

FNGA/SHARE ENDOWED RESEARCH FUND Project Enhancement Award

Chemical Weed Control in Containerized Landscape Plant Production

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Introduction: Weed control during containerized landscape plant production is labor intensive and costly. In addition, yield and quality losses due to weed competition are common. Herbicide manufacturers are unwilling to spend a lot of money registering products for use on ornamental crops because the ornamental horticulture industry is a very minor market for herbicide sales and the tolerance for damage to ornamentals is minimal.

Purpose: This research was conducted primarily to generate phytosafety data needed to expand herbicide labels for use on ornamental plants. Preemergence herbicides, both already labeled for some ornamentals and others that were nearing release, were tested.

Products evaluated: fluomethalin (Premier®), isoxaben (Gallery®), isoxaben + benefin (XL®), isoxaben + trifluralin (Snapshot TG®), metolachlor (Pennant®), oxadiazon (Ronstar®), oxyfluorfen (Goal®), oxyfluorfen + oryzalin (Rout®), oxyfluorfen + pendimethalin (Ornamental Herbicide II), pendimethalin (Pre-M [now Pendulum®, Weedgrass Control]), proflumicafene (Barricade® [now Factor®, RegalKade®]) and trifluralin (Treflan®).

Crops used: *Acer rubrum* (red maple), *A. macowanii* (ming “fern”), *Buxus microphylla japonica* (Japanese boxwood), *Chamaerops humilis* (European fan palm), *Cortaderia selloana* (pampas grass), × *Cupressocyparis leylandii* (Leyland cypress), *Cyrtomium falcatum* (holly fern), *Eucalyptus gunnii* (cider gum eucalyptus), *Hemerocallis* hybrid ‘Wilson’ Yellow’ (daylily), *Ilex opaca* ‘East Palatka’ (East Palatka holly), *Juniperus chinensis* ‘Nick’s Compacta’ (juniper), *Liriope muscari* ‘Evergreen Giant’ (giant lilyturf), *Ophiopogon japonicus* (mondo grass), *Photinia* × *fraseri* (red top), *Pinus palustris* (longleaf pine), *Pittosporum tobira* ‘Variegata’, *Quercus virginiana* (live oak), *Raphiolepis indica* (Indian hawthorn), *Rhododendron indicum* ‘Ray’s Rubra’ (azalea) and *Ulmus alata* (winged elm).

Results: This research resulted in numerous registrations of herbicides for use on ornamental crops.

Value to the industry: The use of herbicides has been shown repeatedly to greatly reduce production costs. The data generated by this research provided Florida growers with additional factual information and herbicide registrations with which to combat weed problems.

Acknowledgments: Appreciation is extended to Cindy Connery Boone, FNGA, Jon’s Nursery and Diane Rock for support of this work.

