VEGETATION MANAGEMENT

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

Q: *What can you tell me about the interface that develops when a muck sod is laid on clay? I have been told that this can cause maintenance problems.*

A: Horizontal interfaces form when one soil type overlays another distinctly different soil type. This commonly occurs when peat grown sod is laid on clay soils without providing a transition soil between.

Water and nutrients do not penetrate uniformly into the bottom layer which inhibits root penetration and development. Proper gaseous exchange of oxygen and carbon dioxide between the bottom layer and the atmosphere also is impaired and surface run-off is increased. If the top 6 to 8 inches of the clay soil is amended by increasing the organic matter content and improving the structure, a transition from the organic muck soil to the mineral clay soil is provided.

Existing interfaces can be alleviated by periodic aerification which provides more uniform penetration and distribution.

Q: *Can you recommend a granular form herbicide for postemergent use in maintenance of common ornamentals and trees?*

A: All of the postemergent, granular herbicides of which we are aware are not selective, that is they would injure or kill both the weeds and the ornamentals.

Q: *Has any search been done on wood chips to derive any type of alcohol as a source of fuel?*

A: The idea of processing alcohol from wood is not new. Wood was distilled in the provinces of France to provide alcohol for burning in Paris in the mid 1800's and alcohol from wood chips was used during World Wars I and II in Germany and France.

An article in the December, 1973, issue of *Science* magazine by T.B. Reed and R.M. Lerner entitled "Methanol: A Versatile Fuel for Immediate Use" discussed the production of methanol from wood, coal, and organic wastes. More recently, scientists at the University of California Lawrence Berkeley Laboratory reported plans to have a full size demonstration plant by 1981 that could refine tons of wood chips into fuel oil.

Q: *I don't know how much of a problem velvetgrass is in other parts of the country but in our area (Delaware) it is a major pest. Is there any selective or cultural control?*

A: Velvetgrass *(Holcus lanatus)* is a bunch type perennial grass which frequents many northern lawns. In a survey conducted by the Lawn Seed Div. of the American Seed Trade Association, velvetgrass ranked as the 15th most troublesome weed to control in turf.

No herbicides are currently available which offer the selective control of velvetgrass when it appears among desirable turfgrasses. Since velvetgrass is well adapted to rich, moist soils and tolerates normal mowing heights, cultural controls are generally not recommended.

Hand digging of small clumps provides control since velvetgrass is desseminated primarily by seed. Use of nonselective herbicides, such as Roundup, amitrole, and dalapon, followed by reestablishment with desirable turfgrasses is suggested where a large population of velvetgrass exists.

Q: *What is the primary reason for difficulty in maintaining good turf on high school athletic fields?*

A: Many factors will affect the performance of turfgrasses on athletic fields, including kinds of grasses used, design and construction, drainage, seedbed preparation, and the maintenance program. Aeration is particularly important since constant trampling often causes the development of a compact, impermeable surface layer of soil.

Penn State has an excellent brochure entitled "Athletic fields—specification outline, construction and maintenance." You should be able to obtain a copy directing your request to Dr. John Harper, Extension Agronomist, Cooperative Extension Service, 106 Agricultural Administration Building, University Park, PA 16802. Contact your local cooperative extension office for specific recommendation concerning turfgrass selection and culture for your area.

Q: *What are the pros and cons for late fall fertilization? When is the best time and what is the best fertilizer to use, i.e., natural organic (Milorganite) or synthetics (chemical or urea formaldehyde, etc.)? I live in the Northeast.*

A: The concept of late fall (dormant) fertilization originated in the transition zone to encourage more vigorous root growth and maintain better winter color of cool-season turfgrasses. Recent research has shown promising results in the Northeast.

Among the positive effects of dormant applications of nitrogen are increased root growth and development, stimulation of basal shoot or tiller development, less chance of burn and no increase in winter injury. Disadvantages include some increased leaching, the possibility of more early spring growth than is desirable and increased potential for leaf spot disease.

Depending upon the local climate, dormant applications in the Northeast can be made from late October through February. Research conducted at Rutgers University indicates that the best results can be obtained from 1 to 2 lbs. nitrogen per 1,000 sq. ft. applied in December. In the same tests, urea outperformed three slow-release nitrogen sources.