

# VEGETATION MANAGEMENT

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

**Q:** How does IBDU fine differ from powdered ureaform? I would like to know which one to use in my lawn spray service.

**A:** Isobutylidene diurea (IBDU) is a relatively insoluble source that releases urea through hydrolysis (water dissolution). The urea is further mineralized by bacterial action to ammonium ( $\text{NH}_4^+$ ) and nitrate ( $\text{NO}_3^-$ ) ions, the two forms of nitrogen readily absorbed by plant roots.

The release rate of IBDU is dependent primarily upon two factors — the amount of available water and the particle size. Standard or coarse IBDU has a particle size of 0.7 to 2.5 millimeters in diameter and has excellent release characteristics when applied to turf as a granule. Unfortunately, when coarse IBDU is ground to a particulate size fine enough to pass through a traditional spray system (40 mesh or smaller), the solubility and availability are increased by as much as 33%. In addition, the constant agitation of the water bath and the hydraulic pressure and abrasion from the pumping system further increases the rate of dissolution, reducing the slow-release properties of IBDU.

By comparison, the breakdown and release of

available nitrogen from ureaformaldehyde (UF) is not dependent upon particle size or the concentration of water. Ureaform is decomposed almost entirely by microorganisms in the soil which release urea and, ultimately, ammonium and nitrate ions. Therefore, UF can be ground to a fine powder and sprayed in a water carrier without significantly affecting its slow-release characteristic.

**Q:** We have been using pre-emergent control for crabgrass, but it has no effect on other wide-blade nuisance grasses. What post-emergent control can you recommend to be applied without injury to desirable turfgrasses? What is the best time to apply?

**A:** Pre-emergent herbicides control only the germinating seedling, thus would have no effect on existing perennial grasses. Perennial grass weeds can be killed with a non-selective herbicide such as Roundup, Dalapon or Amitrol-T; then, after the appropriate waiting period, the area can be reseeded.

The organic arsenicals such as DSMA and MSMA are labeled as post-emergent herbicides for



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the control of immature crabgrass and other annual grasses in turfgrass. You should make the first application when the crabgrass is less than one inch tall, and repeat the treatment in 7-10 days. A third application is often necessary to obtain satisfactory control. The herbicides are more effective when the crabgrass plants are actively growing. The organic arsenicals may cause the turf to discolor (yellow) following an application, but the injury is not serious unless the turfgrasses are under stress from heat and/or drought.

**Q:** How do you keep bermudagrass out of a bluegrass lawn?

**A:** Sanitary practices during turfgrass establishment and subsequent maintenance are very important to avoid introduction of Bermudagrass.

Kentucky bluegrass seed or sod should be purchased from a reputable source to ensure that it is free of undesirable weed species. The soil and top-dressing should be fumigated or heat-treated prior to planting, and all tools and equipment should be thoroughly cleaned.

Cleaning is also important for mowers and other maintenance equipment which can carry stolons and rhizomes from other turf areas.

Certain cultural practices such as mowing and fertilization can influence the aggressiveness of bermudagrass in a Kentucky bluegrass turf. Mow at a height of 2½ inches, and apply fertilizer during

periods which favor Kentucky bluegrass growth (50°-75°F).

Cultural practices alone, however, may not be sufficient to keep bermudagrass under control. Spot kill with Roundup and reseed or sod the area.

**Q:** Has any spray been found effective against white fly? I have found Temik (granular) to be very effective but am looking for a spray.

**A:** Certain products containing acephate, diazinon, dimethoate, endosulfan, lindane, malathion, Metasystox-R or naled are registered for use on white fly. For specific dosages and methods of application, refer to the product label. Some insecticides may be phytotoxic to certain plants; therefore, use only those chemicals registered for use on the specific plant species infested.

**Q:** This past winter, field mice seriously damaged or completely girdled a lot of my Christmas trees. Is there anything I can do to protect my trees next winter?

**A:** Cultural control of ground vegetation will limit cover for surface runways but will have little effect on the underground activities of pine or prairie mice. In any case, I suspect your area (Maine) has plenty of snow cover for protection.

Poison baits containing zinc phosphate are very effective when applied in fall before snow cover. Contact your local extension agent about preparing your own baits or buying a commercially available source.



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