

SHORT TERM PRODUCTION OF LONG LASTING HYDRANGEAS

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The popularity of the hydrangea has declined through the years. While there are several reasons for this loss of popularity, I believe that most of the blame rests with the growers.

One of the major problems is getting adequate water to the plant and getting the plant to take up the water after it is applied. This is especially true in the hot, dry homes of the ultimate consumer.

The hydrangea gets its name from two words, hudor, meaning water, and aggeion, meaning vessel, referring to the cup form of the seed capsule. Thus, it is obvious that its water requirements were recognized at the time the plant was named.

Now for the problems at the grower level. In many instances (geraniums, mums, roses, carnations, etc.) we have been so careless in cultural techniques, plant selection, and disease and fertility control that even an entire species has been threatened. Fortunately, with several crops, research people and a few dedicated, farsighted growers have, or are turning the tide and showing us how to do a better job by providing us with better plant materials, new techniques, and a better understanding of how to cope with the problems involved.

Hydrangeas need the same approach if they are to regain their popularity. In some categories we are seeing some progress: (1) by better and more careful selection of the propagating stock in the propagation fields, (2) by development of some new varieties, and (3) by better understanding of the plant's nutrient requirements and of disease control requirements. But, unfortunately, some growers are slow to adapt.

I was not surprised when I received a phone call from New York last week and the caller informed me that the fall production of hydrangeas was not a new thing at all. It has been done in his area and also in the Pittsburg area. I am quite sure that there are others who have worked with it as well. Nobody is claiming to have re-invented the wheel, we are merely putting them on a little different cart.

Thus, while "short term production of long lasting hydrangeas" is not new, we may have a different approach to the problem that could provide some stimulus for its further development.

Advantages

Propagating in the fall, instead of the spring offers numerous advantages:

1. Space used for growing the plants during the summer months (with the old system) may be devoted to other crops for additional cash income.

2. Propagation space may be used more efficiently since the hydrangea cuttings can be stuck after poinsettia propagation is over and before starting on the main geranium propagation in our operation.

3. As the plants are rooted, grown, and stored single stem in smaller sized pots, (3-inch), the system is simpler and easier to automate.

4. Shipping is greatly simplified. The smaller plants are easier to ship by air, can be shipped greater distances at less cost and at desired times from storage.

5. The single stem, younger plants last much longer than the conventionally grown pinched plants -- mainly because the root supports only one stem and the stem is softer. Life expectancy is 4 weeks and longer in average homes. Because of late potting, new root activity also greatly enhances the ability of the plant to take up water.

6. Lower production costs because of shortened schedules.

7. Extends the sales season.

8. Shorter, more uniform plants are produced.

Propagation

We start fall production around October 15. Cuttings are taken from stock plants specially grown for this purpose. Care and treatment of the stock plants have a great influence on the success or failure of the program.

We have not pinched the stock plants later than mid-July, but it is possible to pinch later on rapid growing varieties such as Rose Supreme.

Stock plants should be given a steady nutrient supply. We combine a slow release 14-14-14 fertilizer and liquid fertilization.

After formation of the second set of leaves following the pinch, we spray with 0.75% (7500 ppm) Alar, or B-Nine. Three or four spraying may be necessary to keep growth compact on some varieties. We feel that keeping internodes short is one of the most important steps of the program. Failure to keep internodes short has resulted in a higher percentage of blind plants. We have encountered very few blind shoots with cuttings from treated stock plants.

Blindness is also overcome by keeping the plants on the bench longer after rooting at temperatures conducive to bud formation and development. We maintain a 55-60° F. night temperature and a 60-65° day temperature. Occasionally, lowering the temperatures after rooting may help bud development. In this respect you are probably duplicating the natural fall conditions.

Cuttings are stuck in a steamed mix of 1 part Canadian peat moss, 1 part loam soil and hypnum peat (50% soil-50% hypnum peat), and 1 part perlite. We add limestone and 0-20-0 before steaming. The plants are propagated in

2½-inch square peat pots or 3-inch square plastic pots.

To stimulate rooting, we use either a dip in a 2500 ppm solution of B-Nine or Rootone F.

Cuttings are placed under intermittent mist with just enough mist to keep the plants turgid. The cycle varies with weather conditions and is reduced as the plants become established. A light shade from saran cloth is provided the first couple of weeks.

Temperature of the rooting is maintained between 65 and 70° F. with air temperatures slightly lower but not below 60-62°. The plants are usually well rooted in 4 weeks.

We drench the rooting media with 4 oz. of Dexon and 2 oz. of Terraclor per 100 gallons of water. A drench of Benlate applied 10 days after sticking Truban has also provided good protection.

If we feel that there is not enough swelling and evidence of the presence of the bud, we hold the rooted cuttings in the greenhouse at a 56 to 60° F. night and a 60 to 65° day temperature until adequate sized buds develop.

Defoliation and Low Temperature

Through the years we have tried a number of treatments to encourage defoliation. They included rotting apples, the use of ethylene gas in chambers, and cold and dark treatments.

Last year we tried a 1% Bromodine¹ solution which was being used by some West Coast Nurseries for leaf drop on fruit trees. This worked fairly well when applied with a mist blower. When a hydraulic sprayer was used, the solution collected around the bud and caused some bud damage. Further research studies are needed as some of the current recommendations are not too practical for large scale operations.

After the plants are well rooted and budded, they are transferred to 40° F. in the dark. Plants are held for a minimum of 5 weeks before forcing. No doubt 45 to 50° also will work very well. We feel that cold and darkness are necessary to get the best bud development.

Forcing

After adequate low temperature treatment, the plants are placed on a partially shaded greenhouse bench and syringed at 55-60° F. They can take close spacing until the leaves begin to unfold and the roots become active. At this time they may be potted in the desired sizes -- two, three or four plants per pot. It is wise to match the plants, much as you would do with mum cuttings. We use the same soil mix for propagation and for forcing.

¹. Available from C & R Product Development Corp., 5405 NE 91st Street, Portland, Oregon 97220.

Adjustments have to be made for pink and blue blooms and we omit the limestone for the blues. We treat blue varieties during the summer months also.

From this time on, follow good cultural practices. The fresh new roots that form in the new soil as the plants grow will aid materially in providing that long shelf life we are looking for in hydrangeas.

Sample Schedules

Plant production

October 15 - cuttings stuck in 3-inch pots under intermittent mist.

November 15 - rooted plants moved to 60° F. greenhouse.

December 1 - temperature lowered to 50° F.

December 17 - plants misted with 1% solution of Bromodine.

December 21 - misting repeated using WEX as a wetting agent.

December 24 - leaves dropping.

December 28 - plants moved to 40° F. (dark) storage.
Plants were shaken to help remove leaves.

Elapsed time from sticking to storage ----- 73 days

Normal season growing (pinched) ----- 260 days

Forcing

February 15 - plants moved to greenhouse.

March 3 - (17 days) plants potted in 2's, 3's, 4's.

Decoration Day Flowering (Saleable in 100 days from start of forcing)

(Editors Note: With higher forcing temperatures, the plants would have flowered earlier.)

Plants started later require less time to flower

November 11 - cuttings stuck.

January 24 - plants moved to 40° F. (73 days from sticking to storage)

April 14 - plants moved to greenhouse.

June 11 - plants in bloom (60 days of forcing)

July 19 - Helen Cashman reported her plant was still presentable but showing some browning of the sepals.

Variety preference judged by our total sales

The varieties Rose Supreme, Merveille, Strafford and Todi account for over 80 percent of our hydrangea sales.

In closing I would repeat what was said over 50 years ago, the hydrangea can be a very serviceable plant and can again find widespread acceptance with a long life potential if properly handled. In the not too distant future there will be programmed hydrangeas for most seasons of the year. We have found good acceptance for a quality plant through the month of June.