INTEGRATED PEST MANAGEMENT AND THE PEAR THRIPS

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Although it is a pleasure to be here, our primary reason for being here is far from pleasant. During the last ten years, we have had serious problems with the gypsy moth, western spruce budworm, southern pine beetle, mountain pine beetle, fusiform rust and root diseases and the worst spruce budworm epidemic ever recorded. Just when these outbreaks have largely subsided, a new pest rears it's ugly head in our Nation's forests.

These outbreaks, coupled with publicity about acid rain, air pollution, and global warming have influenced many Americans to perceive that there has been a rather dramatic decline in the health of our Nation's forests.

Has there been a precipitous decline in the health of our forests? Are our forests unhealthy? Recently, a task force within the Forest Service looked at the rate of tree mortality on commercial forest land as one indicator of forest health. Here in the North, growing stock mortality as a percentage of growing stock inventory in northern softwood and hardwood forests has remained stable except for a slight increase during the years 1952 to 1976 (due primarily to the spruce budworm outbreak), returning to approximately the 1952 rates after 1976. Nationally, modest decreases in softwood and hardwood growing stock mortality as a percentage of growing stock inventory have actually occurred between 1952 and 1987. The data show that, in general, mortality is increasing, but that annual growth is increasing even faster.

These figures do not indicate that a nationwide forest health crisis is at hand. However, serious local and regional problems exist. For example, in the South, softwood growing stock mortality as a percentage of growing stock inventory jumped significantly after 1976, primarily as a result of southern pine beetle outbreaks that occurred during the period.

In addition to some serious local and regional pest problems, we know that our forest land base is shrinking. In 1977, forests covered over 31 percent of the 1 billion hectares (2.4 billion acres) of land and water area in the United States. By the year 2030, the amount of land classified as forest is expected to decrease by about 9.7 million hectares (24 million acres) as other land uses take precedence. Most losses of forest land are expected to occur on the more productive sites at lower elevations where accessible land will be acquired for agricultural, industrial and urban development. The remaining forests will have to supply a greater proportion of goods and services.

To protect our forests from pests, we must use all the tools we have available. Managers must move from reactive to proactive strategies. This will mean greater emphasis on prevention and less dependency on suppression to reduce the impact of forest pests.

Integrated pest management, or IPM, is the best tool that we, as land managers, have available to assist in managing the forest. Integrated pest management is a much used and poorly understood concept in forest protection. IPM is defined in a Forest Service Handbook as: "a decision-making and action process incorporating biological, economic and environmental evaluation of pest-host systems to manage pest populations." There are other definitions of IPM and each of you probably has your own working definition. Nevertheless, certain components seem to be common to most definitions of IPM.

In forestry, IPM is a strategy for long-term management of forest pest-host interactions. Situations potentially capable of causing pest problems are anticipated and avoided or changed before outbreaks occur. IPM includes intensive surveys that provide early pest detection

and delineation information. IPM includes introduction, augmentation and/or conservation of predators, parasites or pathogens that help keep pest populations at low levels. And IPM includes intervention with appropriate techniques to prevent or disrupt damage-causing behavior or successful pest reproduction. IPM also considers the condition of trees and forests, their tolerance to pest effects, and their resilience in being able to recover from pest outbreaks.

Unfortunately, IPM is often erroneously promoted as an alternative to chemical insecticides. All too frequently, interest in IPM occurs only after pest populations have reached damaging levels. As land managers we understandably look for quick, efficient and cost-effective solutions. We may consider a series of options among which is an IPM approach that includes the use of a pesticide to control outbreak populations. The IPM option is selected, pesticide is applied and the pest outbreak subsides. But other components of the IPM option are often abandoned. Long-term benefits are not achieved because of the failure to implement all components of the IPM option.

Silviculture is, in the long run, the most powerful component of IPM that we, as forest managers, have to mitigate the impact of forest pests and atmospheric pollution on the condition of the forest. Silvicultural practices, such as site preparation, planting, prescribed fire, thinning, control of competing vegetation, and various harvesting practices, including regeneration cutting, commercial thinning and salvage, can have highly beneficial effects on forest vegetation, if applied properly and in a timely fashion. Other practices, such as the use of genetically-improved seedlings, also offer opportunities to grow forests that are more resistant to insects, diseases and pollution.

In my mind, truly integrated pest management must be accomplished through forest management prescriptions which accomplish the long-term goal of minimizing pest impacts. This means including the technical pest management information needed in the resource management decision-making process. And this technical

information must be in a form that is compatible with and meets the needs of the planning and decision-making process and is ecologically sound.

Many of the people in this room have worked together in the past. The Vermont Hardwood Tree Health Survey, the North American Sugar Maple Decline Project and the Vermont IPM Spruce Budworm Demonstration Project are just a few examples of successful cooperative efforts that we have undertaken together.

I feel confident that this conference will be a great help in developing an integrated pest management system for pear thrips that will meet short-term needs for protection as well as long-term goals for prevention. It is this kind of team approach that will most effectively address the problems posed by a new pest like the pear thrips.