Using plastic mulch in the garden
by Robin Mittenthal, March 2010

What is mulch? Mulch is any material that you spread over the soil to protect the soil from erosion, conserve moisture, and keep weeds from growing. Materials used for mulching can be: 1) natural, such as leaves and straw, 2) processed natural materials, such as newspaper and cardboard, or 3) manufactured materials such as plastic and landscape fabric (a material also made from petroleum, but much more durable than ordinary plastic).

For organic gardeners in particular, the suppression of weeds is perhaps the most obvious short-term benefit of mulch, but moisture conservation and erosion prevention are significant whether you notice them or not. Mulch can also increase earthworm activity and protect other beneficial organisms that live on and in the soil. In addition, old mulch that is breaking down and no longer effective as a weed barrier can often be incorporated into the soil, thereby improving the soil's organic matter content .

How do I use mulch? Mulch is typically used in one of two ways. You can either 1) prepare an area of your garden for planting, put mulch on it, and transplant plants through the mulch, or 2) prepare an area for planting, plant seeds into it, wait for the seedlings to get big enough that they won't be buried by the mulch, and then mulch around them carefully. Many crops that are grown from seed in the garden never get mulched because it's just too much trouble to put mulch around them without burying them. Use your hands or a hoe to weed around these crops instead of mulching them.

Desireable characteristics of good mulching materials When you put mulch on your soil, you are deliberately putting on something intended to *discourage* plant growth. Mulches do this by blocking light (which penetrates the soil and encourages weeds to grow) and by physically preventing weeds from coming out of the ground. You want them to do this for as long as possible, or at least as long as you have a crop in the ground that you want to protect from weeds. As a result, a good mulch material should be:

1) capable of blocking light and weeds (so it does a good job of blocking downward movement of light and upward movement of growing weeds)

2) durable (so it can continue doing its job for several months or more, even when exposed to heat, light, and moisture; one aspect of durability has to do with how many nutrients there are in the material – materials that are low in nutrients tend to make good mulches because they do not encourage weeds by releasing nutrients and are not themselves eaten quickly by microorganisms).

3) readily available, affordable, easy to use, and easy to dispose of.

Many materials work as mulch, though each offers different benefits and drawbacks. Newspaper, cardboard, leaves, straw, pine needles, and dry grass clippings are all cheap or free and can be incorporated into the soil when they are done serving as mulch (so can sawdust, woodchips, and bark, but don't use these materials for mulch—they take too long to break down in your soil).

Why plastic is sometimes a good material to use Plastic is not free and must be landfilled after use, but it does provide benefits (particularly heating of the soil underneath it) that other mulches do not. For crops that do best in warm soil (tomatoes, eggplants, cucumbers, melons, some others), use of black plastic mulch can result in earlier crops, larger yields, and less disease. For other common crops, black plastic is neither helpful nor necessary, and it can be harmful if it makes the crop too hot or if the cut edges of the plastic move up and over the plants they are supposed to protect.

Where to get plastic Special agricultural plastic is available at many garden stores or through mail/internet companies in rolls or folded sheets. If you cannot find this, you can buy large sheets of plastic at any hardware store, though this plastic can be unnecessarily heavy. Contrary to the claims of some companies, buying plastic in special colors (red or green, often) is not necessary. Cut-up black garbage bags can also work, though they are often too small for a single bag to cover the desired area. You can use multiple bags but be prepared to have weeds grow between the bags.

Laying and removing plastic mulch
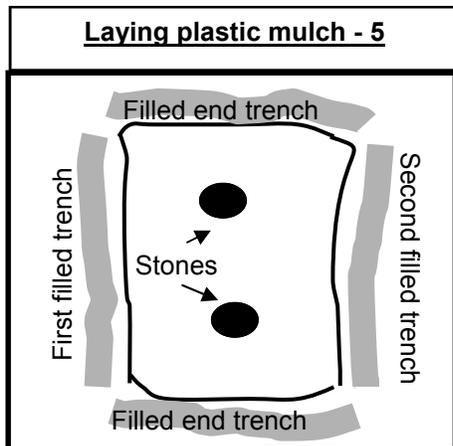
Laying plastic mulch - 1
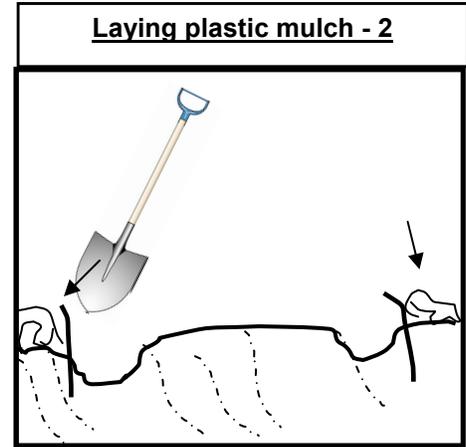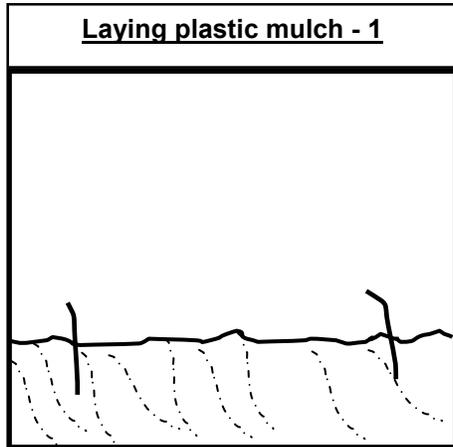
Prepare the soil (see *preparing a new garden plot*). Then, use sticks to mark out an area the length and width of the piece of plastic mulch (or landscape fabric) that you will be laying. Square or rectangular areas no wider than a single piece of plastic are easiest, but as you gain experience you may choose to lay curved beds.

Laying plastic mulch - 2

Use a spade to dig two narrow, shallow trenches the length of the piece, just inside the marking sticks. Put the soil you dig out just outside the area marked off by the sticks.

Laying plastic mulch - 3
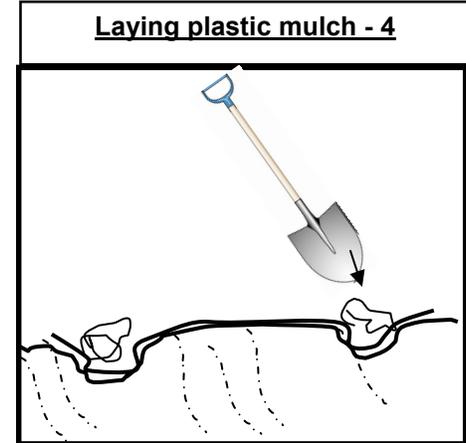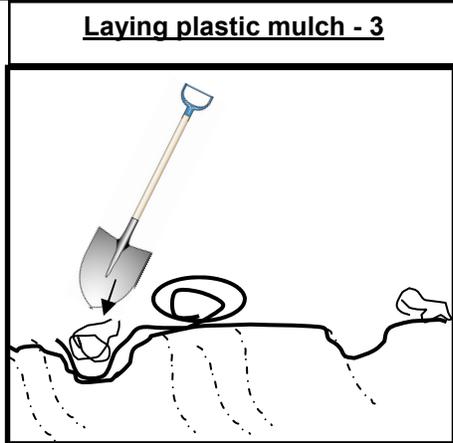
Remove the sticks. Unroll the plastic mulch partially and set one side in one of the two trenches. Use the soil that you removed from that side to fill in the trench on top of the plastic.

Laying plastic mulch - 4

Unroll the plastic mulch the rest of the way and set the other end in the other trench. Keeping the surface of the plastic as taught as you possibly can (by stepping on the plastic in the empty trench, for example), fill in the second trench.

Laying plastic mulch - 5

Filled end trench

First filled trench

Second filled trench

Stones

Filled end trench

Your square or rectangular plastic sheet still has two loose ends. Dig enough soil out from under each loose end of the plastic to make a little trench as before. Stretch the plastic into each trench and bury it. You can put stones on top as weights if the surface is not taut.

Removing plastic mulch

Plastic mulch is usually easy to remove. At the end of the season, remove all plant materials, stakes or cages, and stones from on top of the plastic. Dig up one corner and try to pull the rest out by tugging on that corner. You may need to use a spade to dig out the parts of the plastic that are buried in the trenches.

If you have used heavy duty plastic, you may be able to dry it off, fold it up, and store it for reuse. If not, throw it away. This is one reason to use plastic sparingly!