

## BONZI PLANT GROWTH REGULATOR DRENCH GUIDE

A Bonzi<sup>®</sup> plant growth regulator (PGR) drench is an excellent height management tool. Bonzi drenches should be applied 3 to 4 weeks before finishing to minimize undesired stem elongation.

A Bonzi holding drench 7 to 10 days before shipping to retail provides benefits of **reduced water uptake, brighter flowers** and **improved foliar tone** during the post-production retail stage. Stretches of cold, rainy weather or abnormally warm night temperatures are usually the conditions requiring application of a holding drench. Maintaining quality bedding plants past their scheduled finish date with a Bonzi holding drench may supplement an earlier drench if unfavorable weather results in delayed retail sales or causes undesirable stretch. Holding drench concentrations are typically similar to the drench concentration used in early production.

Bonzi drenches can also be applied several times at lesser concentrations during the later stages of the crop. These “toning” drenches are typically one half to one quarter the concentration of the holding drench and should be applied when growers want to manage growth week by week, rather than one strong dose to hold the crop. A toning drench is just enough to barely slow growth and cause slightly darker foliage. Because of the lower rate, the duration of effect will also be less with a toning drench.

There are several considerations when planning Bonzi drenches.

- There are significant plant vigor differences between species. See *Tables 1 and 2* for drench concentrations based on average daily temperature in northern vs. southern locations.
- Within a species, there can be significant plant vigor differences (i.e., calibrachoa, petunia, verbena, etc.). For example, Ramblin<sup>™</sup> petunias require higher concentrations of Bonzi than Bravo<sup>™</sup> petunias. It is best to treat a small subset of the crop before treating the entire plot if you have concerns about specific crops.
- Younger, smaller plants of the same species will be controlled differently than older, larger plants even though drench volume and pot size remains the same.

**Callie<sup>®</sup> Scarlet calibrachoa baskets treated with Bonzi drenches**



Control

Bonzi 1 ppm

Bonzi 2 ppm

**TABLE 1. RECOMMENDED BONZI PGR DRENCH CONCENTRATIONS FOR VEGETATIVE CROPS\***

| <b>Crop Species and Series</b>                                                                                                                                             | <b>Northern Location = moderate – warm climate with the low concentration for cool (ADT &gt;65°F)</b> | <b>Southern Location = hot and humid climate (ADT &gt; 75 – 80°F)</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Gypsy® Achillea                                                                                                                                                            | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Patina™ Ageratum                                                                                                                                                           | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Sassy® Argyranthemum                                                                                                                                                       | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Calypso™ Bacopa (Sutera)                                                                                                                                                   | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Mexican Gold™ Bidens                                                                                                                                                       | 0.25 – 0.5 ppm                                                                                        | 0.5 – 1 ppm                                                           |
| Strawburst™ Bracteantha                                                                                                                                                    | 1 – 2 ppm                                                                                             | 2 – 2.5 ppm                                                           |
| Callie® Calibrachoa                                                                                                                                                        | 1 – 3 ppm                                                                                             | 2 – 4 ppm                                                             |
| Corey™ Coreopsis                                                                                                                                                           | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Cuphoric™ Cuphea                                                                                                                                                           | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Darla® Diascia                                                                                                                                                             | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Mezoo™ Dorotheanthus                                                                                                                                                       | 0.5 ppm                                                                                               | 1 – 1.5 ppm                                                           |
| Euphoric™ Euphorbia                                                                                                                                                        | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Sunrita™ Gaillardia                                                                                                                                                        | 3 – 4 ppm                                                                                             | 4 – 5 ppm                                                             |
| Vegetative Geranium – vigorous geranium series (Calliope®, Cascade™, Blizzard™, vigorous ivies, Rocky Mountain™, Americana®) (NOT on Caliente® or compact zonal varieties) | 0.1 – 0.2 ppm                                                                                         | 0.2 – 0.3 ppm                                                         |
| Scentropia™ Heliotrope                                                                                                                                                     | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Butterfly®, Silhouette®, Spellbound® Impatiens                                                                                                                             | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Sidekick™ Ipomoea                                                                                                                                                          | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Bandana® Lantana                                                                                                                                                           | 1.5 – 2 ppm                                                                                           | 2 – 3 ppm                                                             |
| Techno® Lobelia                                                                                                                                                            | 1 – 1.5 ppm                                                                                           | 1.5 – 2 ppm                                                           |
| Confection™ Nemesia                                                                                                                                                        | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Sonic®, Super Sonic® New Guinea Impatiens                                                                                                                                  | 0.25 ppm                                                                                              | 0.5 ppm                                                               |
| Tradewinds® Osteospermum                                                                                                                                                   | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Phoenix™ Penstemon                                                                                                                                                         | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Sanguna® Petunia                                                                                                                                                           | 2 – 3 ppm                                                                                             | 3 – 4 ppm                                                             |
| Whispers™ Petunia                                                                                                                                                          | 2 – 3 ppm                                                                                             | 3 – 4 ppm                                                             |
| Picnic™ Petunia                                                                                                                                                            | 1 – 1.5 ppm                                                                                           | 1.5 – 2 ppm                                                           |
| Velocity™ Salvia                                                                                                                                                           | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Oceana® Salvia patens                                                                                                                                                      | 2 – 3 ppm                                                                                             | 3 – 3.5 ppm                                                           |
| Cuzco® Sanvitalia                                                                                                                                                          | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Bombay® Scaevola                                                                                                                                                           | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |
| Lanai® Verbena                                                                                                                                                             | 2 – 3 ppm                                                                                             | 3 – 4 ppm                                                             |
| Magelana™ Verbena                                                                                                                                                          | 0.5 – 1 ppm                                                                                           | 1 – 1.5 ppm                                                           |

\* Based on average daily temperature

**TABLE 2. RECOMMENDED BONZI PGR DRENCH CONCENTRATIONS FOR SEED CROPS\***

| <b>Crop Species and Series</b>                       | <b>Northern Location = moderate – warm climate with the low concentration for cool (ADT &gt;65°F)</b> | <b>Southern Location = hot and humid climate (ADT &gt; 75 – 80°F)</b> |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| Tycoon™ Ageratum                                     | 0.25 – 0.5 ppm                                                                                        | 0.5 – 1 ppm                                                           |
| Origami™ Aquilegia                                   | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Sparkler™ Cleome                                     | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Barbarini® Dianthus barbatus                         | 2 – 3 ppm                                                                                             | 3 – 4 ppm                                                             |
| Diabunda™ Dianthus chinensis                         | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Camelot™ Digitalis                                   | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Prairie Splendor™ Echinacea                          | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Kiss™ Gazania                                        | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Xtreme™ Impatiens                                    | 0.125 – 0.25 ppm                                                                                      | 0.25 – 0.5 ppm                                                        |
| Accent™/Tumbler™ Impatiens                           | 0.25 – 0.5 ppm                                                                                        | 0.5 – 1 ppm                                                           |
| Starshine™ Laurentia                                 | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Inca II™, Moonstruck®, Moonsong®<br>African Marigold | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Asti™ Osteospermum                                   | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Delta™, Karma™ Pansy                                 | 0.25 – 0.5 ppm                                                                                        | 0.5 – 1 ppm                                                           |
| Colossus™, Mammoth® Pansy                            | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Bravo™, Hurrah™, Ultra™ Petunia                      | 1 – 2 ppm                                                                                             | 1 – 2 ppm                                                             |
| Plush®, Ramblin'™ Petunia                            | 2 – 3 ppm                                                                                             | 3 – 4 ppm                                                             |
| TigerEye Redbeckia                                   | 0.25 – 0.5 ppm                                                                                        | 0.5 – 1 ppm                                                           |
| Salsa™ Salvia splendens                              | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Montego™ Snapdragon                                  | 0.5 – 1 ppm                                                                                           | 1 – 2 ppm                                                             |
| Arrow™, Liberty Classic™ Snapdragon                  | 1 – 2 ppm                                                                                             | 2 – 3 ppm                                                             |
| Magellan™ Zinnia                                     | 0.25 – 0.5 ppm                                                                                        | 0.5 – 1 ppm                                                           |

\* Based on average daily temperature

In addition to the appropriate concentration, plants must be in the right state of growth for height management. Bonzi should only be applied if the root system is healthy with active roots for proper absorption. Root conditions should be evaluated prior to application.

It is always important to water plants the day before application so the drench is absorbed evenly. The growing medium should be moist (approximately level 3) before application, and moisture levels should be similar from pot to pot within the crop block. Under these

conditions, the response will be more predictable with minimal channeling.

Uniform application is critical to achieving consistent results. Bonzi is actively absorbed by the roots, and the amount of active ingredient per pot is based on the concentration and the final volume applied. If more solution volume (active ingredient) is applied to some pots versus others, the practical effect is that a stronger control will occur in those pots with more solution volume, even if the concentration in parts per million (ppm) is the same.

## Lantana Bandana® Pink, Rose and Red treated with Bonzi drenches



Control      Bonzi 1 ppm      Bonzi 2 ppm      Bonzi 3 ppm      Bonzi 4 ppm      Bonzi 5 ppm

The volume of drench needed for each pot size to reach about 9.1% saturation of media volume is listed in *Table 3*. This saturation percentage is based on the current drench rate on the Bonzi label for a 6-inch pot. Since containers vary among manufacturers, the media volume holding capacity will be somewhat different. However, this table is a good reference for predicting the same PGR response for a particular pot size, variety, and Bonzi concentration. For hanging baskets, some of the Bonzi drench solution might flow down onto the foliage, but try to direct the majority of the drench to the media. Bonzi concentrations for sub-irrigation applications can be reduced by 50% of overhead drench concentrations.

Applying Bonzi during the final stages of production will result in toned, darker green, and more compact plants on the sales floor. Holding drenches can also reduce post-production water demand and create stronger plants that can better withstand careless handling or delayed sales. Accurate application technique requires practice.

## TABLE 3. PGR SOLUTION DRENCH VOLUMES FOR POPULAR CONTAINER SIZES

| Container Size         | Bonzi PGR Drench Volume (Fluid ounces) |
|------------------------|----------------------------------------|
| Azalea 4-inch          | 1.2 oz                                 |
| Azalea 4.5-inch        | 2.4 oz                                 |
| Azalea 6-inch          | 4.0 oz                                 |
| Azalea 8-inch          | 7.7 oz                                 |
| Azalea 10-inch         | 15.6 oz                                |
| Basket 10-inch (4.5 L) | 13.6 oz                                |
| Basket 12-inch (6.5 L) | 19.7 oz                                |

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