

# LEAST-TOXIC LAWN CARE

## MAINTENANCE

- ✘ **Develop healthy soil.** Sample the soil with a “soil probe” – cut or dig a small hole about 10” deep and with one side that is straight and smooth. The lawn should have between 5”-6” of topsoil, which is the darkest soil layer. If needed, add topdressings of organic matter, such as composted manures, to add to the topsoil.
- ✘ **Plant well-adapted, pest-resistant grass varieties.** You can find out which grass is most suitable to your climate from your local cooperative extension. A mix of two or more grass varieties is preferable. Overseeding, or planting additional seeds in already established lawns, has been shown to reduce weed problems in some cases.
- ✘ **Aerate** the lawn regularly. Soil compaction is one of the largest causes of weed problems. Aerating loosens your soil, allowing air, water, and nutrients to reach the roots of your grass. Most lawns should be aerated twice a year. You can rent an aerator and share costs with neighbors.
- ✘ **De-thatch.** Thatch is a dense layer of grass stems and roots on the surface of the soil. When the layer of thatch becomes thick, the roots will grow within the layer of thatch instead of establishing themselves deeply in the soil, which can lead to insect and disease problems and increase weakness to cold, heat and drought. Thatch is reduced by aeration, topdressing with organic matter, or by vertical mowing, which requires special equipment and will result in temporary aesthetic damage to the lawn.
- ✘ **Maintain proper pH.** Test your soil and adjust the pH if necessary. Low pH means high acid content – add lime to raise the pH and lower the acidity to 6.7-7 for most grass varieties. High pH means high alkaline – add sulphur to lower the pH, taking care not to add too much and burn the lawn. A hint that your pH needs to be adjusted may be a dandelion infestation. Dandelions love soil with a pH of 7.5, while grass loves a pH of 6.7-7. Nothing will successfully conquer your dandelion problem until you correct your lawn’s pH.
- ✘ **Fertilize** once a year, preferably in the fall. Fast-release fertilizer formulations can induce pest outbreaks while slow release fertilizers increase the efficiency of nutrient uptake and reduce nutrient runoff and leaching. Your lawn may be sending you signals about its needs without realizing it. For example, grass loves nitrogen. Clover gets its nitrogen from the air, while grass gets its nitrogen from the soil. If clover is taking

over your lawn; chances are that your soil is nitrogen deficient. Organic fertilizers, such as composted manure (it does not have an odor), are excellent sources of nitrogen.

- ✘ **Water properly.** Too much or too little water can induce pest outbreaks. Enough water should be applied each time to wet the soil to the depth of the grass root zone. The soil should be allowed to become nearly dry between waterings. Avoid frequent, shallow waterings, which promote the development of a shallow root system and reduce the ability of the lawn to resist stress.
- ✘ **Mow correctly.** Mow with sharp blades set as high as possible to minimize adverse effects and retain the lawn's competitive ability. Never cut off more than 30-40% of the grass blades in a single mowing. Rotate the mowing pattern to reduce lawn compaction. Leave a light layer of grass clippings on the grass, as they can provide up to half the lawn's nitrogen requirement.

## CONTROL

- ✘ **Weeds.** Be sure you are keeping up with your lawn maintenance to maximize the health of your lawn. Mow frequently enough to ensure that weeds are unable to build up energy reserves and become well established. Weeds can also be pulled by hand. If you feel that an herbicide is necessary, corn gluten is an excellent pre-emergent, and a fatty-acid soap product called Sharpshooter™ is an effective broad-spectrum herbicide.
- ✘ **Insects.** Your control strategy will depend on your particular pest problem. Grubs can be controlled by applying the bacterium *Bacillus popilliae* (milky spore disease), which, once established, will provide control for decades. Kill chinch bugs by drenching the thatch layer with an insecticidal soap. Sod webworms can be controlled by dethatching and applying *Bacillus thuringiensis* (Bt) when larvae are present, applying nematode parasites, or with insecticidal soap. In general, insecticidal soap is toxic to most insects when they are drenched with it, and Bt is toxic to most caterpillars.
- ✘ **Disease.** Disease problems are often the result of improper nutrient or moisture conditions. For example, dollar spot, a common lawn fungus, thrives on lawns with insufficient levels of nitrogen. The key to preventing lawn disease is to use locally adapted, resistant varieties of grass and to follow good cultural practices.