Green Industry Research Needs
Center for Applied Nursery Research
2010-11 Grant Period

This list is to inform you of the areas of research needs and their priority as suggested by the green industry. Research needs were suggested by a panel of nursery growers and professionals, and were ranked by participants as high (*****), medium (***) and low (*).

Plant Specific Problems

***** Sterility - making invasive plants sterile
***** Evaluation of cultivar selections within economically significant species for their invasiveness and environmental impact(s)
***** Evaluation and development of invasive plant alternatives; including native plant material
***** Evaluation and development of plant material genetically tolerant of abiotic and biotic stress (e.g. conifers)
***** Evaluation and screening of ornamental species and cultivars within species for insect and disease resistance/tolerance.
***** Development of a protocol for assessing drought tolerance of ornamental plant material in production and in landscape situations.
**** Evaluation of ornamental plant materials for deer herbivory preference
**** Evaluation of edible landscape plants (ex: blueberries) in nursery production and for landscape value/use.
** Evaluation of tropicals– cold hardiness in containers, over-wintering, cool climate production protocols, guidelines

Pest Management

***** Phytophthora, Pythium, Rhizoctonia, and Thielaviopsis management – best management practices; fungicide resistance
***** Fire and Argentine ants – insecticide longevity (shipping problem - need slow release product); rate of incorporation; control in fruit bearing crops, control in propagation
***** Degree-day pest schedules/models - link info to GA weather sites; pest calendars
***** Downy mildew and Powdery mildew resistance management (fungicide resistance)
***** Pre & Post-emergent weed control in propagation and liner production
***** Wood boring insects (Asian Ambrosia Beetle, Emerald Ash Borer, Wood Wasp, etc.) – systemic control, application technology, and penetrants
**** Virus control and management in production to ensure clean stock
**** Best management practices for scale, thrip and mite control
**** Longevity and efficacy of pre-emergent herbicides.
**** Understanding relationship between pesticide storage conditions and pesticide efficacy
*** Japanese Beetle control in production
*** Snail and slug management
*** Identification and control of new foliar disorder of *Itea virginica* in Northern FL and central/southern GA
*** Biorational/biological soil amendments (ex: Actino Iron) – effect on rooting and root disease suppression (azalea, blue pacific juniper, hydrangea)
** BMPs for pest management and/or condensed pest-specific BMPs

Crop Production

***** Water conservation and management in production and the relationship between irrigation and leaching of nutrients and pesticides.
***** Reducing root stress - insulation, container wraps & colors, water management, pot types for survival and growth
***** Nursery production using very low volume phosphate fertilizers.
***** Reducing nursery effluents with an emphasis on phosphorous effluent.
***** Measuring water consumption (as opposed to use) in nursery production, i.e. water pumped vs recaptured
**** Evaluation of fiber-type pots (eco-friendly) to include cost versus longevity
**** Reducing nursery waste generation – recycling, alternative fuels, composting used potting soil and plant material
**** Weed control in beds, roadways, pond waterlines, and drainage ditches in nurseries
**** Micronutrient product evaluation for longevity in production cycles– heavy metals for plant growth
*** New plant introductions – development of protocol for cultivar introductions to include screening for invasiveness, trial length, etc.
*** Understanding relationship between pH and nutrient/micronutrient availability in soilless substrates.
** Comparison of frost protection methods.

Economics & Marketing

***** Investigating the nursery industry's role in production of alternative fuels
***** Reducing energy costs
***** Economic assessment of the value of landscape plants (commercial & residential)
**** Maximizing shipping efficiency
** Evaluation of production costs compared to sale price and crop production budgeting (keep or dump)
** Cost comparison of chemical applications (e.g. PGRs) to labor.