BALLTECH ON DEMAND™

CROWN BUDDING MUMS

Crown budding is the response to incomplete flower initiation due to marginal or incomplete induction conditions. Mums are 'thermo-periodic' which means that flower initiation occurs when the ***temperature and photoperiod*** are optimized. Crown buds form when the induction treatment is too short to complete initiation. Garden mum crown budding is easy to understand and control if you understand what triggers flower initiation.

- When night temperatures are between 18-27C (65-82F), plants are induced to flower by short days. This is the classic response seen in pot and cut mums.
- Night temperatures <18C (65F) can induce plants even under long days while temperatures above 27C (82F) inhibit flowering even under short days. This is the response in early spring due to cold nights and 'heat-delay' under short day treatments in July-September.
- Garden mums are 5-7 week response groups which makes them VERY sensitive to temperature.

North American stock plants are primarily grown in FL where URC harvested prior to June may experience several <18C (65F) night temperatures during March-April. When the URC are harvested from more mature stock, then the incidence of crown budding can be more severe. The URC harvested after mid-May experience night temperatures >18C (65F) and crown budding is seldom observed. Random crown budding occurs due to the variability from season to season coupled with stock maturity.

When finished growers root the URC without heat and the night temperatures are <18C (65F), then crown budding can occur regardless of long day conditions. It is critical that rooting occurs at 20-24C (68-76C) night temperatures + long days to minimize induction – this is especially critical for pre-June rooting periods! Aggressively fertilizing the liners is essential to keeping the plants growing vegetatively when conditions are optimum for crown budding to occur. Application of Florel (Ethrel) can inhibit crown budding if applied BEFORE crown buds are visible.

Once the liners are transplanted, feed aggressively, minimizing high soil EC conditions. Use 20-20-20 or 20-10-20 which are less salty than a high nitrate-based fertilizer. Avoid moving outside when the night temperatures are <15C (60F) for several days since this will promote crown budding in the spring when the photoperiods are still marginally long. If crown buds appear after transplant, don't despair! The newer varieties have vigorous basal branching which will over-grow the crown buds if the plants are aggressively fertilized.

The period from July 20- Aug 5 is critical as hot nights prior to and during this period will result in big plants and delayed flowering. Conversely, several cool nights in this same period can result in crown budding, small plants and early flowering. The more <18C (65F) nights in the July 20-Aug 5, the more crown budding and smaller the plants due to rapid flowering.

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