

Scheduling Cut Mums in the 80's

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There is nothing mysterious about scheduling mums. In fact, if you know the response of your variety, the mum sets its own schedule.

Being photo periodic, the mum sets bud when it receives short day treatment - a maximum of 12 hours of light per day.

Assuming you are working with a 9 week variety such as the Marbles, you will be able to cut the crop 9 weeks from the time you start the short day treatment.

PROBLEMS IN SCHEDULING

I'd like to tell you about some of the problems encountered when scheduling cut mums. Some circumstances can change the response of a mum and throw your scheduling off by days or weeks.

Prolonged temperatures of over 80°F or 30°C will induce heat stall, particularly noticeable this summer on Marbles and Polaris. Heat delay results when day and night temperatures average over 80°F. The most critical stage is bud set and early development.

During a period of high temperature there is not much you can do to lower temperatures in your greenhouse, but you might try some of the following approaches.

1. Variety selection - use Superstar instead of Marbles or Celebration for Florida Marble.
2. Use the shortest crop time you can for plants flowering from late July to September.

You do this for two reasons:

1. Temperature effects accumulate in the plant. Crops with fewer long days are affected less.
2. Short crops leave more air space under the shade cloth. Buds should be 18-24" under the

cloth to keep away from heat pockets under the close.

Don't pull shade cloths until 7-8 p.m., remove at 10 p.m., and re-cover later if you have automatic shading.

Constant temperatures below 60°F or 15°C may result in delay during the winter months in varieties such as Iceflo or Iceberg in early spring flowerings. The Efford Horticulture Station in England has been working on cool temperature schedules for a few years now. In Leamington this winter, we grew our sprays under a modified Efford Regime. The Efford Regime works under the principle that mums can withstand cool temperatures for short periods without changing their response. For two hours each night, we dropped the greenhouse temperatures to 50°, then one night per week we dropped them to 40°. We were working with a large selection of varieties to see how they responded - how the schedule changed and if the quality was affected. We should have some interesting results to talk about. The response of a variety is also affected by the amount and type of fertilizer used at bud set time. Ammonia based fertilizer used under cool dark weather conditions will tend to keep some varieties too vegetative at bud set time. Varieties like Polaris can be slow to set bud during the winter months, and consequently flower more slowly than their normal 9 week response.

Improper shading or lighting can also affect your schedule. When lighting your crop, if the foot candles are less than 10, premature bud set will take place, so your crop will flower earlier and will be much shorter than anticipated. When shading is required, be sure no light leaks occur. Carefully overlap your cloth or plastic and be sure the ends are closed tightly. Shading is required 7 days a week; mums don't recognize weekends. If you choose not to shade on the weekends, keep in mind that your crop is not going to respond as quickly as it should. Also, old plastic or cloth may be letting in more light than you think — so check your shade cloth early in the season.

One further item to keep in mind when scheduling is the long day period. Too few days of long day treatment will result in short, clubby sprays or standards. With too many days, varieties like Polaris, the Belairs, Tantalizer, the Divinities and the Superstars will be overgrown. Compounding of the spray formation can also result in a slower maturing crop.

While we are on the topic of scheduling, you might want to consider gibberellic acid; many growers used the May Shoesmith family this past winter. You can cut the lighting time by one week and shorten your schedule by applying a 10 ppm solution two weeks after planting, and again 2 weeks later. Spray till run-off over the top 6-8'' on the plant. You might also try this on some of the spray varieties that tend to be short or clubby under your present schedule.

Yoder's is constantly introducing new varieties to help you increase your production and shorten your crop time. In May of 1980, the Superstars were introduced. Some of you are looking at this family and encountering some problems in scheduling it. The Superstars are 8 week white and yellow daisies that can be flowered year round. This is, to date, the fastest responding variety of sprays that Yoder's has introduced. The Superstars are unique in a number of ways. In our Leamington trials this summer, we cut Superstars 39'' in height, with 4 long days prior to shading. What is even more amazing is that the Marbles on that same bench flowered 4 weeks later.

It is possible to flower 5 crops of Superstars a year. Too many long days for this variety will result in sloppy growth and compound sprays. Also, the Superstars do not have a classic clean daisy like the Marbles.

The flowers are larger and have more petals. This variety has to be cut on the green side. It has an excellent shelf life if it is cut early, but if you leave it on the bench even 1-2 days too long, it will be over ripe and become unattractive.

Because the variety has large flowers and responds so quickly, some growers are removing the centre bud from each of the laterals as well as the terminal bud. This helps to open the spray formation, increases the blooms per stem, and cuts the size of the flower down. Try it both ways in your program and see how it works for you. As a pink companion, use Charisma in the winter months and Citation in the summer. Amber times closely to the Superstars but will be shorter because it lacks the vigor and requires more long days to achieve the height of the Superstars.

Don't look at the Superstars as daisies to grow only in the winter; try them next summer to get out of your stall problems with the Marbles. It is an excellent addition to any schedule for the 80's.

Adapted from a speech presented at the 1980 Canadian Greenhouse Growers Conference. The 1981 Conference will again be held at Guelph on November 6 & 7.

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