Questions and Answers: Session III

Robert Wooley: I notice that some of the viruses are the same in roses and fruit trees. Will they transmit between the different species?

Deborah Golino: We don't know yet, but it is of considerable concern and is the subject of a current research project. We are trying to determine why rose mosaic is found in stock that was believed to be virus-free.

Container Stock Versus Direct Seeding for Woody Species in Restoration Sites©

Truman P. Young and Richard Y. Evans
Department of Environmental Horticulture, University of California, Davis, CA 95616 USA

INTRODUCTION

Ecological restoration is a rapidly growing field of biology. Grassroots restoration activities have a long history and have recently increased dramatically. These are now being supplemented by state and federally sponsored restoration projects reaching tens and hundreds of millions of dollars, like those in the Everglades, Lake Tahoe, and the Sacramento River and Delta. Academic programs are blossoming nationwide. Mitigation continues to be an important "restoration" activity despite serious concerns about its environmental and scientific validity. Ecological restoration is primarily a plant science (Young, 2000). Its main activities include removal of degradative forces, soil preparation (repair), control of exotic weeds (especially in Western ecosystems), and the planting of native species. It is the latter activity that relies on expert advice from plant propagation specialists.

Plant propagation is an important part of ecological restoration. There has been considerable research on the effects of different stock sources on field performance of native woody species. In contrast, there has been only limited research comparing the effectiveness of direct seeding with the planting of container stock of woody plants, at least for nonforestry species. This research has revealed some interesting and sometimes counter-intuitive results that may have important implications for the future of ecological restoration especially as it relates to plant propagation. I will summarize some of the potential problems associated with containers and offer some future research directions.

ARGENTINE ANTS AND CONTAINER PLANTS

Argentine ants are an invasive exotic species, whose explosive spread in California is a major environmental problem. For example, the success of restoration efforts involving the endangered valley elderberry longhorn beetle (VELB) is often limited by predation from argentine ants (Huxel, 2000). Argentine ants also reduce the numbers of other invertebrates (Kennedy, 1998; Holway, 1998; Bolger et al., 2000) and even horned lizards (Suarez et al., 2000) in California. Transport through potted plants is thought to be one of the major vectors of argentine ant invasion (Holway, 1995; Hee et al., 2000). Because of this, the spread of argentine ants is most pronounced in urban