Integrated Pest Management

Ways to Control Weeds- Weed Barriers

Weed Barriers

WHAT IS A WEED CONTROL BARRIER?

A barrier is a soil covering material used to control weeds, similar to a mulch. Barriers can be formed from a wide array of materials, including fabric, plastic, paper, or cardboard. They differ from mulches in that they are manufactured products intended to form an impenetrable barrier to plant roots. Depending on the material used, barriers are also intended to act permanently or seasonally. They are often used in conjunction with a covering organic mulch since by themselves they are often unattractive in the landscape. Barriers work by preventing weed roots from penetrating into the ground below. They can also block sunlight from reaching any weed seeds already in the soil, and can prevent emergence of existing weeds.

WHAT KINDS OF BARRIERS ARE THERE?

PLASTIC SHEETING

Polyethylene sheeting has been used as a weed barrier for many years. The use of plastic as a permanent inorganic barrier is not generally recommended for use in landscapes, since it will act as an effective block to water and air exchange. This can hamper the growth of desirable plants in the landscape. Plastic sheeting is sometimes used for suppressing weeds in certain row crops, where it provides the additional benefit of warming soil during colder times of the year. Plastic can be useful when solarizing soil, a method to deliberately kill weeds and soil organisms by heating the soil to high temperatures. Soil solarization is accomplished by laying sheets of plastic over moist soil during the warmest and sunniest months of the year. Usually clear plastic is used, letting in light and trapping heat which causes the soil temperature



to rise dramatically. This kills weeds and seeds residing in the soil. This treatment also affects desirable soil life and plant roots so it should be used with caution near desirable plantings. If the soil you want to solarize is dry be sure to water it before laying clear plastic down since some weed seeds can tolerate dry heat but will not tolerate moist heat.

Use of plastic mulches can create other issues, such as decaying under the effects of sunlight and weather,

becoming damaged by people or pets, and other factors that may make the material ineffective and unsightly. Use of plastic sheeting also creates a solid waste disposal problem after its intended use is over.

GEOTEXTILE FABRICS - WOVEN OR SPUN - Unlike plastic sheeting, air and water are able to move through these



types of barriers. Often sold as "landscape fabric", geotextiles can provide effective initial weed control because they pose an interface to bare soil that most weeds are unable to penetrate or grow upon. They are best utilized in permanent plantings or in unplanted areas. One drawback is that once installed it is difficult to rearrange plantings in sheeted areas or add shrubs and trees. Geotextiles may also be vulnerable to the UV radiation in sunlight and unless protected by another covering geotextiles can eventually be broken down. Uncovered geo-textiles are also unattractive in the landscape, so geotextiles are usually covered by

organic mulches or rock. However this can create a problem where weeds grow in the covering mulch and adhere to the barrier underneath making their removal difficult. And once any holes develop in the fabric any weeds penetrating into the soil below can be very difficult to pull. Outside of specific instances where their use is essential, geo-textile fabrics can create some long term maintenance issues once they begin to fail. These issues should be carefully considered before installation.

PAPER AND CARDBOARD - Layers of newspaper provide a barrier that water can usually pass through but still be tough for weeds to establish on or break through. As the paper decays, it will eventually add organic matter to soil but it may need to be covered with a mulch to make it more attractive and to keep it in place. Cardboard is used in the same way as layers of newspaper but is thicker, will last longer, and can provide a more durable barrier than newspaper. A note of caution: Especially on moist sites, layers of wet newspapers or cardboard may interfere with the proper exchange of air into the root zone. Paper and cardboard sheets may also become repellent to water in dry periods which may make them unsuitable for use in drier climates. Use of these cardboard and newspaper mulches is best suited to intensively maintained sites where irrigation and drainage is assured, such as in vegetable gardens.

An increasingly common method for both weed control and soil improvement is sheet mulching. The ground is covered with newspaper or cardboard and a thick blanket of wood chips, leaf litter or other plant material layered over the top. The cardboard smothers the weeds and serves as a weed barrier, while the mulch covers the cardboard and decomposes to improve the soil. This technique can also be modified by using various layers of manure and other organic materials to create a planting bed above the newspaper or cardboard. This is sometimes called "lasagna gardening" and can be particularly valuable for growing vegetables and other crops.

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