

INSECTS AND DISEASES IN NURSERIES AND SEED ORCHARDS

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(Panel Moderator)

Insect and disease pests may cause immeasurable damage to nursery seedlings and valuable seed orchard trees. In recent years, much research has been conducted in regards to suppression and control of these pests. There has been much success in controlling these pests through the use of chemicals and fumigants. Today, there are many new materials which have been developed and new application techniques have made treatments much more effective. I know all of you would like to hear more about these new ideas and techniques. We have assembled, on our panel, some of the best experts in the field of nursery and seed orchard insect and disease control in the South. They include Federal, as well as State, personnel. These people are actively working on these nursery and seed orchard problems daily and are quite familiar with the problems, and hopefully their solution.

Hundreds of millions of pine seedlings are produced annually in the forest tree nurseries of the South. Most of the original tree implement work in the past has been in the conifer field, thus thousands of acres of seed orchards and seed production areas are at a prime stage for destruction by insect and disease pests. Our first speaker, Mr. Ed Merkel, has worked mainly with seed and cone insects and today he will discuss pine nursery and seed orchard insects.

Fumigation of the soil with various chemicals has revolutionized the seedling growing business. Excellent control of many insect and disease nursery pests have been achieved by soil fumigation.

1/ Panel presentation. Papers of panel participants are included.

Excellent results have been obtained by the Florida Forest Service at many of its forest tree nurseries. Mr. Trammel Green is the nurseryman at the Andrews Nursery in Chiefland, Florida. He has had some exceptionally good results at his nursery in pest control. He is here to give us some first hand information on how he achieved his results. Mr. Green will speak to us on fumigation methods used at the Andrews Forest Tree Nursery.

Nursery diseases are probably the most important consideration in forest tree nurseries. They have caused untold losses in the past in many nurseries. In years past, there have been at least six research pathologists working on nursery disease problems at one time in the South. Research is still being conducted in the control of many of these important pests. Dr. Rowan, who has and is still conducting investigations in this field, is here to tell us about some of these diseases and recent control methods. Since 1958 he has worked primarily on nursery diseases and fusiform rust and today he will discuss nursery and seed orchard diseases and their control in both conifers and hardwoods.

Insect problems may not be too important in the nursery, but when improved trees are growing in seed orchards, insects probably cause the most losses. These losses are especially important in that a pound of improved orchard seed may cost in the neighborhood of 30,000. So it is imperative that these insect pests are identified and effective control measures determined for them. Mr. Bland of the North Carolina Forest Service has had such practical experience in insect control methods in seed orchards. He will tell us this morning something about insect control methods in seed orchards and seed production areas.

Until recently, hardwood management and hardwood pest control were unheard of because of the emphasis placed on pine cultivation in the South. Presently, there is an increased interest in hardwoods and awareness of the potential of intensive hardwood management. As the interest in hardwoods increases, so too will insect and disease problems increase in nursery and seed orchards. Some very important pest problems in cottonwood culture have already been brought to light. We have with us this morning, Mr. Dan Kucera, who has been working on insect problems in seed orchards for the past few years. Since 1965 he has been working specifically with seed and cone insects and the black turpentine beetle. The topic he will discuss will be nursery and seed orchard insect problems in hardwoods.