

# Variety and Timing Experiments with Hardy Mum Pot Plants for Mother's Day\*

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Preliminary trials in 1949 (1) showed that hardy mums could be forced as a Mother's Day pot plant. During the spring season of 1950, twenty-six hardies were used to determine the best varieties and the best treatments for obtaining plants with sales appeal.

Most varieties made ideal pot plants for Mother's Day when given 50 short days followed by 12 long days and then short days to bloom. The tops of the plants averaged about 14 inches above the rim of the pot and displayed many open flowers on elongated pedicels.

The varieties which look promising for this type of forcing are Chris Columbus, Allegro, Mrs. DuPont, Apricot Glow, Lavender Lady, Heather Bloom, and Early Gold. A few of these varieties are shown in Figure 1.

## Treatments tried in 1950

Irregularities of arrival time of the cuttings made it necessary to plant them on March 2, 7, and 9. The same number of days from planting, pinching, and so forth was followed in each case. In order to simplify these schedules the dates of planting, pinching, flowering, and so forth have been calculated back as though all the varieties were planted on March 1 as was originally planned. Rooted cuttings were potted three in a six inch pan on March 1 (calculated date). All plants were placed under long day conditions (lights) until March 6, the lights were then turned off until the schedule (below) called for long days. All plants were pinched on March 21. The following are the four treatments tried:

1. Short days from March 6 until April 14, followed by long days until bloom (lights from April 14 to April 26).

\* The author wishes to express his appreciation to Dr. Kenneth Post for his suggestions in carrying out the project and to Mr. F. F. Horton and his staff for taking care of the plants. The cuttings were donated by Lehman Bros., Inc., Faribault, Minn.; Bristol Nurseries, Bristol, Conn.; and Neal Bros., Inc., Toledo, Ohio.

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2. Short days from March 6 until April 14, followed by long days (lights) to April 26. After April 26 the plants were placed under short day conditions until bloom. (This treatment was the schedule recommended for 1950 (1).)
3. Short days from March 6 to March 21 (date of pinch) followed by long days (lights) to April 1. These plants were kept under short days after April 1 until they bloomed.
4. Short days from March 6 until April 28, followed by long days (normal day length) until May 10. After May 10, the plants were placed under short day conditions (black cloth).

When long days were required before April 25, supplementary lights were used. Sixty-watt bulbs spaced 5 feet apart and placed 3 feet above the plants gave the required light intensity. The lights were on from 10 p.m. to 2 a.m. each night. No lights were necessary after April 25 as the days were normally long enough to prevent buds from forming. Short days after April 15 were produced by covering the plants with black cloth from 5 p.m. to 8 a.m. each day. The days before April 15 are short enough for bud initiation so that no black cloth is required to produce short days. (The daylength after April 1, however, is not short enough for bud development; therefore, in order to be safe, black cloth can be used after April 1 to give the required short day effect.) The night temperature was always maintained at a minimum of 60°F.

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Plants grown three to a 5-inch pan and given short days from March 6 until April 28, followed by long days (normal day length) until May 10. After May 10, the plants were placed under short day conditions (black cloth). (Treatment 4.)

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Karl A. Reich -- Dead flowers from spring bloom persist through the fall bloom. They are best removed.

The varieties used in this test were Pink Radiance, Lavender Lady, Karl A. Reich, Eugene Wonder, Magnolia, Pepita, Fairbow, Lavender Lassie, September Dawn, Paper White, Maroon 'n' Gold, Yellow Avalanche, Apricot Glow, My Lady, Pigmy Rose, Heather Bloom, Early Gold, September Cheer, Allegro, Chris Columbus, Mrs. DuPont, Jewell, White Wonder, Early Wonder, Ruby Pompon, and Gold Lode. Five pans of each variety were used in each treatment.

#### Results in 1950

The plants which were given 50 short days and then followed by 12 long days (treatment 4) produced the earliest bloom and the best shaped plants. Seventeen of the varieties were in full bloom or had about five flowers fully open by May 14 (calculated date). These varieties were Ruby Pompon, Early Wonder, Mrs. DuPont, Chris Columbus, Allegro, Early Gold, Heather Bloom, Apricot Glow, Yellow Avalanche, Maroon 'n' Gold, Paper White, Lavender Lassie, Pepita, Magnolia, Karl A. Reich, Lavender Lady and Pink Radiance. Not all of these, however, displayed good color because there was a lack of color formation of the bronze and dark pink flowers. The whites and yellows made the best show.

The heights of the plants in this treatment ranged from 10 to 18 inches above the rim of the pot. The flowers were spaced uniformly over the tops of the plants. The long days given from April 28 to May 10 produced long pedicels, which gave the plant a bushy top (Figure 1). The flowers were large and the white, yellow and light pink flowers were of good quality. The bronze and dark pink failed to develop proper color.

The plants given 39 short days, followed with long days until bloom (treatment 1) flowered about two weeks later than did the best treatment (treatment 4). Some of the buds which initiated under short day conditions never developed after they were placed under long days. Undoubtedly, the short day period was not long enough to allow for complete bud development. All the plants in this treatment were about 2 inches taller than those of the best treatment (treatment 4).

The plants which had 39 short days, followed by 12 long days, and then allowed to flower under short days (treatment 2) matured about 8 days later than treatment 4. The plants were about 2 inches taller on the average than those of the best treatment and the pedicels on some of the plants were unusually long making those plants leggy.

Those plants given 15 short days, followed by 12 long days, and then kept under short day conditions until bloom (treatment 3) bloomed only about 5 days behind those in the best treatment (treatment 4). These plants also appeared leggy and were the least desirable plants from any of the treatments tried.

#### Summary

1. Twenty-six hardy mum varieties were forced for Mother's Day.
2. The treatment giving the most desirable pot plants was 50 short days followed by 12 long days, which in turn was followed by continuous short days to bloom (treatment 4).
3. The best varieties were Chris Columbus, Allegro, Mrs. DuPont, Apricot Glow, Lavender Lady, Heather Bloom, and Early Gold.
4. Bronze and dark pink varieties failed to produce intense coloration under the high temperature conditions of early May.

#### The Fall Crop

The fall bloom from these same plants was even more showy than from plants not bloomed in spring. In 1949 all plants were cut to the ground when they were planted in the field after blooming.

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In 1950, all plants were planted to the field in full bloom and no buds removed. They gave some color during the first month after planting (June). During the following month they did not make a presentable showing. Other plantings from which the flower heads were removed (no foliage cut) were more presentable.

Fall bloom on both lots was very good. The old flower stems branched from below the spring flower buds and developed large sprays. The development of the fall bloom was superior to plants cut back in the previous year.

You can recommend that customers remove the flower heads when they start to fade, but don't cut the old stems to the ground. Staking will be necessary but the showing is doubtless worth it.