

TO MULCH OR NOT TO MULCH

"The unmulched garden looks to me like some naked thing which for one reason or another would be better off with a few clothes on." (Ruth Stout)

Mulch is a layer of material covering the soil to exclude sunlight. It is proven to be one of the most effective and desirable methods of preventing germination and growth of annual weeds. Since most seeds require sunlight to germinate, mulch is effective as a weed control.

Mulches, depending on the material being used, has the added advantage of improving soil, bettering water retention, helps in breaking down clay soil, improves holding capacity of sandy soil and minimizes dust.

The minerals and organic matter gradually released from decaying mulch feeds deficient soils, replacing nutrients taken up by roots as plants grow, often enhancing earthworm populations.

Although mulching can require an initial investment, either in time, money or both, the long term benefits reduces ongoing weed management costs. If you have prepared your site, killed or removed weeds, follow immediately with an application of mulch. Regular hand pulling of weed seedlings may be all that is needed for weed management. Although mulch is effective against newly emerging weeds, it often fails to control established perennial weeds such as johnsongrass, bermudagrass, and field bindweed. Remove these species manually as soon as they appear or by spraying glyphosate (Roundup).

The primary benefits of using mulch are:

- Keeps the soil cooler in the heat of the summer.
- Prevents erosion of valuable topsoil.
- Conserves nitrogen by preventing sun from heating the soils surface.
- Coarse enough to allow easy water penetration.
- Heavy enough to stand strong winds.
- Protects roots from hard winter freezes.

Possible negatives of using mulch are:

1. It provides a cover and breeding place for snails and bugs.
2. If wet mulch is placed to close to the base of woody plants, it can cause rot.
3. Early vegetables may, in fact, need bare soil. Exposed soil warms faster in the spring than mulched topsoil.
4. Bare soil may help prevent spring frost damage better than mulching.
5. Mulching eggplant or bell peppers and possibly tomatoes too early can depress growth
6. Organic mulching materials that are not partially decomposed can rob soil of nitrogen.

7. When using plastic mulch, black in the winter to store heat, and white (not clear) in the summer to reflect heat.
8. Rather than mulching poorly drained soil, evaporation might be a better choice.

MULCHING MATERIALS

Organic materials (general): Can conserve moisture, prevent surface crusting, improve water penetration and harbor insect pests.

Bark chips and ground bark: Can harbor insects and termites, often placed over plastic as decorative material.

Compost: Excellent source of organic matter; may harbor certain weed seeds or plant pathogens if not properly prepared.

Grass clippings: Readily available, can reapply over time, may contain weed seeds or bermudagrass rhizomes, may mat and reduce water penetration if not dried first.

Hay and straw: Allows good water penetration, may contain grain seed. Can mold and mat in wet weather.

Leaf mold: Can add needed acidity to alkaline soils; must be carefully prepared or purchased. Whole leaves can be effectively used, but appears unkept or unattractive.

Newspapers (shredded): Readily available, low cost, no weed seeds, attracts earwigs, sowbugs, not stable in windy locations.

Newspapers (folded) Use 6 sheets thick, attracts earwigs, beetles, sowbugs, not stable in windy locations. Requires compost or other weighted materials to hold down.

Raisin paper (with resin) Is not considered organic because the water resistant resin is made with chemicals. Virgin paper is available but it breaks down easier than wet strength (raisin paper with resin) but not as fast as newspaper. It is effective as a mulch using only a single thickness, and with aged manure or compost added on top to hold down the paper.

Peat moss: Increases water holding capacity but resistant to wetting when completely dry. Adds acidity to alkaline soils, expensive.

Pine needles: Adds acidity; pine resins may be toxic to some plants.

Sawdust: A fine, short-term soil amendment; will mat and inhibit water penetration; robs soil of nitrogen but composting will eliminate some problems; need to add additional nitrogen.

Wood chips: Robs soil of nitrogen; less depletion if rotted prior to application; need to add additional nitrogen.

Nonorganic mulches: Do not provide organic matter that feeds nutrients into soil. To some, it is considered unattractive. It requires special irrigation procedures; must later be removed from field or garden but conserves moisture.

Black plastic. Effective; need to add drip irrigation or furrows; warms up soil in spring, considered unattractive.

Clear plastic: Same as black except does not control weeds beneath unless solarization procedures follows.

Aluminum foil: Disorients aphids (and white flies) within 12 inches, expensive, may reflect too much heat in summer.

Nonwoven polypropylene fabric: Allows air and water penetration.

Photodegradable plastic film: May not need to be removed from garden or field; degrades during the life of the crop, although degradation may not complete with some products.

(The mulching material list has been modified from Pests of the Garden: A growers guide to using less pesticide by Mary Louse Flint, University of California Press)

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