

The agronomics of weed control



Welcome to the '90s. Today, chemical weed control is viewed by some as an assault on public health and our environment. It's reasonable to believe that governments may further restrict the industry's use of all pesticides, including herbicides.

To continually treat weeds without correcting the management practices that are allowing them to occur leads to frustration and dissatisfaction among clients. Total elimination of weeds should never be the goal of weed control programs.

The challenge of the '90s is to get excellent weed control from less herbicide use.

The answer lies not in future pesticides, but in understanding and applying the principles of turfgrass management. The best method of weed control is to grow a dense turfgrass. That means five key agronomic principles must be well managed. Errors in executing any of these principles can affect turfgrass density and vigor and ultimately allow more weeds.

- 1) A well-adapted turfgrass must be selected.
- 2) It must be fertilized properly.
- 3) It must be properly mowed and dethatched.
- 4) It must be properly watered.
- 5) Pesticides must be used as necessary to control weeds and pests.

Fertilization

Excellent weed control requires proper selection, application and timing of fertilizer. Managers should fertilize to produce dense turf, not dark green color. Over-emphasizing the importance of dark green color can cause disease and insect problems.

Mowing and dethatching

Constant clipping removal wastes much of the applied fertilizer. Mowing the turf too closely creates stress that thins turf and allows weeds. Herbicide applications can be made totally ineffective by mowing. Mowing less than 24 hours after application can remove post-emergence herbicides before they are absorbed by the weed. When pre-emergence applications are not watered in, up to a third of the pre-emergence herbicide can be removed with clippings. Mowing weeds just before treatment reduces weed control by removing leaves that would otherwise catch and absorb herbicide.

Dethatching can destroy an effective pre-emergence herbicide barrier and thin turf, allowing weeds to become established. Turf should be dethatched when it can be forced to fill thin areas quickly.

Watering

Frequent light watering encourages weeds and disease. Weekly, heavy waterings are more appropriate. Pre-emergence herbicides should be watered in, while post-emergence herbicides should be allowed to remain on the leaf tissue. Watering prior to post-emergence herbicide applications generally improves weed control.

Overseeding

Overseeding bare or thin areas of the lawn must be carefully coordinated. Grass seed should be chosen for its adaptability and quality. Overseeding and weed control applications just don't mix. Most herbicides can prevent germination for at least a week after treatment and can damage young seedlings when applied too soon.

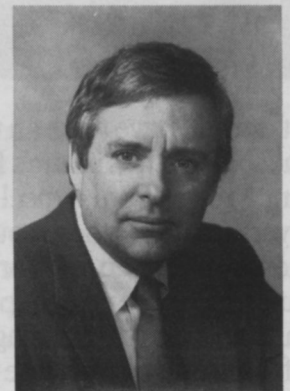
Pesticides

Over-use of herbicides can cause weed problems by weakening the turfgrasses that provide primary protection against future weeds. Herbicides have been shown to reduce heat and drought resistance, inhibit root and rhizome growth and increase disease occurrence. Insect and disease problems must be detected and treated before extensive damage occurs.

Communication

Communication with the customer improves weed control. The applicator must insist on proper mowing height with a sharp mower. Heavy infrequent irrigation should be encouraged. The applicator must communicate the purpose of each treatment and give specific management instructions on how to make the treatment most effective. When particularly difficult problems occur, providing pre-treatment instructions for watering and mowing can make a difference.

—Dr. Barry Troutman □



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