

## Deciduous Shrub Production in a Nursery Field

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This concerns the general production of the commonly produced deciduous flowering shrubs in Middle Tennessee nurseries such as: crape myrtle, forsythia, spirea and weigela. Much of the information can be applied to red twig, yellow twig dogwood, burning bush, Manhattan euonymus, hibiscus, hydrangea, flowering almond and oak leaf hydrangea.

**Propagation** is by rooted cuttings in beds or rows.

**The Standard Nursery Practice of propagating deciduous flowering shrubs is:** The oldest practice is of 'field stuck cuttings'. Wood is collected in the winter from a stock block left for this purpose. The branches are gathered into handfuls and tied with machines. The bundles are cut into 6-8 inch lengths with a band saw, keeping track of which end is which. The bundles are stored in damp sand until March or so.

The cuttings are stuck by hand in rows in the field after a tractor marks the future rows to provide uniform spacing between the rows. Labor usually sits on the ground, scooting backwards down the row, sticking as they go. Some will tie a box of cuttings to their foot, dragging a supply with them. The cuttings are stuck a half inch apart, or so into long rows, row after row. The close spacing and tractor speed will not allow mechanical sticking. No hormones. If there is good, even moisture through-out the spring and summer, there may be 80 percent rooting; if not, 20-40 percent maybe. Irrigation would ensure a greater yield of numbers and size.

Crape myrtle, forsythia, spirea, weigela and privet are commonly rooted this way. They are barerooted after 1 growing season, graded and sold. The buyer will either line them out at a wider spacing to B&B later, pot for a quick 1 year crop or sell packaged. (Packaged is processed balled. The roots and damp sawdust are placed in a small poly bag.)

The other method involves traditional propagation beds with mist, hormones and time clocks.

## Site Selection

No special requirements other than a well-drained soil in full sun. Seldom is the best available soil used for B&B production for these crops. They generally grow fast and are sold for a low price.

## Fertility

Check the optimum pH ranges in the fertility section of <https://utextension.tennessee.edu/publications/Documents/PB1589.pdf> A medium level of phosphorus and potassium is desirable for all of these crops. Soil test early enough so that any lime, phosphate or potash can be broadcast prior to planting.

Sidedress lightly with a half rate after most cuttings have 2-3 roots at least an inch long and again in late June with no more than 50 pounds of actual nitrogen per acre. Examples of 50 lbs. of actual nitrogen per acre are: 250 lbs. 20-10-10 or 385 lbs. 13-13-13 or 333 lbs. 15-15-15 per acre of root zone; not a broadcast acre. (like when banding a herbicide at a specific rate per acre)

## Field Spacing

Plant a minimum of 4.5 feet apart within the row to harvest a 3-6 foot plant. Middles should be wide enough to work, control weeds and not damage the crop. Middles should be at least (width of widest tractor or implement used in middles plus 2 feet per side = 3' implement + 4' = 7' middle.

### Number of plants on 1 solid acre at different spacings:

3 x 4 = 3,630	3.5 x 4 = 3,112	4 x 4 = 2,723
3 x 4.5 = 3,227	3.5 x 4.5 = 2,766	4 x 4.5 = 2,420
5 x 5 = 1,742	6 x 5 = 1,452	4.5 x 5 = 1,936
5 x 6 = 1,452	6 x 6 = 1,210	4.5 x 6 = 1,613
5 x 7 = 1,245	6 x 7 = 1,037	4.5 x 7 = 1,383
5 x 8 = 1,089	6 x 8 = 908	4.5 x 8 = 1,210
5 x 9 = 966	6 x 9 = 807	4.5 x 9 = 1,076

Remember to leave a 10-12 foot roadway to load and spray from. Consider 8 rows per block. An air blast sprayer is convenient for pest control. An air blast sprayer should be able to penetrate the foliage on 8 rows of flowering shrubs from 2 sides. These will likely be hand dug.

When visiting inexperienced growers that planted too close, I mean, way too close; they always say that they planned to dig and sell every other plant, thus allowing more room for the remaining plants. It makes sense, but it doesn't always happen. Sales may be off, every other plant may be too small, somebody forgets; besides, every other plant is half of the crop. I wish it would work.

## **Planting**

Exercise caution to not plant 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.

## **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>

## **Disease**

Some years, Southern Blight can attack althea (hibiscus), forsythia, dogwood, quince, hydrangea, barberry, Buddleia, elaeagnus. Several can be killed before it is recognized and identified. Refer to the handout on Southern Blight under the Insect & Disease Control heading at <http://www.utextension.utk.edu/mtnpi/handouts.html>

## **Herbicides**

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**

Deciduous flowering shrubs are usually cut back hard each late winter/early spring to increase the number of branches/stems and to encourage low branching. There may be little to no summer pruning, especially the last year. A sharp rotary cutter might could be used the first couple of years.

## **Harvesting**

Deciduous flowering shrubs are commonly sold 3-6 feet tall, which is generally a 3-4 year crop; depending on species, soil type, fertility, moisture, growth rate, pruning, etc; with harvesting occurring the last 1-2 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>

Ball sizes should always be of a diameter and depth to encompass enough of the fibrous and feeding root system as necessary for the full recovery of the plant. Deciduous shrubs are divided into 4 different types regarding plant size, number of canes/stems and the minimum rootball diameter. It is explained on pages 23-31 of the standards.

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

Tables 10 – 13 were combined here for simplicity

<b>Deciduous Shrubs</b>	
<u>Height in feet</u>	<u>Minimum Ball Diameter</u>
2.5	12-13 inches
3	14-16 inches
4	18-20 inches
5	24 inches
6	30 inches

**References:**

"American Standard for Nursery Stock", American Nursery & Landscape Association, ANSI Z60.1-2004

Comm/Crops/Flowering Shrub

**Precautionary Statement**

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.

**Disclaimer**

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication.

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