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## MULCH FOR YOUR GARDEN

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Mulching garden plants is a common practice throughout the world. It is especially important here in the Virgin Islands where rainfall is erratic because mulch will protect plant roots from heavy rains as well as conserve soil moisture during periods of drought.

Mulches that cover the soil serve as protection for the plant roots. Raindrops fall with tremendous impact and can break up the soil crumbs which promote drainage. A compact, poorly drained soil will then become hard and crusted upon drying, making it unsuitable for root development. Heavy rains may also wash down slopes, erode away valuable topsoil and expose roots to the drying sun. A few inches of cut guinea grass or palm fronds will protect the soil from the harmful effects of direct rainfall, yet allow water to reach the plant roots.

A thick organic<sup>(1)</sup> mulch or a layer of plastic will also reduce the loss of soil water by evaporation. This is especially important in our islands where water is a scarce and valuable resource.

An advantage of organic mulches is that they improve the soil as they decompose and may supply some nutrients essential for plant growth. Organic mulches also tend to cool the soil which may be an advantage during our hot dry season.

Mulching can be an effective method of controlling weeds in the garden. Mulching with either plastic or a

thick layer of guinea grass will reduce the amount of time you spend on the back-breaking job of hand weeding. Weed seeds that germinate under a mulch will soon die from a lack of light.

### TYPES OF MULCHING MATERIALS

Although any organic material can be used for mulching, the most common is dried grass or straw. Sawdust, wood chips (from untreated wood), manure, compost, paper, and large leaves such as banana or palm can also be used. Plastic mulch is also very useful in protecting the soil, reducing water loss and controlling weeds.

*Guinea grass:* Guinea grass can be cut from the roadside for use as a mulch. The grass should be piled around the plants to a depth of no less than six inches. A smaller layer of grass will allow light to get through and weeds will grow. When the grass decomposes it can be turned under to improve the soil.

*Sawdust, wood chips and paper:* When using one of these woody products, nitrogen fertilizer should be added to aid decomposition. If nitrogen is not supplied, microorganisms<sup>(2)</sup> that decompose the woody material will then use soil nitrogen which the garden plants require. Either one pound of ammonium sulfate or two pounds of 10-10-10 fertilizer per 100 sq. ft. should be spread on the mulch in addition to the fertilizer applied to the plants.

*Manure and compost.* Manure and compost will help conserve soil moisture, improve soil structure and supply some nutrients. However, they will not prevent growth of weeds. Since weed seeds are often found in both manure and compost, they may actually increase the number of weeds in your garden if they are applied on the surface. These materials should be turned into the soil, rather than left on top, to improve soil structure and supply some nutrients.

*Banana leaves and palm fronds.* Several layers of large leaves around plants may help conserve soil moisture. However, unless it is applied thickly, weeds are likely to grow through.

*Plastic Mulch:* Although plastic is the most expensive mulching material, it is widely used by gardeners. This is probably due to the lack of organic materials as well as the effectiveness of the plastic mulch. Plastic is the best material for conserving water and controlling weeds. However, it does not improve the soil as does decomposing organic materials.

Black plastic tends to raise the soil temperature more than organic mulches. This can be avoided by using either white or silver coated plastic. Clear plastic should be avoided since weeds will grow under clear plastic.

Plastic mulch should be laid over moist soil. A dry soil that is covered with plastic will remain dry, but a moist

soil will be resupplied with adequate water through the planting holes. Approximately six inches of the sides of the plastic should be buried to secure it from being blown away. Stones may then be strategically placed to prevent tearing by the wind.

Any size plastic may be used. Although the most common size is a sheet 3 ft. wide, it is not really ideal. When the sides of a 3 ft. sheet are covered only a narrow strip remains to cover the soil. A four foot wide roll is a better mulch because it would cover more soil and reduce the time spent weeding between rows. A large square sheet of black plastic that covers the entire garden will eliminate weeding altogether.

After the plastic is laid, punch holes at the appropriate locations and plant the slips or seed through the holes. If you are planting slips, pour some water or starter solution<sup>(3)</sup> through the hole to help the roots settle into the soil.

- (1) organic = derived from living things (grass, trees, etc.)
- (2) microorganisms = primarily fungi (molds) and bacteria that decompose organic materials
- (3) starter solution = a fertilizer solution that encourages root growth

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