

MULCH

\$0.50

Mulch is a protective cover spread over exposed soil. Mulches can enhance conditions for root growth and the activity of soil organisms, which incorporate organic material into the soil to provide nutrients for plants.

WHY USE MULCH?

Mulching can serve several purposes:

- Protecting soil e.g. from drying wind and sun, erosive rain or watering systems;
- Feeding plants e.g. by providing nutrients or food for soil organisms;
- Building soil e.g. by providing organic matter;
- Reducing weeds e.g. by blocking light and preventing seeds germinating;
- Improving growing conditions e.g. by keeping soil cooler in summer or maintaining warmth in winter.



Straw makes a great mulch for vegetable gardens.

PROTECTING SOIL

Soil can be damaged by excessive rain, wind or sun. It can dry out and blow away or be washed away. Mulch can cover the soil and reduce the impact of the elements. Any mulch will help protect soil, but light mulches such as straw can be blown away in strong winds. Plastic mulches also need to be secured firmly to the ground to prevent being blown away (plastic and cardboard mulches can also starve the soil of oxygen, so need to be used with caution).

FEEDING PLANTS, BUILDING SOIL

Organic mulches like wood chips, straw or seaweed provide a wide range of nutrients to plants and food to soil organisms. As they break down, the nutrients are released and are available to the plants and the organic matter is converted in humus, which greatly improves the structure and quality of soil. An unmulched garden is unlikely to have significant numbers of soil building organisms in it - this is key to a healthy, productive soil. Plants like comfrey can be grown to be cut many times and used as nutritious mulch, while legumes like clover can be grown as a 'living mulch', to provide nitrogen to surrounding plants. Many people are now promoting the use of 'ramial wood chip', which is made from fresh branches of deciduous trees that are less than 7cm diameter. These branches are very high in enzymes, minerals and amino acids that soil fungi adore. These fungi rapidly break down the wood chip and turn it into high quality soil.

REDUCING WEEDS

Mulches used to suppress weeds typically need to block light. Heavy black plastic is an excellent choice for smothering existing weeds; Clear plastic can be used over summer, when the plastic intensifies the sun's heat, further inhibiting weed survival - this is called 'solarisation'. Cardboard is another easy to find biodegradable material for suppressing weeds (although it may contain toxic chemicals so should not be used repeatedly). Carpet can be used, but most old woollen carpets in New Zealand have been treated with persistent toxic pesticides like DDT and Lindane, and plastic carpets will leave microplastics in the soil, so are best avoided.



SOUTH COAST ENVIRONMENT SOCIETY

SHEET MULCH

Soil can also be created by 'sheet mulching', where lots of different organic materials are laid on the ground to break down over a period of time, like a spread-out compost heap. This method can be used to create a no-dig garden. Potatoes can also be grown very well in a sheet mulch, so that when they are harvested, the garden is ready for planting a new crop in the rich soil.



Potatoes growing through sheet mulch.

SOME USEFUL MULCHES

- **Straw:** Rich in organic matter. Pea straw is a popular higher nitrogen mulch. Check with growers that straw hasn't been sprayed with herbicides, as these can affect your plants.
- **Hay:** Makes a great mulch and breaks down nicely, but may contain weed seeds. Often spoiled hay bales can be picked up cheaply. Hay doesn't tend to have been sprayed, but it is still worth checking.
- **Autumn Leaves:** These make a wonderful mulch, especially for trees and shrubs. Tree leaves contain a good range of nutrients and minerals.
- **Wood chips:** Tree chippings can be excellent mulch, but will need to be left for about six months to a year to heat up and break down before use. Ramial wood chips are made from freshly cut and chipped small deciduous branches cut when trees have no leaves. It can be used immediately after chipping.
- **Sawdust (untreated):** A good mulch but will need extra nitrogen added, such as blood & bone or liquid fertilisers. Can take a long time to break down. May prevent moisture getting into the soil if too thick.
- **Seaweed:** Can be used fresh from the beach. If left over winter, it will rot down beautifully, providing a mineral-rich soil for spring planting.
- **Grass clippings and weeds:** Provide a nitrogen-rich mulch that will break down rapidly. Don't use perennial weeds that might regrow and cause more problems! Don't spread too thickly, as they may get smelly and slimy. Avoid grass clippings from sprayed lawns.
- **Compost:** A valuable source of organic matter, nutrients and microorganisms. Well-made compost will provide a long-term supply of valuable nutrients to plants and helps build soil structure.
- **Cardboard and newspaper:** Both can be used to kill weeds and are great for establishing new gardens. Remove plastic tape before using, and never use glossy paper. Newspaper inks are vegetable-based, so are not harmful to soil. Don't overuse (see note above).
- **Stones:** Prevent excess evaporation of moisture from soil and store heat during the day, releasing it at night. Will not biodegrade in a hurry! Stone mulches will not suppress weeds and may require ongoing weeding.
- **Soil:** Surface hoeing of dry soil can create a 'dust mulch' which can prevent water loss from the soil.
- **Black polythene:** Can warm soil in spring and will suppress weed growth. Use thicker plastic and look after it so it lasts longer. Can lead to depletion of oxygen in soil.
- **Clear polythene:** Used over summer to 'solarise' soil - can effectively kill weeds, seeds, and pest organisms in the right conditions.

