

ALTERNATIVE CONTAINER DESIGN FOR SAGE ESTABLISHMENT¹

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Abstract. Nursery container systems can profoundly affect the economics and success of restoration projects. Restoration of arid lands disturbed by fire, or by cropping, mining, and other activities, represent a continuous and substantial expenditure by the responsible entities. Several standard container types that have been developed for reforestation and horticultural applications are currently used for arid land restoration. Although generally successful in terms of plant survival and growth, these container types are not equivalent in terms of handling efficiency and cost considerations for large-scale projects. In addition, plant materials utilized for restoration projects often differ in their physiological traits, rooting habits, and success requirements than traditional reforestation and landscaping materials. Thus, the container system utilized should reflect the goals and efficiencies required for the project. The purpose of this study was to evaluate the efficiencies of six separate plant container systems and their potential for successful plant establishment.

Field trial sites were established during Spring 2002 to compare the efficiencies and survival success of six different container types. The container types evaluated were: 1) 10T container; 2) 4T container; 3) Zipset; 4) Ecopot; 5) Paperpot; and 6) and experimental design (BT). These container types represent both plantable containers and plugs. A total of nine field trial sites were established throughout the western states of New Mexico, Wyoming, Washington, Idaho, and Utah and included a variety of potential restoration types including fire rehabilitation, mineland reclamation, and farmland retirement. These sites also represented a variety of initial site conditions, including barren ground, existing range vegetation, and planted cover crops. Each field site consisted of a completely randomized block planted with six container types represented by 200 replications.

Survival and height data were collected during Fall 2002. All study sites were impacted by the severe drought of 2002 with widely varying survival rates between sites. Field data, along with production data is currently being analyzed. The authors will present survival, growth and production/planting efficiency data as well as discuss the applicability and cost advantages of each container system.

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