are:

Synthetic Mulches

Plastic—This material comes in rolls or sheets and can be either clear or colored (white or black are most common). It is available in garden centers and is excellent for use with transplants. These materials usually come in strips 3 or 4 feet in width. Apply plastic to *moist* soil 1–3 weeks before you plan to seed or transplant. The plastic is secured by burying the edges in the soil. Holes can be cut into the plastic and transplants inserted into the soil below. Some larger seeded vegetables (squash, cucumbers, and melons) can be seeded directly through the punched holes. Watering can be done with a sprinkler over the top. An even better way to water, however, is to place trickle tubes or soaker hose under the plastic before laying. In this way water can be applied directly to the roots. Remember, black

plastic prevents weed growth, but clear plastic does not. For this reason, clear plastic is not typically recommended for use in the home garden.

Perforated/Porous Plastic—Use the same as black plastic. The advantage of this material is that it allows water to move through rather than run off. The disadvantage is the cost— more than twice as much as ordinary black plastic.

Landscape Fabric—Permeable to air and water, this material is more useful in the landscape than in the vegetable garden. Some weeds will grow through, and the cost is five to six times that of black plastic.

Photodegradable Mulch—This material is used like regular black plastic with the advantage that it breaks down slowly over the season, and only the secured areas covered with soil need to be removed. Unfortunately, this mulch is available only in long lengths, thereby limiting its usefulness for vegetable gardeners.

Foil—Aluminum foil coated paper and aluminized plastic mulches are occasionally available at some garden centers. These materials repel virus-carrying aphids that infect late plantings of summer squash. This mosaic virus causes mottled foliage and green patches on yellow squash. The disadvantages of foil include cost, the persistence of the foil in the soil, and limited availability.

—Adapted from “*Mulches for Vegetables*” by W. Bradford Johnson, former Specialist in Vegetable Crops.