

Mulches: weed prevention and control

Why use mulches?

Mulching is an excellent way of controlling weeds and clearing ground. It works because mulches stop light from reaching the weeds. Without light they cannot grow, because they can't **photosynthesise** (the process by which plants make food).

Mulches are coverings placed on the surface of the soil. They can be made from a number of materials, from light-excluding **membranes** (covers) to loose shredded prunings. To make sure the mulch works, it is important to choose the right one.

How do you use mulches? In planted areas

Dig garden compost or organic fertilisers into the soil before putting the mulch on the soil. Put the mulch on to a moist, warm, weed free soil. Membranes look more attractive and last longer if they are covered in a 5cm layer of loose mulch such as ornamental bark. When using a loose mulch and no membrane, a top up is needed to keep a 10cm thick layer (every year or two).

When clearing ground

Cut down long grass and weeds with a strimmer. Lay the membrane over the area to be cleared, and hold down with pegs or stones. If weeds break through the membrane, patch it as necessary.



Clearing weeds using this method can take between six months to two or three years. However, the area doesn't have to be bare. You can grow some vigorous plants through the mulch.

Mulch membranes Geotextiles

Geotextiles are man-made membranes that are **permeable** (water and air can get through). They will last about 15 years, when covered with a loose mulch such as wood chips. Fasten the edges with wire pegs.

Pros: Excellent long-term weed control. You can plant through geotextile membranes.

Cons: Expensive. You can't feed plants through it; worms can't work in organic matter covering the membrane. A **non-renewable** resource (can't be used again).

Black plastic film (400-600 gauge – thickness)

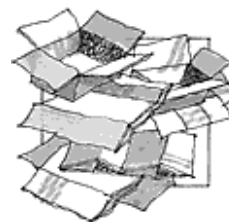
Black plastic will last for one to three years. To hold it down, bury the edges along all sides of the beds.

Pros: Useful for clearing weedy ground before planting. It can be covered with loose mulch. Vigorous vegetables, such as potatoes and courgettes, can be planted through the membrane. Warms up the soil.

Cons: As it is not air or water permeable it is not recommended for long term use. Will **degrade** (rot) quickly if exposed to the sun. A **non-renewable** resource.

Cardboard

Flattened cardboard makes an excellent mulch which will last for one growing season.



It can be held down with planks, bricks or straw.

Pros: Free. It is useful for clearing ground and can be replaced when the weeds start to grow through. Vigorous growing vegetables can be planted through it. **Biodegradable** (rots down).

Cons: **Degrades** quickly.

Newspaper

Newspapers are excellent as a short term mulch. They will last one growing season. Use a whole, opened out newspaper at least eight pages thick. Hold down with a degradable mulch such as grass mowings, hay or straw.

Pros: Free. A thick layer will keep down **perennial** (grow back every year) weeds. Use round the base of fruit bushes and raspberries (remember to remove in autumn and replace in spring). They also makes good tree mats and can be used as a mulch in the vegetable garden. **Biodegradable**.

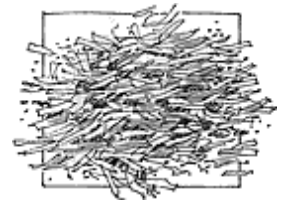
Cons: **Degrades** quickly. Can make soil more acidic.

Loose mulch Woodchips

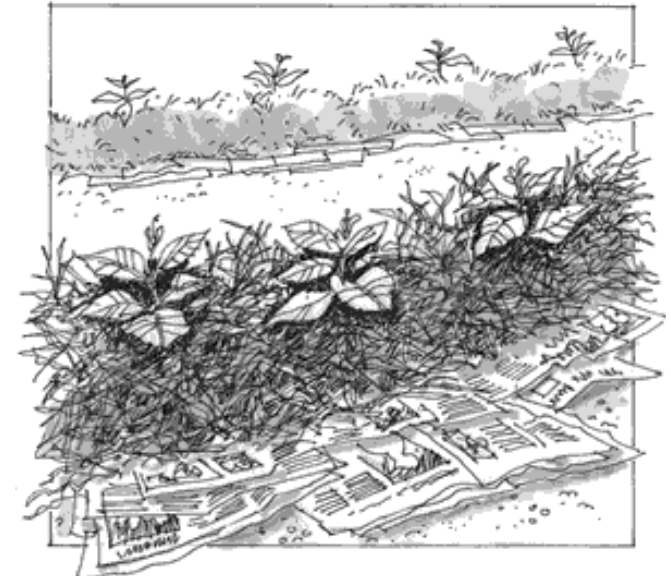
Woodchips come in many different varieties of wood. They are cheaper but less attractive than ornamental bark.

Pros: Excellent for informal paths. **Biodegradable**. Good use of waste material.

Cons: Although it will stop some weeds growing the soil must be clear of all weeds before the woodchips are put down.



Using Mulches



A student's guide to using mulches for clearing ground and weed control



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Ornamental bark

Ornamental bark is composted conifer bark. It is more expensive than woodchips but more attractive.

Pros: Excellent for decorative beds.

It conditions the soil. **Biodegradable.** Good way of recycling waste material.

Cons: Although it will stop some perennial weeds growing soil must be clear of all weeds before it is put down.

Shredded prunings

Woody prunings and other woody material produced in the school grounds can be chipped or shredded to use as a mulch. Heap them in a pile to compost for a few months before using on planted areas. Composting will darken the colour of the mulch, giving it a more natural appearance. Add nitrogen—in the form of grass mowings, nettle liquid or nitrogen-rich manures to speed up composting.

Pros: Can be used fresh for paths.

Biodegradable. Good use of waste materials.

Cons: Home made mulches, may **degrade** more quickly.

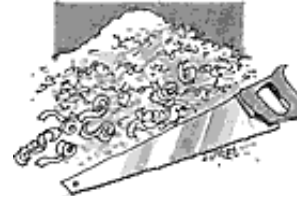
Straw/hay

Straw and hay will make a good mulch for one season. For the most effective weed control put straw over a membrane such as newspaper. It is better to use semi-rotted straw/hay.

Pros: Hay contains potash and nitrogen.

Straw also supplies some potash. This mulch is good for fruit bushes. Biodegradable. Good use of waste material.

Cons: Hay can contain some weed seeds.



Sawdust

Best used as a mulch in 'wild' areas or to cover tree mats. Do not use sawdust from treated wood.

Pros: Biodegradable. Good use of waste material.

Cons: Sawdust takes nitrogen from the soil and so should not be dug in.

Tree mats

It is important to keep 1m² area at the base of a tree free of other plants and weeds for three to five years after planting. If the area isn't clear, the tree has competition for water and nutrients. Tree mats are made of wool, geotextile or black plastic. It is also possible to make your own using newspaper (see newspaper section). Fasten the mats down by burying the edges or pegging down.

Pros: Wool mats and geotextiles are air and **water permeable.** Tree mats can also be used around large shrubs.

Cons: Wool mats can be destroyed by birds using them for nesting material. Black plastic is not air and water permeable. **Synthetic** (man made) membranes are a non-renewable resource.

Mulches for weed prevention and control

Why use mulches?

Mulching is an excellent way of controlling weeds and clearing ground. It works because mulches deprive plants of light. Without light plants cannot photosynthesise and grow.

Mulches are placed on the surface of the soil, and vary from light-excluding water-permeable membranes, to loose shredded prunings. It is important to use the appropriate mulch for your situation.

How do you use mulches? In planted areas

Dig in garden compost or organic fertilisers before applying a weed-controlling mulch to the surface. Apply mulch to a moist, warm, weed-free soil. If you are using a membrane it looks more attractive, and lasts longer, if it is covered in a 5cm layer of loose mulch such as ornamental bark. When using a loose mulch without a membrane, such as composted bark, top up as required to maintain 10cm weed-suppressing layer (every year or two).



When clearing ground

Cut down long grass and weeds with a strimmer. Lay and secure the membrane over the area to be cleared. If weeds break through the membrane, patch as necessary. Using this method for weed-clearing can take between six months to two or three years.

Using Mulches—A Teacher's Guide

Some mulch membranes

Geotextiles

Geotextiles are synthetic, woven or spun, water and air permeable membranes. They will last an average of 15 years when covered with a loose mulch such as wood chips. Secure them at regular intervals with wire pegs. **Pros:** Provide excellent long-term weed control. You can plant through geotextile membranes.

Cons: Expensive. Can't feed through it; worms can't work in the organic matter covering the membrane. A non-renewable resource.

Black plastic film (400-600 gauge)

Black plastic will last for one to three years. To secure it, bury the edges along all sides of the beds. Silage sheet comes in large rolls and is ideal for covering larger areas.

Pros: It is useful for clearing weedy ground prior to planting. Plant through it and cover with loose mulch. Vigorous growing vegetables, such as potatoes and courgettes, can be planted through the membrane. Warms up the soil.

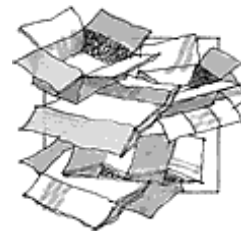
Cons: As it is not air or water permeable it is not recommended for long-term use. Will degrade quickly if not protected from the sun. A non-renewable resource.

Cardboard

Flattened cardboard makes an excellent mulch which will last for one growing season. It can be held down with planks, bricks or straw.

Pros: Free. It is useful for ground clearance and can be replenished when the weeds start to grow through. Vigorous growing vegetables can be planted through it. Biodegradable.

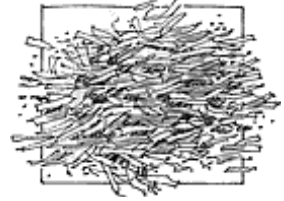
Cons: Degrades quickly.



Newspaper

Newspaper is excellent for short-term weed suppression and will last one growing season. Use a whole opened-out newspaper at least eight pages thick. Hold it down with a degradable mulch such as grass mowings, hay or straw.

Pros: Free. A thick layer will suppress perennial weeds. Use it round the base of fruit bushes and raspberries (remember to remove it in autumn and replace in spring. This ensures that any disease spores are disposed of and that the soil can warm up in spring). It also makes good tree mats and can be used as a mulch in the vegetable garden. Biodegradable.



Cons: Degrades quickly.

Loose mulches Woodchips

Woodchips come from many different varieties of wood. They are cheaper but less attractive than ornamental bark.

Pros: Excellent for informal paths. Biodegradable. Good way to recycle waste material.

Cons: Although they will suppress perennial weeds to some extent, the soil must be clear of all weeds before application. To avoid the woodchips taking nitrogen from the soil do not dig in woodchips.

Ornamental bark

Ornamental bark is composted and graded conifer bark. It is more expensive than woodchips but it is visually attractive.

Using Mulches

Pros: Excellent for decorative beds. It conditions the soil. Biodegradable. Good use of waste material.

Cons: The soil must be clear of weeds before application as the mulch will only suppress weeds, not kill already existing weeds.

Shredded prunings

Woody prunings and other woody material produced in the school grounds can be chipped or shredded for use as a mulch. These are best heaped up to compost for a few months before use on planted areas. Composting will darken the colour of the mulch, giving it a more natural appearance. The addition of nitrogen—in the form of grass mowings, nettle liquid or nitrogen-rich manures for example—to the heap of shredded material will speed up the process.

Pros: Can be used fresh for paths. Biodegradable. Excellent use of waste materials.

Cons: Home made mulches, which are likely to contain more green material than purchased ones, may degrade more quickly.

Straw/hay

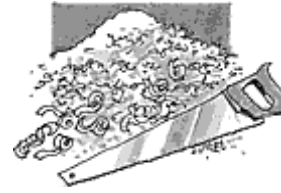
Straw and hay will make a good mulch for one season. For the most effective weed control use over a membrane such as newspaper. It is better to use semi-rotted straw/hay.

Pros: Hay is a source of potash and nitrogen. Straw also supplies some potash. This mulch is extremely useful for fruit bushes. Biodegradable. Good use of waste material.

Cons: Hay may introduce some weed seeds.

Sawdust

Best used as a mulch in 'wild' areas or to cover tree mats. Sawdust is rich in carbon and will last for one season. Do not use sawdust from treated wood. Do not dig in.
Pros: Biodegradable. Recycling waste material.



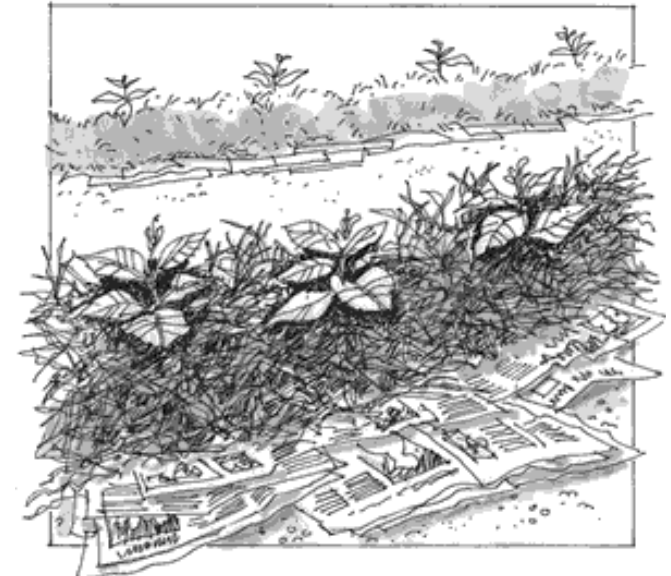
Cons: Causes nitrogen robbery if dug in. It is not suitable for highly decorative beds.

Tree mats

It is important to keep a 1m² area at the base of a tree free from competitive growth for the first three to five years after planting. This will avoid competition with other plants for water and nutrients. Tree mats are made of wool, geotextile or black plastic. It is also possible to make your own using newspaper (see newspaper for more information). Secure the mats down by burying the edges or pegging down.

Pros: Wool mats and geotextiles are air and water permeable. Tree mats can also be used for large shrubs.

Cons: Wool mats can be destroyed by birds using them for nesting material. Black plastic is not air and water permeable. Synthetic materials are a non-renewable resource.



A teacher's guide to using mulches for clearing ground and weed control

Further Reading

Mulching—*Garden Organic Guide*

Weeds—*how to control and love them* -
Jo Readman, HDRA/Search Press



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