

VEGETATION MANAGEMENT

By Roger Funk, Ph.D., Davey Tree Expert Co., Kent, Ohio

Q: I have recently been using urea to melt ice and snow on walkways. Is urea, or certain forms of it, harmful to cement? For grit, I also add pelleted gypsum. Would this damage the concrete?

A: I contacted the Portland Cement Association in Skokie, IL, and was told that urea is not known to cause surface scaling or spalling on concrete when subjected to freezing temperatures and is approved by their association for deicing.

Gypsum (calcium sulfate), however, should be avoided since sulfate waters penetrate into the concrete and are chemically aggressive at any temperature.

Q: I own a small lawn company and have been told by the local fire warden that fertilizers are considered hazardous because they are explosive. Is he right?

A: Ammonium nitrate (NH_4NO_3) is explosive when mixed with organic compounds such as diesel fuel. According to the Farm Chemicals Handbook, ammonium nitrate "should not be stored with combustible materials nor mixed with organics and superphosphate unless the free acid has been neutralized first." However, this certainly does not apply to all fertilizers. Many, in fact, can be used as fire retardants.

Ask your fertilizer distributor for a Material Safety Data Sheet for each of the fertilizers in your program.

Q: Why do road salts cause plant injury? Aren't fertilizers salts?

A: The injury is primarily one of excess concentration. All salts, fertilizers included, will interfere with water absorption when salt concentration in the soil solution is greater than the salt concentration within the root cells. The resultant injury is known as "burn" or "physiological drought." In addition, sodium (a component of the common salt, sodium chloride NaCl) is toxic to plants in relatively low concentrations and breaks down the open structure of soils contributing to compaction.

Q: What fertilizers do you recommend for pines, spruce, hemlock, and other evergreens in the Pennsylvania area?

A: In general, we have obtained good results with the same 3:1:1 ratio recommended for hardwoods at rates varying from 75 to 200 lbs. nitrogen per acre. However, specific nutrient deficiencies do occur in certain soil types and locations, and identical treatments with the same plant species in different locations have not always given the same response. Have your soil analyzed at your state soil testing lab and follow recommendations.

Q: When is the best time of the season to apply pre-emergent crabgrass and broadleaf control? What about last year's crabgrass on the lawn for the upcoming spring?

A: Pre-emergent crabgrass herbicides control the germinating seedling only and, therefore, must be applied before germination which occurs after the soil temperature stabilizes above 55 degrees F. In most areas this corresponds fairly well with medium bloom drop of forsythia, a spring flowering shrub.

Crabgrass is an annual which dies in the fall. Infested areas are prime targets for next year, however, because of the crop of seeds produced and the fact that the desirable turfgrasses will have been crowded out by the past year's crabgrass, allowing plenty of light for germination of the crabgrass seed.

Broadleaf weeds are best controlled when they are actively growing which, for most weeds, is in the spring and fall. Ideal weather for maximum control would be warm, humid, sunny days when rain does not occur for 24 hours following applications.

Q: Can dormant oil be applied in the fall? We have a problem in applying at the proper time in the spring because of bad weather.

A: This subject was discussed at the recent meeting of the Entomological Society of America where the general feeling was that satisfactory control could be obtained by a fall application of dormant oil spray.

During the interval from dormant to delayed dormant stage of bud development, the weight of some scales increases between four and eight times, and the level of control is reduced.

On the other hand, mites become more susceptible to the dormant oil spray as bud break approaches and the eggs are about to hatch.

More research on this subject is planned for the near future and, hopefully, the overall effectiveness of fall applications will be answered.

Q: Are there any good herbicides other than 2,4-D or those that contain 2,4-D for broadleaf weed control in lawns?

A: We have not found any that are as effective on a wide spectrum of weeds.

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