

Hydrangeas

John Valk
Valk Greenhouses
Grimsby, Ontario

Starting Procedure

The forcing of hydrangeas for Easter and Mother's Day involves a number of important concerns, the first of which is the starting procedure. Hydrangeas are usually grown by someone else for approximately four months. Therefore, when you get them into your greenhouse, the first most advisable thing to do is to take a soil sample and send it to your local testing facility, for it is almost impossible to treat something properly if you do not know what you're starting with. In addition to a soil analysis, ask your salesman or the grower what has been done to the plants in terms of spraying, feeding, and application of growth retardants. Find out what kind of soil he uses, whether it is compost-based, or an artificial mix which would have to be monitored more closely.

After your plants arrive and while still in a completely dormant stage, introduce them into a house with a temperature of at least 60°F, possibly as warm as 66°. Do not bring hydrangeas on slowly by putting them into a house of 50° and bringing them up at a gradual rate. If you are thinking of repotting these plants into larger pots, now is the time to do it. At the time of repotting, it is advisable to "rough-up" the original soil ball slightly, and water thoroughly. If you have a plant with a natural soil base, the new media need be no more than

moistened peat moss.

Temperatures for Forcing

For Easter forcing, night temperatures should be maintained at 64° - 66°F, which will bring the plant to bloom in approximately 85 days. The 85th day should fall almost a week before Easter so you can bring the temperature down and harden the plant off. For Mother's Day forcing, you can shorten the time to flower by using day temperatures in the range of 70° - 75°F.

If you wish to ensure shorter growth on hydrangeas during the forcing period, plants can be sprayed with a 0.50 percent solution of B9 about two weeks after forcing starts, when four or five pairs of leaves are visible.

Fertilization

We normally do not start fertilizing hydrangeas until we see some vegetative growth on the plants, approximately two to three weeks after starting. In our case, however, we do not have to fertilize right away because we have a compost-based soil. When we do begin fertilizing, we normally feed a prepared triple 20 mix at the rate of 30 lbs per 1000 gals. on a constant fertilization basis. However, we do leach the hydrangeas with clean water every second or third week.

At approximately half way through the forcing period we change the fertilizer to a 15-30-15 mix to increase the potassium level, thereby helping to insure a brighter pink or red color. One word of caution: if you have to add iron to the red or pink varieties, we find there are

fewer problems with burning when using iron sulphate instead of iron shalate. Also try to keep the dosage of iron at a bare minimum, because an excess of iron has a tendency to give the flowers the same color.

The fertilization program for blue hydrangeas is somewhat different. When we fertilize blue hydrangeas, we usually feed a solution of 20-5-30. However, we change this to 25-0-25 just before and after we apply the aluminum sulphate, which is what makes the variety blue. If the hydrangeas have had aluminum sulphate applied in the field, there should be no problem in obtaining a true, clear blue. Use four applications of aluminum sulphate at the rate of 6 lbs. per 50 gallons of water. As an added note, try to obtain ground aluminum sulphate because it has a tendency to dissolve somewhat easier.

Varieties

We grow three varieties, two reds or dark pinks and one blue. The reds we grow are 'Todi' and 'Kastalin,' and the difference between these is that 'Todi' gives fewer breaks than 'Kastilin.' 'Todi' also has a larger flower, and has a tendency to be somewhat taller. 'Kastalin' is a prolific bloomer, with flowers that are somewhat smaller but very hardy. The 'Kastilin' flower can be pressed between your hands without damaging the bloom. It is also much more resistant to higher temperatures, which can be a problem in forcing hydrangeas for Mother's Day. Nor does it require as much staking as 'Todi'.

Last year we inadvertently sprayed some 'Kastalin' in the field with B9. This resulted in a somewhat dwarfed appearance when we brought them into the greenhouse. We did not sell these hydrangeas per bloom, but sold them per pot, the same way we would sell poinsettias. They required no staking and were very easy to handle. To our surprise, our "mistake" had considerable consumer appeal, and we have had requests for a similar product this coming season.

The only problem with 'Kastalin' is that it seems to be more susceptible to aphids in the greenhouse. However, this problem can be eliminated by a proper spraying program.

The blue variety we grow, called 'Matilda Guttgess,' is also a very prolific and hardy plant with the same sort of characteristics as 'Kastalin.' They are both Swiss varieties.

Problems

Problems with growing hydrangeas include insects, diseases, and improper handling. As far as insects are concerned, the most common problems are mites and aphids. In our experience, aphids have been the most prevalent. It is, therefore, imperative that you spray as early as possible and maintain your spraying program on a regular basis. Otherwise, you will definitely make a number-one plant unsaleable. Green aphids can be controlled by using Pirimor 50. Although the recommendations on the bag do not specifi-

cally include hydrangeas, we have used it without any damage and have obtained a good kill.

But if you plan to use this chemical, try a small amount on a few plants first to see if it works for you. This is a good practice to maintain with any chemical you are using for the first time. Please do not spray your entire crop of hydrangeas with Pirimor just because I say we have used it without any ill effects.

The two main diseases affecting hydrangeas are Botrytis and Powdery Mildew. Botrytis can be controlled by using Botran or Dithan 2-78, and I believe there are also some newer sprays on the market to alleviate this problem. Probably one of the best controls is making sure you provide continual air movement with ventilation fans.

Powdery Mildew can also be prevented by a number of recommended chemicals. Caution: If you use Benlate and spray early in the morning, you run the risk of burn damage if the sun comes out and you are not there to ventilate. In our opinion, it is advisable to do all spraying in the late afternoon and eliminate this unnecessary risk.

One of the chief causes of Powdery Mildew or Botrytis is overcrowding. Overcrowding will not only help spread these diseases, but can also cause stretch in your plants, thereby making them doubly unsaleable.

Another problem with hydrangeas is Chlorosis. Interveneal Chlorosis is usually caused by an interruption in the supply of iron to young, developing leaves, and may be due to poor aeration, cold soil, high salts, alkaline soil, or root injury from any number of causes. Plants frequently grow out of this condition, but the underlying cause should be sought and corrected. With the problem of chlorosis, regreening of the leaves can be hastened by one application of iron sulphate at the rate of 1 lb. to 1½ lbs. per 50 gallons of water.

Still another problem you may run into is that the plant has not had a proper dormancy period. This problem is easily recognized by the failure of flowers to develop properly, stems to elongate, or leaves to attain size. Such plants require higher temperatures, and remain dwarfed unless GA 3 (Gibberellic Acid) is applied. Lighting the plants at night will also help, and results are noticeable in three or four days.

At Easter time, and even more so for Mother's Day, you will find that hydrangeas wilt even though the soil ball is adequately moistened. It has been our experience that if you use a very fine spray (fogit nozzle) and soak the plants down, they may not recover immediately, but there should be no damage or burn to plants once they do recover from the wilting.

Equipment

Few growers produce hydrangeas in clay pots anymore; the majority are now grown in plastic for obvious reasons. It makes life a lot simpler because you can get away with watering every

other day, even on the brightest of days. In our opinion, the only way to water hydrangeas is with automatic watering, utilizing the spaghetti system in each pot. The main benefit of this is that you can wait until the hydrangeas are at the point where they definitely do need watering. This eliminates the need to water the plants a day earlier, which could possibly cause root damage, especially if you have watered a day earlier and the next few days are cloudy and cool.

With automatic watering, it is possible for one person to water up to 1,000 pots in five minutes. We find this rate of speed is necessary, because a plant may be perfectly all right at 11:00 a.m., but in need of water within half an hour. This is especially true on those sharp February or March mornings.

If you have gone to the expense of installing a spaghetti watering system, it certainly makes sense to combine that with a watering programmer. This leaves you free to perform other tasks while you are watering.

Additional equipment now available which, believe, will be of great benefit to hydrangea growers, are retractable combination shading and heat retention systems.