

***Hydrangea quercifolia* Production**

Oakleaf Hydrangea
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With no pest problems, oakleaf hydrangea is an excellent plant for us to produce and sell. It's production has increased recently, but we should grow a few of the cultivars, especially 'Snow Queen' and perhaps 'Pee Wee'.

Dirr's 5th ed lists 23 cultivars; with 13 cultivars introduced by Louisiana Nsy. in Opelousas, La. Cultivars worth our attention are: 'Alice', 'Alison', 'Dayspring', 'Harmony', 'Lynn Lowrey', 'Pee Wee', 'Roanoke', 'Snowflake', 'Snow Giant', and 'Snow Queen'.

'Lynn Lowrey' – Superior form introduced by Tom Dodd, III. No additional infor.

'Pee Wee' is a compact form, probably 2 to 3' by 2 to 3' with leaves and flowers more refined than species. Dirr mentioned that he has heard of a 4 ½' high by 6' wide plant. 'Pee Wee' has received rave notices from Atlanta gardeners. The inflorescence is about 4", maybe 5" long. The plant is somewhat broad-pyramidal shaped. It is an excellent form for small gardens. The fall color is rose to red-purple according to Dirr.

'Snowflake' – Multiple bracts emerge on tops of older ones creating a double-flowered appearance; 12 to 15" long panicles, actually the most beautiful of the sterile-flowered forms; about 7 to 8' tall at maturity. The heads are heavy and the branches may be weighed down, but never to the degree of 'Harmony' and 'Roanoke'. Prefers moist soil and partial shade. Flowers slightly later than the single types and flowers age more gracefully.

'Snow Giant' – Leaves crimson red in fall; large, lightly fragrant, snow white flowers in early to mid-summer.

'Snow Queen' – An improvement of the species with larger and more numerous sterile florets that provide a more dense solid appearance. The 6 to 8" long inflorescences are held upright and do not 'flag' like many seedling produced plants. Foliage is dark green and seem to hold up in sun better than seedlings. Foliage turns deep red-bronze in fall, flowers turn a good pink with maturity. Compact, possibly 6' at maturity. No damage at -22 degrees F. A William Flemer III, Princeton Nsy introduction; now assigned to TreeSearch, PO Box 113, Kingston, NJ 08528. Snow Queen's patent # 4458 was granted Sept 4, 1979. It is trademarked.

Seed Propagation

Many of the oakleaf liners that we plant are collected in Alabama. The species can also be propagated by seed. The blooms are collected Oct – Nov and placed in brown paper bags so the seed won't be lost as they dry and fall out.

Dirr says no pretreatment is required, but Dr. Sandra Reed, plant breeder at the McMinnville Nsy. Crop Research Station, feels that 30 days cold treatment helps. Cold, moist stratification is not required. Dr. Reed germinates the seed in shallow seed trays, transplants 6 to 8 weeks later in the 2-leaf stage into trays holding 36 or 38 cells per tray.

The plants are transplanted again 6 to 8 weeks later into 5 1/4" square pots. If pushed with bottom heat and lights; Dr. Reed expects the plants could be marketed in the spring as full 3-gallon plants.

A different year, Dr. Reed planted the seed in early Jan. and they were large enough in April to be potted into 5 1/4" pots.

Cutting Propagation

Dirr's 5th edition "Manual of Woody Landscape Plants" provides the following information on rooting. Too much moisture can be a major problem. They are easy to root if specific guidelines are followed. Plants can be potted, fertilized and will grow off quickly.

Firm wood cuttings in May, June and into September, 5000 ppm KIBA dip, well-drained medium, either all perlite or 3 parts perlite to 1 part peat moss, intermittent mist, 4 to 6 weeks rooting time. Dirr has taken cuttings in late April and had salable 1-gallons by fall.

Recent research showed that early April, direct-stuck cuttings in 3-gallon containers, 3 per container, produced marketable plants by late July at the Center for Applied Nursery Research, Dearing, Georgia. Tissue culture has been successful.

Site Selection

Hydrangeas can be grown on less than the most productive soils, but select a well-drained soil.

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.

Field Spacing

Spacing examples of plants on 1 solid acre with no roadways:

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
3 x 5 = 2,904	3.5 x 5 = 2,489	4 x 5 = 2,178
3 x 5.5 = 2,640	3.5 x 5.5 = 2,281	4 x 5.5 = 1,980
3 x 6 = 2,420	3.5 x 6 = 2,074	4 x 6 = 1,615
3 x 7 = 2,074	3.5 x 7 = 1,778	4 x 7 = 1,556

Consider no more than 8-12 rows per block. Remember to leave a 10-12 foot roadway between blocks to load and spray from.

Fertility

Prior to Planting: Oakleaves grow best with a soil pH of 5.5--6.0. 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 prior to planting.

Annual Maint. Fertilization: The normal UT Extension sidedress 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. Be extremely cautious and don't apply too much near the stem. The fertilizer can be applied in a circle near the drip line by hand or thrown several feet ahead and allowed to bounce and scatter. Mechanical devices will broadcast or band (the Vicon).

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

150 lbs. 34 - 0 - 0

333 lbs. 15 -15 -15

250 lbs. 20 -10 -10

385 lbs. 13 -13 -13

Insects

Hydrangeas are seldom attacked by insects. They are not even listed in UT Ext. pub. 1589 on controlling insects.

Disease

Hydrangeas are fairly disease and insect free, but can be attacked by Botrytis leaf and flower blight, Cercospora leaf spot, Phytophthora root rot and powdery mildew. UT Ext. Pub. 1234 describes the potential diseases and provides the recommended controls with fungicide rates and frequencies.

Weed Control

No preemergent herbicides were labeled for use on the common bigleaf and oakleaf hydrangea, *Hydrangea macrophylla* and *Hydrangea quercifolia* until recently. Dr. Donna Fare and I sprayed several preemergent herbicides over the top of 1 year old plants of bigleaf and oakleaf at two local nurseries April 19, 1996. We evaluated the plants several times and found no phytotoxicity or stunting based on before and after measurements.

The 2 and 3 quart rate of Surflan, the 3.33 and 5 pound rate of Pendulum 60 WDG and the 0.77 and 1.54 pound rate of Factor 65 WDG was tank mixed with the 1 and 1.5 quart rate of Princep/Simazine 4L or the 0.66 and 1.33 pound rate of Gallery 75 DF.

These herbicide tank mixes, at these rates did not injure any of the bigleaf or oakleaf hydrangeas in 1996. Since then, Barricade 65 WDG and Pendulum 60 WDG have been labeled for *H. macrophylla* and Pennant Magnum has been labeled for the

Hydrangea species.

Surflan, Princep/Simazine and Gallery are not labeled at this writing. The Gallery label actually says to not apply Gallery to the Hydrangea species. We can't recommend that unlabeled herbicides be used, even though we had good luck. Don't spray new transplants until after a settling rain or wait a few months to allow for some root growth.

Again, without a label, we offer no recommendation; only that we observed no phytotoxicity after one application. Good Luck with yours!

Fusilade T/O is labeled on *H. paniculata* and *H. quercifolia*, but not *H. macrophylla*. Vantage is labeled for *H. macrophylla*. Envoy is not labeled for any Hydrangea. These post-emergent herbicides kill tender, green grass.

Pruning

Oakleafs are generally grown for 2 years and then cut back in late winter to increase the number of canes and to make the population uniform in height.

Harvesting

Oakleafs are commonly sold when they are 3-4 feet tall. Scarcity and high demand causes many producers to sell the 2-3' size.

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 rootball size for particular plant sizes and different plant types. A copy of the Standards may be obtained by contacting the ANLA at 202-789-5980 ext 3019 for a few dollars.

Table 10
Deciduous Shrubs

Height	Minimum Ball Diameter
18"	9 inches
24"	10 inches
36"	12 inches
48"	14 inches

Container Production

Use a well-drained, standard substrate (media) blend. Little to no lime will be required depending on irrigation water pH and bicarbonate level. Be alert to not over water and cause Phytophthora root rot. Don't plant too deep. They seem to have better color; maybe less stress in a little shade.

References:

"American Standard for Nursery Stock", American Association of Nurserymen, ANSI Z60.1-1996, approved Nov. 6, 1996, Section 2: Deciduous Shrubs.

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