

Weed Management



Too often, the term "*sustainable* lawn" has been associated with lawns allowed to become neighborhood weed patches. While lawns maintained on very low inputs may have some weedy plants in them, having well adapted grass species and varieties will help keep significant *weed* infestation to a minimum. It's also important to remember that a few weeds in a lawn are not an impending threat to lawn health and function. Monitoring the situation and

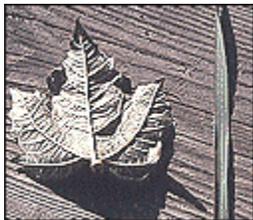
adjusting cultural practices to sustain plant health is an appropriate and effective course of action when attempting to manage or control weeds with reduced or no herbicide inputs.

It has been stated many times that a healthy, vigorous lawn is the best defense against weed invasion. Indeed, weakened lawns and bare areas in the lawn are the most common reasons for increased weed presence. Knowing and understanding a lawn's weaknesses is the first step to managing the encroachment of weeds into the lawn. Weakened and bare areas can be caused by many reasons. Some of the more common ones are listed below:

1. The grass species and/or varieties are not adapted to the particular site conditions or imposed maintenance program
Damage caused by animals, diseases, insects or people
Damage due to environmental stresses such as drought, shade, heat, cold and poor drainage
Misuse of fertilizers and pesticides
Improper mowing height and/or frequency
2. Overuse of the lawn area resulting in severely compacted and poorly aerated soils

It is important to determine the reasons behind increased weed encroachment into the lawn before reaching for an herbicide to kill the weeds. Killing the weeds without correcting the problem only invites continued and often increased weed problems. Sustainable lawn care practices revolve around good cultural practices that promote plant health. This helps create a vigorous lawn successfully able to prevent any serious weed problems from becoming established.

In addition to having a working knowledge about sustainable lawn care practices and how they relate to weed management, it is good to know something about the weeds that may potentially invade a lawn. This becomes important when determining whether or not control measures are needed and when they need to be carried out. It is also important in determining the most appropriate herbicide product to use, should one be needed. Following is general information about the growth and habits of potential lawn weeds.



Weed Identification and Characteristics

Lawn weeds may be conveniently divided into two classes based on the way in which they emerge from the seed. *Monocots* emerge with a single seed leaf whereas *dicots* emerge with two seed leaves. Most monocot weeds found in turf are termed weedy grasses. Examples include crabgrass, annual bluegrass, tall fescue, and quackgrass.

Dicots, on the other hand, are termed broadleaf weeds and include such plants as dandelion, clover, ground ivy (creeping Charlie), knotweed, and plantain.

Grassy weeds and broadleaf weeds are further divided into groups according to how long they live. *Perennial* weeds have a life of more than two years, though new seeds may be produced every year. *Biennial* weeds have a life span of two years, generally storing up food reserves in the leaves and roots the first year and producing seed the second. *Annual* weeds germinate from seed, grow, flower, and produce seed in less than one year. *Summer annuals* germinate in the spring and mature in the fall, whereas *winter annuals* germinate in fall or late winter and mature in late spring.

Effective control of weeds in turf is based on correct identification. Many books and charts are available to help identify common lawn weeds. For additional help in weed identification you can contact your local county extension office.



Point of No Return: Control the Weeds or Start Over

If the lawn care practices of mowing, watering, fertilizing and herbicide application have failed to reduce weed populations to less than 40 percent of the lawn surface, renovation may be the answer to restoring a healthy lawn. When starting over, the old lawn must be removed or destroyed. This can be done by scraping off the lawn with a sod cutter or rototilling the lawn to develop a good seed bed. If you have perennial weeds such as quackgrass, the lawn should be completely sprayed with a nonselective herbicide such as glyphosate. This will kill all existing plants to give you a fresh start.

Methods of Control - Cultural

The most effective method of controlling lawn weeds is to maintain a dense and vigorously growing turf cover. Weeds are often an indication of problems in the grass plant environment. Killing the weeds without correcting the underlying problem will lead to unsatisfactory results. For example, a problem with knotweed is usually an indication of severe soil compaction. Control of knotweed without correction of the soil compaction will only lead to sparse grass cover until the area is again invaded by weeds that grow in compacted soil.

Often, turf weeds can be controlled simply by altering the cultural practices to favor the grass plants rather than the weeds. Cultural controls may include raising (or lowering) the mowing height, changing the frequency of mowing, lengthening (or shortening) the period between irrigations, increasing (or decreasing) the application of fertilizer, or aerifying the soil.

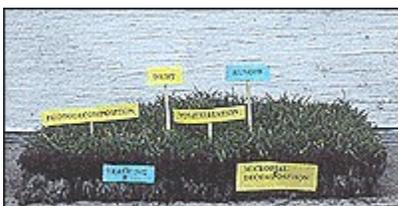
Hand weeding or pulling weeds is also an effective way to eradicate weeds from small lawn areas. The best time to pull weeds is after a good rain or thorough irrigation. This control is very economical (but labor intensive). It avoids needlessly applying herbicides over the whole lawn for only a few weeds. There are several tools on the market that will aid in hand pulling weeds.

A combination of proper cultural practices plus prudent use of herbicides is sometimes necessary to control weeds effectively in turf. When herbicides are used, container labels should ALWAYS be read and carefully followed.

Responsible Herbicide Application:

The first step in using any pesticide product responsibly, including herbicides, is to follow the label directions exactly as stated on the product container. The label provides necessary information regarding proper product application and container disposal procedures. Labels are legal documents which are enforceable by law should the product be used in a manner inconsistent with directions.

Weeds should be identified to determine whether there is a need for an herbicide. You may find that only cultural practices need to be corrected. As with fertilizers, extreme care must be taken to prevent the direct application of herbicides into surface water areas.



Herbicides are subject to a number of different fates once they are applied to a turfgrass area. Some of them may be broken down by sunlight, the action of soil microbes, chemical action, or a combination of these processes. Others may evaporate back to the atmosphere, be absorbed by the plants, or stick tightly to soil particles limiting further soil movement. Herbicides may be subject to several of these different processes but some may be more important than others. Break down processes and plant absorption are particularly important as they account for removal of pesticides from the environment.

Types of Herbicides

