ships. He indicates that sweeping generalizations are difficult to make, but a tree can withstand more injury without sustaining damage if it is vigorous and growing on a good (natural) site. How many urban trees are really vigorous and planted on good sites?

Common practices, often unrelated to trees or tree management in the urban environment, contribute added problems. J.D. Carrow and coworkers at the Canada Department of Fisheries and Forestry in Victoria, British Columbia have learned that ammonium nitrate fertilizer adversely affects populations of balsam woody aphid, whereas urea and calcium nitrate are beneficial to the insect. Therefore, the kind or form of nitrogen fertilizer used on turf or landscape trees might promote or retard a sucking insect population. Defoliators and borers could be affected similarly.

As Kozlowski stated, insect pests influence their hosts by interfering with rates and balances among internal physiological processes, especially food, hormone, and water relations. How the urban environment stresses trees and affects these internal processes must be understood before we can identify urban conditions which affect stress to which an insect can respond. The complicated system of interaction of tree-host environment has undoubtedly contributed to the lack of studies considering insect tree-host relationships in the urban environment.

Most people who study trees and insects agree that many things are done unintentionally to encourage insect pest problems in the urban setting. The same is true for those who study plant pathogens. To change this trend we must begin to plan ahead. The landscape horticulturalist, plant pathologist, and entomologist can work with the landscape architect to design plantings which will be less susceptible to insect predation and require less maintenance.

If ornamental plants are a vital and necessary part of our urban environment, professional maintenance in the form of pest management is justified. Plant protection specialists who conduct surveys and serve as consultants to municipalities, industries, and homeowners could implement such programs. However, before this approach can be workable across the nation, we must rethink and possibly redefine the term "pest" and supply basic ecological information needed to make management decisions. Sampling methods, predictive models utilizing biotic and abiotic variables, and acceptable pesticides must be developed for our most common and destructive pests.

The research necessary to develop these tools is expensive and cannot be accomplished this century with the present commitment at state and federal levels. We must decide whether or not we will pursue pest management in the urban environment on the basis of sound biological and ecological information.

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ABSTRACT

Stroempl, George. 1976. **Peat wedges aid seedling establishment on shallow soil.** Forestry Chronicle (April) 47-51.

Tree planting experiments were established in southeastern Ontario on old pastures with shallow soil over limestone bedrock known to have frequent moisture deficits during the growing seasons. Wedge-shaped pieces of solid peat, saturated with water, were placed at the bottom of a planting hole to supply water to the roots during the early stages of growth and prevent dessiccation during severe drought conditions. The survival of trees planted with peat wedges was higher than those planted without, particularly in the year when soil moisture was most frequently within the wilting range. Additional experience is needed to realize the full potential of this method.