



HAWAII COOPERATIVE EXTENSION SERVICE

College of Tropical Agriculture and Human Resources

University of Hawaii

GENERAL HOME GARDEN SERIES No. 7

MULCHES FOR THE HOME GARDEN

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Mulch is used in the home garden to control weeds, conserve moisture, and reduce irrigation. Use of mulches also reduces soil temperature; prevents soil erosion; prevents vegetables from contacting the soil, which keeps them clean; prevents soil rot disease; allows harvest more quickly after rain or irrigation; and adds organic matter when mixed with the soil.

What To Use

Any form of organic material may be used as a mulch, provided it does not contain weed seeds, and will decompose when mixed with soil. Some materials commonly used for mulch are grass clippings, leaves, straw, sawdust, wood shavings, manure that is mixed with a high percentage of straw, compost, and similar natural material. Plastic film, paper, boards, aluminum foil, and other commercial products may be used also, but they are not as satisfactory as the organic materials. When sawdust, wood chips, and other highly carbonaceous materials are used, ammonium sulfate, urea, or similar nitrogen source should be added to prevent a deficiency of nitrogen for the plants: one-half pound ammonium sulfate or its equivalent for each bushel of residue should be satisfactory. When mulch materials are added to the soil, be sure that adequate moisture is maintained for proper decomposition of the material.

How To Apply

Spread the mulch material in an even layer over the soil. Be sure it is deep enough so that it will stay in place and prevent weed growth; however, it should not be so thick that light rains cannot penetrate to the soil. Place the mulch several inches thick around and under the plants. Coarse, loose material will settle to about one-half of the original thickness, so apply 4 to 6 inches of this type of material; fine materials should be about 2 inches thick. The mulch should be applied when the plants are high enough so that the mulch will not affect their growth. Apply the mulch materials after a light rain or

irrigation while the soil is still moist; do not mulch soils that are poorly drained.

Use for Nature of Crop

Tomatoes, peppers, eggplants, broccoli, cauliflower, and other tall-growing plants should be mulched when the plants are 6 to 8 inches high. Apply uniformly around the plant so that all exposed soil is covered out to the distance that the plant may extend, 3 feet or more. It is not necessary to mulch the entire garden area although it will reduce weed growth and provide a cleaner garden area. It will also be unnecessary to spread the mulch material when it is time to turn it into the soil.

Vine crops, such as cucumber, melons, and squash, should have mulch 3 to 5 inches deep extending from the base (stem) of the plant and completely covering the soil as far as the vines extend.

For carrots, beets, and other root crops, be sure that the tops are not covered by the mulch. Cover the area around the plants with mulch 2 to 3 inches thick. Mulches should be removed from around these crops during harvest, then respread and mixed with the soil when preparing for the next crop.

Use of Sawdust

Sawdust, wood shavings and wood chips are good materials for mulch but require special care. These materials should be applied at a maximum of 1 to 1½ inches thick for shallow-rooted crops and 2 to 2½ inches thick for deeper rooted crops. Nitrogen in some form, ammonium sulfate or urea, must be added to overcome the effect of these materials upon the soil. Mix ½ pound of the nitrogen carrier with 1 bushel of the material before applying. One bushel (10 to 15 pounds) sawdust will cover a 100 square feet plot 1 inch deep. Redwood sawdust or wood chips should not be used unless mixed with some other type of wood because redwood sometimes contains substances harmful to the plant. Composting the redwood products before use will

produce a satisfactory mulch material. Sawdust or wood chips from lumber treated for termites, rot, or other disease should not be used because these materials are toxic to plants.

Use of Plastic Mulches

Plastic film, either black or white, is used as a mulch, especially in the pineapple industry. It is an excellent mulch material, but in the home garden it should be removed from the soil before soil preparation because it does not decompose in the soil and will interfere with cultural operations. Prepare the soil, add fertilizers, and have the soil in a moist condition—after a rain or irrigation. Then apply the plastic and weigh down the edges with soil to prevent blowing. Punch holes in the plastic for planting or transplanting. Black plastic will raise temperatures 5 to 10 F above that of the bare soil and would be most useful during the winter months. If used during the summer months, 1 to 2 inches of

organic mulch should be applied over the plastic to reduce the temperature. This organic mulch will also insure cleaner vegetables.

Aluminum foil and other metals, lumber, and paper mulch should be used in the same way as the plastic mulch. Paper mulch, when mixed with the soil after cropping, should have sufficient nitrogen mixed in to insure its decomposition.

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NOTE: The use of trade names is for the convenience of readers only and does not constitute an endorsement of these products by the University of Hawaii, the College of Tropical Agriculture and Human Resources, the Hawaii Cooperative Extension Service, and their employees.

November, 1980 (reprint)