



Conifer Selections for Georgia - An Update

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Nature of Work: Conifers are important landscape plants in many parts of the United States, but have been overlooked in the Southeast. In 1997, a conifer evaluation project was initiated at the Tifton campus. Seed from promising conifers such as *Chamaecyparis obtusa* var. *formosana*, *Cryptomeria japonica* 'Ben Franklin', *Cupressus glabra* 'Carolina Sapphire' and *Platycladus orientalis* (Xian Shan selection) were collected during the winter of 2002-2003, germinated, and grown in #1 containers. Seed from other selections were gathered from various sources and were grown in liners. Plants in #1 containers were shifted into #7's at the CANR on February 17, 2004, whereas liners were shifted to #3's on April 7, 2004. The substrate consisted of 6:1 pinebark and sand amended with (in lbs. per cu. yd.) dolomitic limestone (4.0), Micromax (1.5), Gypsum (1.5), Osmocote Pro 18-8-8 (14.0), and Talstar (2.0). Plants were grown under standard cultural practices and were shifted to larger containers in 2005. All plants were evaluated in November of 2005. Numerous plants were then transplanted into a field evaluation plot at the CANR as noted.

Seed from an F1 population of *Platycladus orientalis* 'Golden Surprise' was collected in November and will be sown after stratification. Seedlings from *Thuja occidentalis* 'Pendula' were brought to the CANR in November and were shifted to #1 containers. Seedlings from irradiated seed of *Cupressus arizonica* will be brought to the Center in 2006.

Results and Discussion:

- Calocedrus* one plant of *C. formosana* was planted in the garden in 2004, the other was planted in the field in November, 2005 along with one plant of *C. macrolepis*.
- Cedrus deodara* one 'Kashmir' was planted in the field
- Chamaecyparis obtusa* 34 seedlings were raised from var. *formosana*. Mean height was 48" in 2004 container trial. Ten plants were shifted to #15 containers for 2005. Three were transplanted to the field, the other seven were discarded. Plants have been selected for form, dark green color, and for remaining green thru the winter. One vegetatively propagated plant from Tifton known as Clinton selection was also placed in the field.
- Cryptomeria japonica* One or two plants each of 'Araucarioides', 'Cristata', and 'Sekkan' were planted in the field. Seven seedlings were raised from the cultivar 'Ben Franklin'. Four of the seedlings have yellow-

variegated foliage similar to 'Sekkan' and one has twisted foliage. All were planted in the field. Five seedlings of 'Sekkan' were also planted in the field. Three seedlings from 'Tarheel Blue' were discontinued. Thirty two seedlings of 'Yoshino' were grown in #7 containers. All showed physiological needle blight in late summer. Twenty-three of the best plants have been kept for further evaluation.

- Cupressus cashmeriana* plants received as *C. himalaica* are now classified as *C. cashmeriana*. Two have been planted in the field, one in the garden in 2004. The identity of *C. himalaica* var. *darjeelingensis* is questionable. It does not look like *C. cashmeriana*. Five seedlings were planted in the field, nine were discarded.
- Cupressus duclouxiana* all three clonal plants were discontinued.
- Cupressus glabra* 24 seedlings were raised from the cultivar 'Carolina Sapphire'. Foliage color ranges from gray-green to gray-blue. Mean height was 55" with a range from 37" to 77" in 2004. Nine seedlings were shifted to #15 containers. Of these nine, five were transplanted to the field. Another batch of seedlings was evaluated in #3 containers in 2005. 74% of the seedlings were discarded due to development of *Cercospora foliar* blight. Thirteen plants have been shifted to #15 containers. Two plants of 'Chaparral' were transplanted to the field in November, one other plant is growing in the garden.
- Cupressus lusitanica* Two seedlings were field planted, as were five seedlings from *C. lusitanica* var. *benthamii*. Ten seedlings of var. *benthamii* were discarded.
- Nageia nagi* one plant of this selection from Valdosta was planted in the field.
- Pinus densiflora* three seedlings of var. *multicaulis* were shifted to #15 containers, three were discarded. Three seedlings of *P. densiflora* were shifted up, nine seedlings were discarded.
- Platycladus orientalis* from nine seedlings of 'Golden Surprise', six have variegated foliage. Four have been selected for shift up. Of the original 48 seedlings from the Xian Shan mountains in China, 16 were selected for further evaluation. Nine were planted in the field while seven were discarded. Plant height ranged from 60" to 78" in #15 containers. 101 more seedlings from the Xian Shan selection in Tifton were brought to CANR in May, 2005. In November, 35 were kept for further evaluation.

Sequoia sempervirens one plant of 'Soquel' was planted in the field.

Taiwania one plant each of *T. cryptomerioides* and *T. flousiana* were planted in the field.

Thuja occidentalis one seedling from 'Brandon', three variegated seedlings from 'Golden Globe', six seedlings from 'Holmstrup', two seedlings from 'Malonyana', and ten seedlings from 'Conspicua' were shifted up to #15 containers in November. Plants of 'Sunkist' were discarded.

Significance to Industry: Seedling germplasm has shown a great deal of variation for form and foliage color. Advanced selections will be vegetatively propagated and evaluated further under container and field conditions for future release.