

## TAXUS PROPAGATION BY CUTTINGS

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Propagation of taxus at Half Hollow Nursery has been evolving from all heated glasshouse propagation to the use of some minimum-heat plastic houses — groundbed propagation. We produce from 50 to 80,000 yews each year.

Cuttings are generally taken sometime after the third frost in the fall. We start with *Taxus cuspidata* 'Densiformis', which we sell the most of as a finished plant. Cuttings are made 8 inches long, cut on the top and bottom, with the lower half stripped of needles. After sizing, the cuttings are bundled about 50 per bundle held with a rubber band. Bundle bases are dipped in straight Chloromone which is held on a sponge in a shallow pan. We had been using Hormodin #3 powder but have found Chloromone dip faster and more effective.

Cuttings are stuck in washed coarse sand. The addition of 40 to 50% perlite has been tried on a small scale and seems to be even better. Cuttings are stuck in the heated house from November to January with an air temperature of 60° to 65°F and with a sand temperature of 70° to 75°F from hot water bottom heat. The minimum-heat house is a double layer plastic (white outside with a clear inner liner) air-supported house with groundbeds. Cuttings are taken November to February with best results from November to January.

Rooting generally takes place in the glasshouse in February and March and the rooted cuttings are planted into beds that spring. Cuttings in the minimum-heat house are rooted by mid-summer and moved and healed into frames in the late summer or fall in a mixture of 30 to 40% bark tilled into the soil, plus 0-20-0 and lime. The frames are covered with a single shade until November when a second lath shade is added. Rooted cuttings from these frames are the first to be planted in beds the following spring.

Rooted cuttings are planted in 6 ft beds in four rows 1 ft apart. Cuttings are planted 8 inches apart using a lettuce pocket planter. Weeds in the beds are controlled mainly by herbicides. We have used Planavin at 2 lb ai/A plus Simazine 1 lb ai/A right after planting. With the withdrawal of Planavin we now use Surflan at 2 lb ai/A plus 1 lb Simazine in about 30 gal of water per acre as an overspray after planting. Established beds are also treated with 2 to 3 lb ai/A of granular Simazine during the winter months. Little hoeing or hand weeding is needed with these two treatments.

Beds are fertilized twice from late spring to summer using 40 to 50 lb N/A applied as a band of 50% organic N 2-1-1 fertilizer. In addition, a late fall or early spring band application of an all-chemical complete fertilizer at 40 to 50 lb N is also applied. Rooted cuttings are pruned once or twice before lifting the liners during the spring of the third growing season after planting.

## **PROPAGATION OF TAXUS IN NORTHERN OHIO**

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In looking for a simpler and more economical method of propagating taxus cuttings, we turned to ground beds in quonset type poly structures.

### **PROPAGATION FACILITIES**

Our poly houses are 196 feet long and 16 feet wide with three beds 190 feet long, 4 feet wide, and 8 inches deep. This set-up provides us with 2280 sq ft of ground bed. Each house holds 150,000 cuttings.

Our houses are heated by 125,000 BTU Reznor natural gas hot air units controlled by a heating-ventilating thermostat. We keep a good supply of spare heater parts in our inventory. Water is supplied by outlets 50 ft from either end. With a 50 ft hose on each tap, we can cover the entire house. We also equip each house with a 220 volt electric supply and have a 15,000 watt portable generator that can supply our farm in case of a power outage. Our water is supplied by a dual source — a well on one end and a pond on the other. If one goes out, we switch to our back-up source, or if we need a lot of water, we can use both systems simultaneously. We firmly believe it is good policy to cover all aspects in case of an emergency.

### **PREPARATION AND SANITATION**

We fill and remove the medium from the houses by taking it out the sides, which is not only easier, but more economical. We use four different houses to alternate our crops on a 16 month basis. Therefore, we have 2 houses of cuttings and 2 houses being prepared for a new crop of cuttings at the same time.