

Nonchemical Weed Control for Home Landscapes and Gardens¹

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A weed in a home landscape is defined as a plant in an undesirable location. This may include an undesired plant or a desired plant that has outgrown its original space. Numerous strategies can be utilized as part of a home weed control program, and many homeowners and gardeners are interested in controlling weeds in their landscapes and gardens without the use of chemical herbicides. There are several benefits to nonchemical control, including a lower risk of damage to nontarget plants, decreased costs, and the opportunity to more frequently scout the landscape for potential problems. However, the options for nonchemical weed control in home landscapes and gardens are limited.

It is important to maintain weed populations at the lowest level possible to prevent re-infestation. Perennial weeds that are allowed to grow for a length of time will produce numerous vegetative reproductive parts such as above- and/or below-ground roots and storage structures. This creates the potential for a quick population rebound. Delaying control of annual weeds will result in seed production that may greatly increase the number of future weeds. Annual grasses are capable of producing several thousand seeds per plant, while some annual broadleaf weeds are capable of

producing tens of thousands of seeds per plant. Timely and routine weed management practices are essential to maintain low levels of troublesome weeds.

Below are some of the most common options for weed control and descriptions of their pros and cons.

Hand Pulling

This strategy is the most low-tech option, but it can provide exercise and the opportunity to frequently scout the landscape for other potential problems. Frequent monitoring is a critical part of all integrated pest management (IPM) programs because it allows homeowners to catch and deal with many problems early. Simply pulling weeds can be very effective in some situations, such as when weeds are growing close to sensitive plants. Hand pulling can be strenuous, and some weed species are extremely difficult to pull by hand. It is best to pull weeds while they are relatively small. Hand pulling of larger weeds is difficult and can result in uprooting of nearby annual plants. Hand pulling is most effective if employed on a regular basis so that weed populations in landscape beds and gardens are kept to a minimum. In the case of perennial weeds that have

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an extensive root system, numerous sessions of hand pulling will be required before effectively exhausting the stored energy in the root systems. Until that time, the perennial weeds will continue to grow from their roots. A good pair of gloves and some knee pads will make this option easier and more comfortable.

Cultivation or Tillage

This method of weed control utilizes a tool or implement to physically remove or destroy the weeds. The use of a hoe, shovel, trowel, weeder, or knife is adequate for cultivation of small- to moderate-sized areas. For larger areas, tillage with a rototiller or similar equipment may be more efficient. Cultivation or tillage is often more effective at removing weed species that are difficult to remove by hand, such as perennials with an extensive root system. These perennials will sprout again, but with successive cultivation it is possible to wear out the food reserves in the roots. As with hand pulling, cultivation or tillage is most effective if employed on a regular basis so that weed populations are kept low. It also provides exercise and the opportunity to frequently scout the landscape for other potential problems. Tilling may also provide the added benefit of alleviating soil compaction by creating more pore space in the soil, allowing water to infiltrate and roots to grow. A rototiller should never be used around existing trees, but it is a great way to incorporate soil amendments such as organic matter, fertilizer, and lime.

Mulch

One of the many benefits of mulching in home landscapes and gardens is the suppression of weeds. A 2–3 in. layer of mulch is adequate for weed suppression in most situations. In fact, mulch depths over 3 in. may actually be detrimental to plant health because of potential decreases in soil oxygen. Mulch can provide a clean, finished look to landscape beds and paths. Mulch may also help to moderate soil temperatures, maintain soil moisture, and provide plant essential nutrients. There are numerous types of mulches available for use in home landscapes and gardens. For more information on mulch, visit http://edis.ifas.ufl.edu/topic_mulch.

Landscape Fabric

It is becoming more popular to use landscape fabric to help prevent the emergence of weeds in planting beds. This fabric can also be used in the home garden. While potentially costly, these fabrics can provide two or more years' benefit to the reduction of many common home landscape weeds. It is important to note that while it is effective for the suppression of most weeds, it may increase the populations of certain other weeds. Nutsedge species (those weeds with a triangular stem) have a sharp growing point and can penetrate through the thinner styles of landscape fabrics. If weeds are coming through the fabric, it is important to hand pull them as soon as possible before they establish a foothold and become difficult to control.

Flaming

This method of weed control involves the use of a propane burner to directly heat undesirable plants. When using a flamer, it is not necessary to actually burn the weeds, but only to heat them up. A quick way to tell if a weed is going to die from the flame treatment is to let the weed briefly cool and press your thumb to the leaf. If it leaves a thumbprint or smudge, the treatment succeeded in causing the plant cells in the leaf to rupture. This weed control method will only control above-ground portions of a plant and thus will be less successful when applied to large or perennial weeds.

While a quick way to remove weeds, flaming can be dangerous to the operator and desirable plants. Never burn around the base of desired plants because the heat can cause damage to any shallow root system or cause injury to thin-barked plants. Do not apply flame to landscape fabric or dry mulch because it could cause a fire. Be careful around irrigation systems to avoid melting any plastic or rubber portions of a soaker hose or garden hose.

Each strategy for nonchemical weed control has pros and cons associated with it. Most of these strategies can be used alone or in conjunction with each other. In fact, these strategies can even be incorporated into a weed control program that includes the use of chemical herbicides. A successful weed management program for the home will use

more than one means to control weeds. If a person remains persistent, a good weed management program will slowly reduce weed populations, making each successive season easier and easier to maintain weed free.