



## Flowering Hydrangeas for Spring Sales Forcing Remontant Selections

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**Nature of Work:** Blooming hydrangeas attract a lot of attention from gardening consumers. If nurseries could easily force plants into bloom and have them available by April 15 in Georgia, sales could be greatly increased. A great potential exists for the sales of blooming hydrangeas in northern markets. Little or no forcing would be necessary to offer blooming plants at their average frost free date. The objective is to determine how early, plants would need to be brought into a heated greenhouse and determine other factors that would affect their production.

The remontant hydrangeas bloom two weeks earlier than the average garden hydrangea. This early flowering character combined with the promise of re-blooming in late summer and fall, create a great opportunity to greatly influence hydrangea sales.

Three gallon 'David Ramsey', 'Endless Summer', 'Penny Mac' and 'Charm Red' *Hydrangea macrophylla* cultivars were moved into a heated greenhouse on January 9, January 22, February 6 and February 20, 2003 (dates are two weeks apart). Plants were cut back to eight inches and top dressed with Scotts 17-3-6 (three months slow release) at 70g / 3gal container. The minimum temperature was maintained at 55°F and doors were open to vent when inside temperatures exceeded 75°F. All cultivars except 'Charm Red' were remontant. Six single plant replicates were included for each treatment.

Data collected included the weeks until first flower buds were visible, weeks until first flower buds were 3/4 inch and weeks until first color. Also collected were number of flower buds at 10 weeks, plant height, average stem length (five random stems measured from the initial bud) and number of nodes until terminal flower development.

**Results and Discussion:** The summary of the time required to reach first flower color is shown in Figure 1. The January 9 treatment required 12-13 weeks for the remontant bloomers to show color while Charm Red required 14 weeks. The January 22 treatment required 10-12 weeks for the remontant bloomers to show color while 'Charm Red' required slightly more than 12 weeks. The February 6 treatment required slightly less than 10 weeks for the remontant bloomers to show color while 'Charm Red' required 11 weeks. The February 20 treatment required 9-10 weeks for all cultivars to show color. The February 20 treatments were not very uniform in their response.

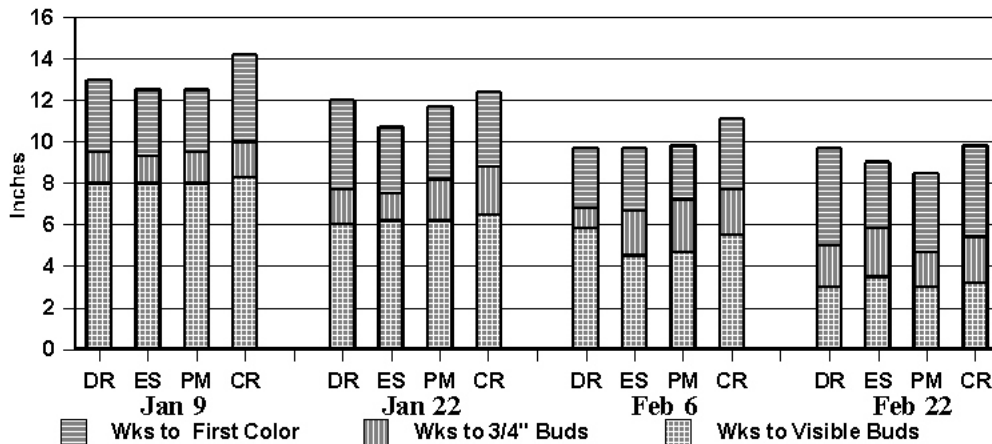
The later treatments reached the same stage of flower development in much less time. This response is due to higher temperatures in the greenhouse later in the spring and possibly due to the increased number of chilling hours accumulated before the plants were brought into the house.

The average number of flower buds per treatment (Figure 2) was 15-19 except for ‘Charm Red’ with the January 9 and February 6 treatments, and for most cultivars with the February 20 treatment. The average stem length increased from the January 9 treatment to the tallest February 20 treatment (Figure 3). The January 9 treatment seemed to have completed most of its internode elongation before daytime heating in the greenhouse became an issue. As the season progressed, the stem length continued to increase as well as the size of the plants. The later treatments with their greater stem lengths would dictate the need to control stem elongation and plant height. A plant growth regulator or other means would be necessary. The stems on late season treatments were unable to support the flower heads with heavy rain. The number of nodes from the initial bud until inflorescence development averaged six across all cultivars.

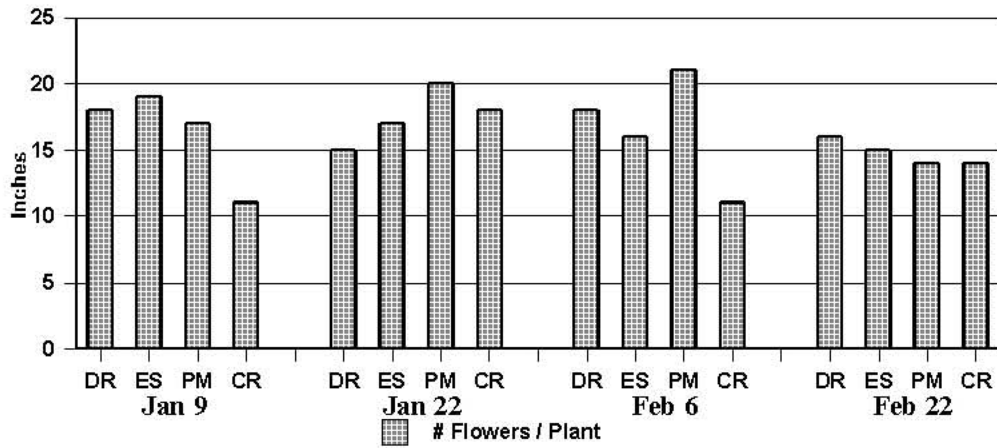
**Significance to the Industry:** Forcing the remontant hydrangeas into early flowering can be achieved. In about 10 weeks the flowers can be showing first color. Growth regulators will need to be applied to control stem elongation. They should improve leaf color and perhaps improve flower bud numbers. Plants brought inside in early February can be heavily budded and beginning to show flower color by April 15. Nurseries could be selling flowering hydrangeas when customers are shopping the garden centers for spring plants.

Southern nurseries could be selling flowering hydrangeas to northern garden centers without much extra forcing heat. Selling remontant types would insure the hydrangeas would flower even when completely killed to the ground in northern markets.

**Figure 1. Number of weeks from forcing start to first flower color.**



**Figure 2. Average number of flower buds per plant at ten weeks.**



**Figure 3. Average stem length at nine weeks.**

