

Growing Your Own Food at Home in Salisbury Series

Pack G Notes 2 MULCHING



Mulches occur in natural systems; even the upper dry crusted layers of soil act as a mulch to retain moisture and lower temperatures in soil below it. Retaining soil moisture is essential in maintaining soil organism life thus soil fertility. With both high temperatures and wind increasing evaporation and drying soils, mulch serves to maintain soil temperature, reduce evaporation and assist in reducing plant stress over summer heat. By maintaining soil moisture they can assist in preventing the soil from becoming non-wetting.

There are three types of mulch: inorganic, organic which includes both living and decomposing plant materials. The organic mulches contribute to building soil texture; increasing above and below soil biota activity; and fertility as they break down. These include: compost, straw, lucerne, bark, and wood chips, tree, shrub and grass prunings, seagrass, leaf litter, ground covers and other plants covering the soil and dropping leaves onto it. A few in-organic ones (pebbles, gravels or scoria) may add a few nutrients slowly but generally don't add to the soil fertility. Weed mats not add any nutrients to the soil. Organic mulches break down at different rates and this will determine their application; quickly decomposing ones on beds that are maintained regularly like vegetable beds, longer lasting ones for under trees or perennial shrubs, bushes and grasses.

Mulch needs to protect the soil from sun and wind whilst being open enough to breathe, allowing gasses such as oxygen and carbon dioxide to move in and out of the soil. They benefit our gardens by protecting the soils and organisms that live in them, reducing our water usage, reducing summer soil temperatures contributing to making our outdoor environment more comfortable in the warmer months. Other benefits include:

- They can reduce weed germination
- Depending on their colour they can increase or decrease soil temperature by either reflecting in the case of lighter colour sunlight or absorbing it in the case of darker mulches
- Slow water surface movement thus reduce erosion

We can make our own mulches by laying plant material from prunings (grasses some lawn species, and upright grasses such as poas), leaf litter onto the surface of our garden beds. Be careful not to include sharp, prickly plants. Fast growing, soft foliage ones that respond well to pruning work well.

Autumn leaves and soft pruning can be laid on the lawn and moved over with a lawn mower to break them up if you don't have a chipper.

'Living' mulches such as ground covers like myoporums or ground cover eremophyla, or scaveolea, and many more can keep soil temperatures cooler.



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What materials

What you are mulching will play a role in determining which mulch to use. Each have different contributes: some absorb water whilst others let it filter through; some break down in 3-6 months (growing season for some vegetables) and feed the soil as they do, others break down over years and need replacing less frequently, others are more permanent features.

Weed mats are usually covered by mulch to make it look more attractive. Doing this provides an environment for seeds to be trapped and germinate and grow on top of the weed mat!

Long lasting mulches such as: wood chips and tree and shrub prunings that have been through a chipper, are useful for perennial beds - long term trees, shrubs and bushes. They will break down over time and need replacing; the harder wood will take longer than softer woods and materials so mulches made from a combination of material will change over time. Don't mix these into the soil as in the process of breaking down they will release extra nitrogen from the soil and this will negatively impact the plants growing in it.

Inorganic long lasting materials such as gravel, pebbles and scoria are also useful for beds that require little attention. These materials can make it a little harder to work around if you decide to change the beds. In vegetable beds the materials will be turning into the soil and are a nuisance to remove.

Straws, pea, oats, barley and sugar cane are light mulches that will break down and being light in colour help reflect light in summer and keep the soil temperature cooler. They need to be wet when applied otherwise they draw up water from the soils below. This will help stop them from blowing away too. They can harbour pests such as slugs, snails, earwigs and slaters so measures need to be taken to deal with these.

Compost can be used as mulch, is loved by fast growing hungry plants such as many vegetables, who will take some nutrients from it as it breaks. It has drawbacks: its darkness means it will absorb heat in summer; it's usually finer than other mulches and is easy for seeds to germinate in; it will absorb water (light shower or sprinkling) and not allow water to filter through into the soil below. Being fine it can also wick up water from the soil below it and therefore dry the soil below it out. Best to cover it with mulch, then water the mulch in thoroughly.



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Mulches for food crops

The best mulches for food crops come from plants that grow as annuals. They have an open texture and break down readily adding to the soil texture over time.



Sugar cane

Bedding straw

Woody mulch

For vegetable gardens use

- Bedding straw (available from garden suppliers)
- Sugar cane mulch
- Pea straw, but it can make a good habitat for pests- earwigs, millipede, slaters and slugs
- Lawn clippings if not weed infested or from chemically treated lawns
- Lawn clippings are best when dried out and applied in thin layers up to 1 cm deep
- Mulch will need to be pulled back when sowing seeds directly into beds especially when planting summer crops which need warmer soil temperature to germinate

Not suitable as mulch for vegetable beds

- Shredded paper can mat when wet, providing an impenetrable and unacceptable mulch.

For fruit trees use

- Wood chip mulches are great for fruit trees. These can be applied 1-3 cm thick.

On garden paths use

- Sawdust is good for pathways. Once it has darkened it can be used on the garden.
- Woody mulches
- Recycled roofing tiles
- Gravel
- Scoria

Lucerne hay used as the base for no dig gardens is wasted as mulch.

Manures likewise, they both lose a lot of their fertility when used as mulches.

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When and how much

Mulches are very important not just for summer but for winter as well, though less is necessary in winter, to keep soil from drying out. The aim is to keep the organic layer- the living fertilisers such as compost or worm casts at the soil surface from drying out completely.

When you are planting and applying fertiliser to the soil surface apply mulch.

Mulch does not have to be spread evenly. As summer progresses add thicker layers of coarser mulch such as straw, bagasse or composted mulch as required.

Thickness depends on which type you are using, the conditions that it is in, and what you are using it for. Course materials need to be applied in thicker layers than finer materials.

Winter a mulch layer- ½ cm may be enough

Spring increase to 1 cm

Summer Night time temperatures guide when to mulch; when they are over 15°C regularly it's time to start mulching. Early on a thin mulch of lawn clippings, leaves, straw or composted mulch around 1 cm thick may be applied. Later in summer up to 2 cm thick

When applying mulch with seedlings protect seedling plants individually with collars.

When sowing seeds directly into the soil clear the mulch away until the seeds have germinated. Seedlings may need to be protected with collars when they are tall enough. In summer protect the soil with shade cloth to reduce evaporation.

Collars protect seedlings



Adapted from Harry Harrison's Notes from Grow your Own Food workshop series 2015

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