

Using Integrated Weed Management Strategies in Turfgrasses

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Successfully managing weeds in Turfgrasses incorporates the contributions from preventive, cultural, mechanical and chemical control methods into an integrated weed management (IWM) strategy. An IWM strategy consists of the following components:

1) Scout the site and identify the problem weed(s).

The various weed species that may infest a site respond differently to herbicides and other types of control methods. Since certain weed species infest a particular site only during certain times of the year, scouting should be periodically conducted. At a minimum, sites should be scouted at least twice per year. In the South, scouting for winter annuals should be done in the mid-winter months (December – early February). At this time of year, winter annuals are small and can be easily controlled with Postemergence herbicides. Scouting should also be conducted during the late April to July time frame so that control practices can be implemented for summer annual weeds. Scouting is also advisable in the late summer and fall to assess the effectiveness of the summer weed control program, and in late spring to assess the effectiveness of the winter weed program. Information obtained at these times of year will be invaluable data in developing future weed management strategies.

Scouting is not a difficult process. However, accurate records must be kept so that correct weed management decisions can be made. The scout should divide the area into some type of management unit. In the case of home landscapes this could be the front lawn and back lawn. If possible, a representative map should be drawn of the areas for future reference. On larger, commercial properties it may be advisable to categorize the different types of landscaped areas by the original landscape design plan. Each management unit should then be scouted by walking or riding over the area. Typically a zigzag pattern is utilized with random stops along the way. At each stop, the weed species present and density should be recorded. Density can be recorded as low (1 to 10%), medium (11 to 20%), or high (>20%). In certain pest control disciplines, such as entomology, threshold population values are established for some of the major insect pests. If the population value exceeds an amount that research has shown to cause an unacceptable level of damage, then an insecticide is utilized. Weed thresholds have not been established for Turfgrass and landscape ornamentals primarily since a weed density of X% may be acceptable to some clientele on certain types of sites, but the same density level would be totally unacceptable on other types of sites. For example, a light weed infestation may be acceptable in a home lawn, but the same infestation level would be unacceptable on a golf course putting green. Thus, establishing a weed threshold is site dependent and requires that the clientele that use or view the site establish a threshold level in concert with the Turfgrass or landscape site manager.

2) Know the life cycle of the weeds that infest a site.

Once the weeds have been identified, determine their life cycle. Identification references usually list the life cycle of the weed. If the weed is annual it may be possible to identify a preemergence herbicide that can be used for control.

3) Record observations as to any site or management problems.

This may include items such as thin turfgrass areas caused by disease or insects, drainage problems, drought, incorrect mowing height or frequency, a non-adapted turfgrass species, compacted soils, shade, insufficient mulch cover, and mechanical damage to plants. Weeds are often indicators of certain soil, management, and environmental problems. For example, the presence of sedges (perennial kyllinga, purple nutsedge, annual sedges) may indicate that the site may be excessively wet – either from over application of irrigation water or poor soil drainage. Conversely, the presence of drought tolerant weeds such as pink purslane, annual lespedeza and goosegrass may indicate that supplemental irrigation is needed. Certain weed species such as annual bluegrass, prostrate knot weed and broadleaf plantain thrive in compacted soils. Mowing below the recommended mowing height will favor the growth of weeds such as annual bluegrass, common chickweed, crabgrass and dandelion. A high population of weeds in densely shaded areas may indicate that there is not enough sunlight for turfgrass. Attention to correcting these problems will enable the turfgrass or ornamental plant to properly grow in and compete with weeds.

4) Develop an appropriate control program for the target, problem weeds.

After the weeds and populations have been recorded, a control program should be developed. This control program should utilize the relative contributions that can be made from preventative, cultural, mechanical and chemical methods. For example, if moisture-loving weeds are present, soil drainage problems or excessive irrigation applications should be corrected as part of an IWM plan that also utilizes labeled herbicides. Evaluation of the success of this two-phase program should be conducted at various times intervals following the initiation of the IWM plan.

IWM strategies can be successfully be used as part of the overall management plan for turfgrasses and landscape ornamentals. IWM does not mean eliminating herbicide use in the landscape. In fact, herbicide use may actually increase in the first few years as the scouting program identifies additional problem weeds areas. However if good preventative, cultural and mechanical practices are utilized over the time the total quantity of herbicides used should decrease.

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