

PROBLEM MANAGEMENT

Using alleopathic plants

Problem: Can you tell me something about the uses of alleopathic plants for controlling undesirable weeds? (New York)

Solution: Alleopathy is any direct or indirect harmful effect of one plant on another through production and release of chemicals into the environment. This is now recognized as another factor in crop production and weed management.

Generally, these secondary plant metabolites are non-specific in that they may inhibit a number of different plants.

Alleopathic compounds may enter the environment in different ways. Aromatic compounds can be volatilized while water-soluble toxins can be leached from root or shoot excretions. Chemicals released as a result of microbial decomposition of plant residue can also be toxic and can be considered to be alleopathic in some respect.

Often it is difficult to distinguish between competition and alleopathy. Competition for light, water and nutrients is very common among plants. Since it is difficult to distinguish between competition and alleopathy, many scientists prefer to use the term "interference" when the cause is not clear.

Researchers at Michigan State University found that grain sorghum suppresses weed growth in the field and in the lab. Sunflower plants were also known to inhibit certain weeds. Although not fully understood, dense turfgrass can "choke" weeds through their competitive ability and perhaps through their alleopathic toxic metabolites. This aspect needs further study.

Compost also contains toxic plant and microbial metabolites having alleopathic effect. This aspect also needs more research before we could use compost extract for weed management. Soil moisture, pH, and temperature may play an important role in the release and activity of these secondary compounds.

The concept of alleopathy for weed management is indeed interesting; however, we have a long way to go before understanding its practical use.

pH-adjusting products

Problem: Regarding your answer to the question on pH adjusting that appeared in February, some additional products widely used to buffer pH (not acidize the tank as most other iron products or phosphoric acid will do) are Agri-Plex and Lawn-Plex, of R.G.B. Laboratories.

We don't know of any other micronutrient products that are true buffers (adjust pH up or down) besides the above-mentioned products. Therefore, you need not buy pH-adjusting solutions and you practically get the iron/micronutrients for nothing.

Solution: I am not familiar with the practical use of these products for pH adjustment and their effectiveness. Therefore, I would appreciate the com-

ments of any readers who have used these products, even on a small scale.

Ridding greens of angleworms

Problem: How do I get rid of angleworms on greens? There has to be a product or method that will not kill bermudagrass and is legal. (Wisconsin)

Solution: Earthworms are often called angleworms because they are used as fishing bait. Generally, turf managers consider earthworms to be beneficial because their feeding activity enriches the soil, their burrowing activity can improve soil aeration, and the soil they ingest with their food becomes a good source of fertilizer when excreted.

The flip side is that earthworms often make mounds of soil in the turfgrass area and, during heavy rains or saturated soil conditions, a large number of earthworms may be found wandering and/or dead on sidewalks, driveways, etc.

Although these activities can be a nuisance or objectionable to some, no pesticides are currently registered to manage these. However, reports indicate that certain soil-applied insecticides on lawns may have some adverse effect on earthworm population. These products, when applied according to label specifications, will not harm bermudagrass but will not be legal to treat for earthworm management.

Also, please note that bermudagrass is not adapted to your area, so you might want to make sure what variety of turf you're dealing with. **LM**



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Questions should be mailed to Problem Management, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.