

#### What Pot Mum Does Your Customer Want?

This question should be answered before deciding on which bud removal treatment(s) to use for your pot mum crops. The North American pot mum market is accustomed to **spray mums**, with many flowers per stem, and to a lesser extent, **disbuds** with a single large flower per stem.

There is a demand for both types in today's market. Growers must know their markets and the preferred type(s). Some consumers like pot mums with single, large daisy or decorative flowers on each stem. If your market serves such consumers, you should consider providing this type, if the market will pay for the extra cost of disbudding.

The type of bud removal treatment determines pot mum appearance; disbuds are obtained with the disbudding treatment. Sprays are obtained with center bud removal, multiple bud removal or zero bud removal treatments.

#### Changing Times Change Practices

Over time, we have seen a major shift in the types of bud removal treatments. Initially, the majority of pot mums were produced as disbuds, followed by an increasing percentage as spray pots, which is the primary form in today's market. Part of this change has been driven by new varieties that look best as spray pots but also by labor costs, since disbuds require more labor than spray pots.

There has always been pressure in some market segments to provide pot mums at lower cost. In today's economy, there is intense pressure to do so. Since the type of bud removal treatment affects

the production cost, many growers are using the zero bud removal treatment to save labor costs.

#### Bud Removal Treatments

There are four types of bud removal treatments that can be practiced on pot mums today. **Proper variety selection and correct timing, and the type of bud removal treatment used are important, or finished quality is diminished.**

#### Disbudding (DB)

Disbudding is the removal of all lateral buds so only the terminal bud is allowed to remain and develop on each stem. Disbudding is done to improve the size and quality of the flower. It should be done as soon as the lateral buds can be handled. The buds should be "rolled out" as close to the stem as possible. Late disbudding reduces flower size, slows down the crop and may lessen the intensity of flower color.

#### Center Bud Removal (CBR)

Center bud removal is the opposite of disbudding. CBR removes the terminal flower bud from each stem allowing the lateral bud to develop. This is done as soon as the terminal bud has separated from the uppermost lateral buds.

CBR improves flower placement and minimizes clubby spray formations. Late CBR may delay the crop, diminish flower color and size and create clubbier spray formations.

#### Multiple Bud Removal (MBR)

Multiple bud removal is actually a second pinch. It is done approximately 2½ to 3 weeks after the first pinch when you can first feel the buds, but not yet see them. There should be 4 to 6 new leaves on the breaks from the first pinch.

A soft pinch (approximately ¼") is then given. MBR can create fuller and showier plants than CBR. It also opens up spray formations on varieties inclined to be clubby with CBR. MBR usually reduces the need for one B-Nine application.

#### Zero Bud Removal (ZBR)

Zero bud removal, as the name indicates, consists of doing nothing. Remove no buds at all.

In general, varieties that are suited for CBR or MBR can also be treated with ZBR. Suitability of DB varieties for ZBR varies by variety. These are shown with an asterisk after the name in the chart on the back.

With ZBR, some varieties may become slightly taller since all bud growth is allowed to develop, especially on crops planted from early spring to midsummer, when production environments are conducive to vigorous growth.

A delayed pinch (pinching plants 3 to 7 days after the beginning of short days) can help control the extra vigor that is experienced at this time of year. An extra growth regulator application may also be needed. ZBR does produce less intensity to flower color than CBR on certain varieties, especially pink, purple, bronze and red varieties, which is usually over ridden by eliminating the labor cost of removing the center bud on all breaks.

**ZBR use in North America is not an entirely new concept since growers have found ZBR quite suitable for 5" bulb pan production of Fleurettes, which were introduced to the marketplace in 1990.** North American growers now have a keen interest in pot mum varieties suitable for ZBR to reduce production costs for certain markets.



Fire Island grown as a disbud (left) and as ZBR (right)

## Suggested Pot Mum Varieties for Spray Pots using CBR or ZBR Bud Removal Treatments

\*=also suitable for DB

### WHITE

Blush White\*  
Brunswick  
Gainesville  
Graceland White\*  
Juneau  
Olympia\*  
Ottawa\*  
Petaluma White  
Saskatoon White  
Shasta Improved  
Surf\*  
Vail\*  
Vancouver White\*

### YELLOW / GOLD

Bloomfield Yellow\*  
Blush Sunny\*  
Blush Yellow\*  
Brighton  
Butterfield  
Chesapeake\*  
Covington\*  
Dazzling New York  
Durango Yellow\*  
Golden Emporia  
Golden Pueblo  
Graceland Yellow\*  
Hollister  
Honey Durango\*  
Irvine Yellow  
Key Largo  
Kingsville\*  
Lemon Springs  
Providence\*

### PINK / LAVENDER

Apple Valley\*  
Blush Dark Pink\*  
Blush Pink\*  
Bold New York  
Dark Chatham  
Dark Pomona\*  
Dark Roanoke  
Deep Presidio\*  
Essex\*  
Graceland Pink\*  
Hilo Mango  
Irvine Regal  
Jamestown  
Jamestown Regal  
Lake Placid  
Lansing Regal\*  
LaPorte Improved\*  
Little Rock  
Lompoc  
New York  
Pittsburgh Purple\*  
Purple Springs  
Roanoke  
Rockport  
Rose Springs  
Sonoma  
Somona Pink Improved  
Spirit Lake

### CORAL / SALMON

Blush Apricot  
Graceland Coral\*  
Irvine Currant  
Vineland\*

### ORANGE / BRONZE

Auburn  
Blush Orange  
Chatham Orange  
Cinnamon Pueblo  
Durango Bronze Improved\*  
Emporia Orange  
Grand Rapids  
Irvine Dark Bronze  
Pelee\*  
Pueblo  
Reno  
San Francisco Bronze Bicolor\*

### RED

Auburn Red  
Baton Rouge  
China Doll  
Encino  
Fire Island\*  
Hudson Bay  
Irvine Red  
Point Pelee  
Red Springs  
Santa Cruz  
Sonoma Red  
Tobago

### Green

Green Valley

### Fleurettes

Adelle (White)  
Chantal Hot Red  
Dark Cherie (Pink)  
Fifi Hot Pink  
Lisette (Yellow)  
Lucienne Yellow  
Mistique Currant (Coral/Salmon)  
Sabine Bronze  
Sylvie White Improved

### Notes

1. All Fleurettes varieties are suggested for ZBR.
2. For varieties suggested for more than one type of bud removal treatment, flowering response will be fastest with DB pots. CBR/MBR treatments will be 5 to 7 days slower. ZBR response is in between that of DB and CBR/MBR.
3. Consult GLplants.com for recommended bud removal treatments for varieties not listed here.
4. All listed here are suitable for fall flowering. Refer to the "Pot Mum Variety Selector" for any other recommended flowering periods in your region.



**Green Leaf Plants®**  
A Division of Aris Horticulture, Inc.  
2369 Old Philadelphia Pike  
Lancaster, PA 17602  
p: 800.321.9573 / 717.299.0300  
f: 717.299.7162  
w: GLplants.com

Prepared by  
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