

## **Taxus (Yew) Field Production**

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### Commonly produced yews:

<i>Taxus cuspidata</i> 'Capitata' (Capitata Japanese Yew)W	type 4, cone <b>upright</b>
<i>Taxus cuspidata</i> 'Densa' (Dense Spreading Japanese Yew)H	<b>spreader</b>
<i>Taxus x media</i> 'Densiformis' (Densiformis Yew)W	type 2, semi- <b>spreading</b>
<i>Taxus x media</i> 'Hicksii' (Hicks Yew)H,W	type 5, broad <b>upright</b>

### **Propagation**

Yews are propagated by rooted cuttings. Most of our yew producers buy their liners rather than root their own. They will be 6-10 inches tall when lined out.

### **Site Selection**

Yews require a very well-drained soil, like dogwood and peach. Select a site without a fragi-pan; where water never stands. A good site is critical for success.

### **Fertility**

Yews grow best with a soil pH of 6.0--7.0. A medium to high level of phosphorus and potassium is desirable. Soil test early enough so that any lime, phosphate or potash can be broadcast and incorporated prior to planting.

Problem: Yews generally take on a pale green to a yellowish green color during the winter like several of the conifers, possibly affecting sales.

In September, 1987, Dr. Will Witte, UT Woody Ornamental Researcher with the Experiment Station, shared some Ohio State University research on how they suggest to maintain dark green foliage on yews throughout the winter.

The research suggested 6 pounds of actual nitrogen per 1000 square feet of root zone area per year. It should be equally split into 3-4 applications per year. Four applications would mean 66 pounds actual nitrogen per application. Three applications would mean 88 pounds actual nitrogen per application. The last application should be in late fall, October perhaps for Tennessee, according to Dr. Witte.

The normal UT Extension recommendation for all shrubs and conifers is no more than 50 pounds of actual nitrogen per acre applied in late Feb and again in late June. This represents 100 pounds actual nitrogen per acre per year; 164 pounds less than the Ohio recommendation.

50 lbs. of actual nitrogen per acre of root zone is provided by:

150 lbs. 34- 0- 0

385 lbs. 13-13-13

250 lbs. 20-10-10

333 lbs. 15-15-15

UT Extension is not prepared to recommend the Ohio findings for fear that succulent tissue would be damaged by premature low temperatures in early winter before the plants hardened off. I am not surprised that Ohio's findings kept the plants green; but I am surprised that Ohio producers can get by with this practice, yet; maybe they stay cold, while temperatures in Tennessee bounce around. We get more low temperature damage in the fall and spring. We need to inquire with Ohio research, extension and the nursery industry to see what the "Rest of the story" might be.

What if we applied 50 pounds of actual nitrogen per acre in late Feb, late June and late August??? That would be 2-4 weeks later than we would normally recommend any nitrogen. We need a test block followed by that bad early winter.

### **Field Spacing**

Spacing of yews in the field depends upon the species, cultivar and anticipated size to be harvested. Yews are sold as spreading or upright (conical or pyramidal) coniferous evergreens.

Depending on the species and cultivar of yew; *Taxus cuspidata* 'Densa' and *Taxus x media* 'Densiformis' are classified as Type 2, semi-spreaders; *Taxus cuspidata* 'Capitata' is classified as a Type 4, cone type, (pyramidal); and *Taxus x media* 'Hicksii' is classified as a Type 5 broad upright type.

Type 2 conifer semi-spreaders will be wider than tall. Type 4 cone type pyramidal should have a height to spread ratio of not less than 5 to 3, according to the ANLA Nursery Standards. A type 5 broad upright conifer includes the broader, upright growing evergreens which develop a straight sided form with many upright branches or leaders. The ratio of height to spread of properly grown material should not be less than 2:1.

Plant spreaders a minimum of 3-4 feet apart within the row, but this depends on the anticipated size expected to be sold. Middles should be at least (width of widest tractor or implement used in middles plus 2.5 feet per side = 3' implement + 5' = 8' middle.

Plant uprights a minimum of 3-4 feet apart within the row. Middles should be at least (width of widest tractor or implement used in middles plus 2 feet per side = 3' implement + 4' = 7' middle. It is critical that sunlight reach the lower branches to keep them vigorous and strong, so they will remain long.

Examples of plant populations on a solid acre with no roadways depends on the spacing:

$4 \times 5 = 2,178$

$4 \times 6 = 1,615$

$4 \times 7 = 1,556$

$4 \times 8 = 1,361$

$4 \times 9 = 1,210$

$5 \times 5 = 1,742$

$5 \times 6 = 1,452$

$5 \times 7 = 1,245$

$5 \times 8 = 1,089$

$5 \times 9 = 966$

$6 \times 5 = 1,452$

$6 \times 6 = 1,210$

$6 \times 7 = 1,037$

$6 \times 8 = 908$

$6 \times 9 = 807$

Remember to leave a 12-20 foot roadway to load and spray from. Consider 4-6 rows per block of upright yews. An air blast sprayer is convenient for pest control. An air blast sprayer should be able to penetrate the foliage on 4-6 rows of upright yews. A mechanical tree spade will also require space to maneuver without damaging adjacent plants. A 4 row block offers 50 percent of its plants to a spade without crossing a single row. Spreading yews could probably be planted with 8 rows per block.

### **Planting**

Exercise caution to not plant too deep. Yews are very sensitive and will not tolerate being too deep. It is also critical not to allow cultivation to throw additional soil over the roots. Some producers replace the disc blade that throws the soil with a smaller diameter blade.

One local nursery that grows a lot of yews pots 1 year old bed grown rooted cuttings to grow for an additional 1-2 years. They do this because the containerized liners have a long shelf life compared to bareroot if rain should delay transplanting. Bareroot liners are more perishable and must be protected from freezing and drying out.

They volunteered that their best success with yews has been when they plant a heavy 3-4 year liner. It may be a bit too warm here for small liners to respond well.

### **Insects**

Refer to UT Ext. Pub #1589 for a complete list of potential insects and the recommended controls at <https://utextension.tennessee.edu/publications/Documents/PB1589.pdf> I do not recall seeing an insect problem on yews in my 26 years, but Pub #1589 does list several potential insects in Tennessee.

### **Disease**

Phytophthora Root Rot can be a problem in the field or container or landscape; if the site is poorly drained or during very wet periods. Strive to select a well-drained site. Subdue Maxx only provides a temporary fix and I consider it too expensive for field use.

### **Herbicides**

Weeds must not be allowed to shade out lower foliage. Refer to Tables A and B: Preemergence and Postemergence-Nursery Crops under the Weed Control heading at <http://www.utextension.utk.edu/mtnpi/handouts.html> for a complete list of labeled pre and postemergence herbicides for most common woody ornamentals.

## **Pruning**

Use hand or powered shears to cut longest branches back to the canopy as often as necessary. Avoid pruning between August 15 and first killing freeze. Avoid pruning plants that will be harvested after May so plants will look natural. Frequent shearing will increase the number of branches. Encourage low branching.

## **Harvesting**

Semi-spreading yews are commonly sold when they are 1-3 feet tall. Upright yews are commonly sold when they are 2-6 feet tall. Yews are generally a 3-5 year crop; depending on species, soil type, fertility, moisture, growth rate, pruning, etc; with harvesting occurring the last 2-3 years.

## **Digging the Correct Size Ball**

The American Standard for Nursery Stock was written by the American Nursery & Landscape Assoc. (ANLA) (formerly the American Assoc. of Nurserymen, AAN). It establishes techniques for measuring plants and minimum rootball sizes for particular plant sizes and different plant types. A copy of the Standards may be viewed and printed from this link free:

<http://www.anla.org/docs/About%20ANLA/Industry%20Resources/ANLAStandard2004.pdf>

Producers are not legally bound to follow the ANLA Standards but it is a good business practice and eliminates surprises.

## **References:**

"American Standard for Nursery Stock", American Nursery & Landscape Association, ANSI Z60.1-2004, Section 3: Coniferous Evergreens, pgs 35-52.

Dirr, Michael A. 1998/2009. Manual of Woody Landscape Plants, Stipes Publishing, Champaign, IL. 5<sup>th</sup> & 6th ed., pg. 466/550.

Comm/Crops/Yew prod

### **Precautionary Statement**

In order to protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

### **Disclaimer Statement**

Pesticides recommended in this publication were registered for the prescribed uses when printed.

Pesticides registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee. Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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