

# GROWERTALKS

## Columns

5/24/2013

### The Doctor Is In!—Prevent Premature Budding with Florel

*Dr. Royal Heins*



Garden mum season is upon us, and at the start of mum season, there's always the risk of early flower bud or crown budding of plants. Early flower bud set in garden mums is especially problematic during the month of June for plants growing in larger pots, like 8 in. and larger. When early budding occurs, plants fail to size up properly and they flower much earlier than scheduled (Figure 1).

So what triggers flowering in the garden mum? The answer is simple—short photoperiods combined with moderate temperatures. If the days are long, or if the temperature is high, flowering is delayed.

There's another component to early flowering in garden mums other than photoperiod and temperature. It's the concept of long-day leaf number. In all chrysanthemums—garden, florist or cut flower cultivars—plants will eventually initiate a terminal flower bud, even under long days. The number of leaves that the plant will produce before this flower bud forms is a function of these factors: actual day length, temperature, light intensity and cultivar. The long-day leaf number for a cultivar decreases (meaning earlier flower bud set) with shorter day length, as temperature (especially at night) decreases and light intensity increases. If the premature flower-bud set occurs too early in the crop and warm/hot temperatures are slow to arrive to cause the plant to re-vegetate, plants will never size properly.

So what should be done to prevent this? In certain years where temperatures fail to warm up in early June and plants must go outside, another strategy is needed. And the solution is Florel.

Consider the following guidelines when using Florel on garden mums to prevent premature flower bud set:

- 1| For most situations, 500 ppm is an appropriate rate to use. Adjust spray water pH to pH 5.0 before adding the Florel stock solution.
- 2| Apply the first Florel application about 10 to 12 days after sticking of cuttings when plants have rooted.
- 3| Repeat 7 to 14 days after pinch. Earlier applications at 7 days after pinch are more important when plants are exposed to cool night temperatures (less than 68F/20C) following pinching.

Repeat Florel applications every two weeks thereafter until one week before the start of short days for short-day (blackout) plants. The number of applications will depend on the pot size and desired vegetative growth period. Typically a 6-in. crop will only receive one application before pinch, an 8-in. crop will receive two applications—one before pinch and one after pinch—while 10-in. or larger pot sizes will receive the application before pinch and two applications after pinch.

For normal-day plants, make the last application 8 weeks before desired ship date for crops that are scheduled to ship by about September 21. For crops finishing later, make the last application about 9 weeks before desired shipping as crop development slows as night temperature decreases in late September and early October.

Figures 2 and 3 show a comparison of a natural-day garden mum crop grown without and with Florel applications. The plants receiving Florel were sprayed June 12, June 25 and July 9 (Weeks 24, 26 and 28) with the photos taken August 27 (Week 35). Note the uniformity in flowering following the Florel applications compared to the plants that weren't sprayed. Also note that the plants are just starting to crack color 7 weeks after application, showing that plants will be in flower 8 weeks after the last application.

While these guidelines have been used to successfully flower millions of garden mums, a trial application is suggested on part of a crop if you haven't previously used Florel on garden mums to be certain the response you observe is what you desire. **GT**

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