

SILVICULTURE FOR *EUCALYPTUS* PLANTATIONS

Growing *Eucalyptus benthamii* in the southeastern United States

FAST GROWING
FROST TOLERANT
DISEASE RESISTANT
INSECT RESISTANT

WHY *EUCALYPTUS*?

The genus *Eucalyptus*, with more than 700 species, has some of the fastest growing trees in the world. The native range of *Eucalyptus* is primarily Australia with a few species also native to Indonesia and Papua, New Guinea. Testing of different *Eucalyptus* species became important in the mid 1800's in many parts of the world as a source of wood for mining timbers, railroad ties and fuel. Today there are around 20 *Eucalyptus* species that are widely planted outside their native range.

Purpose grown plantations of *Eucalyptus* are a reality in almost 100 countries. The reasons are rapid growth rate, resistance to disease and insects as well as highly desirable wood properties for multiple forest processing industries. In parts of the southern U.S., *Eucalyptus* have the potential to substantially increase forest productivity for a wide variety of end uses. The United States Department of Energy has identified *Eucalyptus* as being an important woody biomass feedstock. *Eucalyptus* offers multiple advantages as a biomass crop including high productivity on short rotations, potential for planting on marginal lands, multiple crops from a single planting (coppicing ability), high bulk density, excellent fiber properties and high carbon storage.



8 year old *Eucalyptus benthamii* growing near Walterboro, South Carolina

Eucalyptus benthamii (*E.ben*) is a fast growing *Eucalyptus* species with sufficient frost tolerance for most of the Gulf and Atlantic Coastal Plains in the southern U.S.

Best plantation growth will be realized with timely and adequate silvicultural management as described on the reverse. One of the key success elements is an early start in the process. Management should follow state BMPs. Actual yields will vary due to climate, site and management inputs.

SUGGESTED ROTATION LENGTH & YIELDS

BIOENERGY *E.ben* 3 year rotation, MAI 14-18 green tons/acre/year
PULPWOOD *E.ben* 7 year rotation, MAI 12-16 green tons/acre/year

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SITE SELECTION

Three months to 12 months prior to planting.

SEEDLINGS

Orders should be placed no later than May 15 for fall planting and November 15 for spring planting.

SPACING

Pulpwood 600 TPA. Bioenergy 1000 TPA.

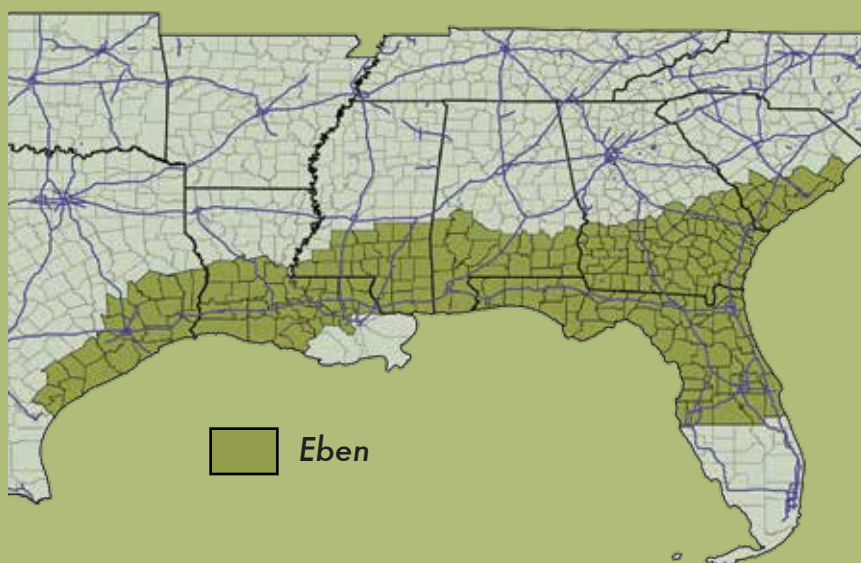
SOILS

Moderately well drained soils with some degree of clay content for water retention. Avoid excessively well drained or poorly drained sites.

SITE PREPARATION

Chemical site preparation will be dependent on post-harvest vegetation growth, but generally will include a summer broadcast application of glyphosate or similar product at a rate of 8 - 10 qts/acre, 15 gallons water/acre and a surfactant. Mechanical site preparation should consist of bedding or subsoiling. *Eucalyptus* require both chemical and mechanical site preparation for best growth. Old-field sites will need to be subsoiled.

Eucalyptus benthamii PLANTING ZONES



PLANTING

100% containerized. Both spring and fall planting can be successful. Fall planting will be mid-September to early November depending on adequate soil moisture and historical date of first frost. Spring planting will be mid-March to early May depending on date of last frost and adequate soil moisture. Hand planting is the norm but mechanical planting is possible depending on equipment and contractor experience with container stock.

FERTILIZATION

Near the date of planting, broadcast application of 150-200 lbs/acre of TSP on P-deficient sites. After crown closure at age 2-3 years, broadcast application of 150-200 lbs/acre urea. Weed control must be adequate before any nitrogen application.

WEED CONTROL

Complete weed control in the 1st year including herbaceous weed control. One practical means to accomplish this is a direct spray of glyphosate. A label has been approved for the use of Sulfometuron Methyl (generic Oust) from certain manufacturers, which has been shown to be safe on *Eucalyptus* up to 1.5 oz/acre. In the second year, a directed-spray of glyphosate may be required. Note that site preparation pine tank mixes will result in *Eucalyptus* mortality or stunted growth.