

VEGETATION MANAGEMENT

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

Q: My supervisor and I have a difference of opinions as to fertilizing newly planted trees. In the past I have fertilized, while planting with 10-6-4 or 10-6-4 Fe. As our department is seriously understaffed, I feel it would be more beneficial to fertilize during the planting process than to put it off indefinitely. What is your opinion?

A: We have considerable research and field experience that demonstrates the benefits of fertilizer applied to newly planted trees. However, plants are more sensitive to overfertilization during the establishment period because of their limited root systems.

Traditional fertilizers used in the tree care industry are soluble and apt to injure some roots that contact the fertilizer granules or are close enough to the granule that the soil solution is saturated with nutrient salts as the granule dissolves. With most trees that are established, this loss of a few actively absorbing roots is more than compensated for by the stimulation of new roots. A newly transplanted tree, however, has already lost a significant amount of active roots. Additional root losses through overfertilization may seriously injure or even kill the plant.

The use of slow-release fertilizers or a reduction in the recommended amount of soluble fertilizers will reduce the risk of overfertilization while at the same time stimulating new growth and reducing the time required for establishment. I suspect that the reluctance of some people to fertilize newly transplanted trees is the result of their experience with overfertilization.

Q: Besides conventional deep-root feeding and pruning, what can be done for oaks suffering from soil compaction due to construction?

A: Periodically test the moisture in the root zone and water whenever necessary or, if applicable, install drains.

Construction can cause a disruption in the natural flow of ground water, particularly with the installation of foundations and with grade changes, which may cause the root systems of existing trees to be subjected to unaccustomed levels of soil moisture as water is diverted either toward or away



from the root areas. In addition, compaction can interfere with water penetration and drainage.

Q: Can you recommend a machine or system to fertilize a large number of trees in an industrial park?

A: Applying soluble or suspension fertilizers with a soil injector is the most efficient and economical system for fertilizing large numbers of trees in a lawn situation. If a suspension fertilizer is used, mechanical (paddle) agitation in the tank is recommended to prevent settling. We have found that a foot plate on the soil injector prevents much of the arm and shoulder strain normally experienced with liquid injection.

Q: Textbooks say that red fescues are excellent for shaded areas, but now I find that research has developed Kentucky bluegrasses which are better. Can you comment on this?

A: All turfgrasses will grow better in sun than in shade but some are more tolerant of shade than others. The red fescues are the most shade-tolerant of the common lawn grass species. A few of the newer Kentucky bluegrasses such as 'Glade' and 'BenSun' will tolerate 60°-65° shade and have performed very well in our shade test plots. However, they did not outperform the red fescues.

Q: I have an American elm that is 80'-90' in height and 3'-4' in diameter. I don't want to lose this tree, but I would like to put young tulip and basswood trees in this wood lot. Is there a possibility that Dutch elm disease could be brought in on the young transplanted trees?

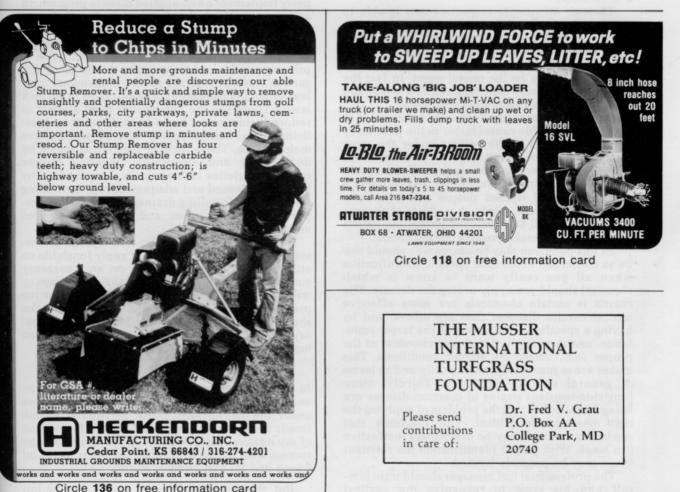
A: Tulip trees and basewood are not susceptible to nor are they carriers of Dutch elm disease. However, if your proposed woodlot planting would in any way weaken your American elm (for example, planting injury or increased competition) you may want to reconsider. Tests have demonstrated that some bark beetles are attracted to weakened trees and Dutch elm disease is spread by a bark beetle.

Q: What would cause the lower outer bark to split on newly transplanted trees? These trees are approximately 12'-14' tall and have a diameter of four inches. How would I eliminate this problem?

A: Winter injury and certain herbicides have been reported to cause bark splitting near the base of trunks of certain species. Both of these factors could cause injury of a general nature (as was apparently the case with your trees) or affect . specific trees. Without knowing the species or situation, diagnosis is pure guess work.

Herbicides should be used sparingly and with caution or not at all.

For prevention of winter injury, the young trees might be wrapped with burlap or other tree wrap in late fall. **WTT**



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