

Drench Guide

FOR ANNUALS AND PERENNIALS



STAY IN SHAPE

 **Bonzi**[®]
Ornamental growth regulator

syngenta.

When planning Bonzi drenches, it is important to consider:

1

Plant vigor can differ significantly between regions and climate zones. See Tables 1 and 2 for holding drench rates based on average daily temperature (ADT) in northern vs. southern regions.

2

There can be significant differences in plant vigor within a species (i.e., calibrachoa, petunia, verbena, etc.). For example, FotoFinish™ petunias require higher concentrations of Bonzi than Hurrah™ petunias. It is best to treat a small subset of the crop before treating the entire plot to determine the appropriate rate.

3

Younger, smaller plants of the same species will respond differently than older, larger plants even though drench volume and pot size remain the same.

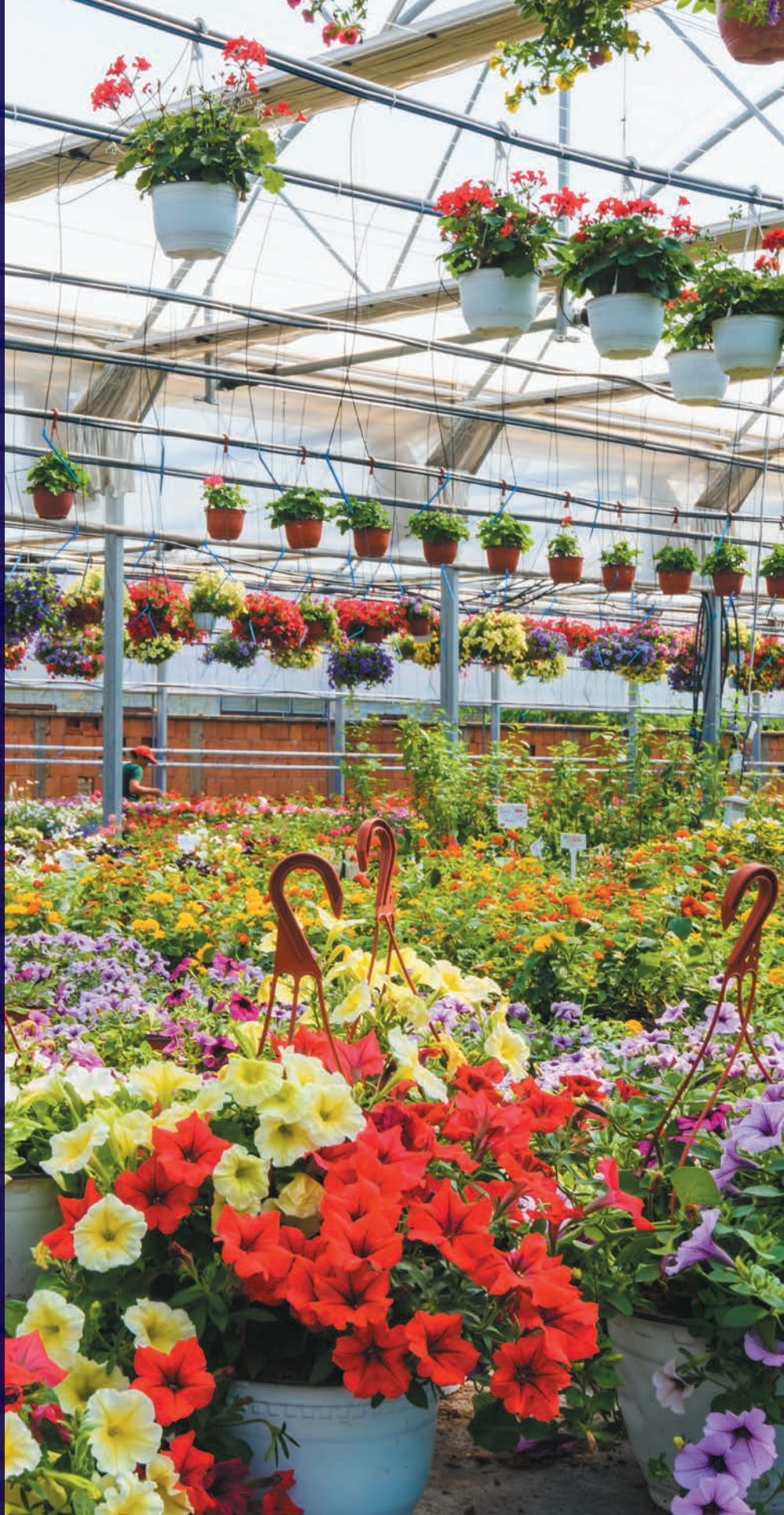


Table 1. Recommended Bonzi PGR Holding Drench Rates for Holding Seed Crops*

Crop and Species	Northern Region (moderate - warm climate with ADT > 65°F)	Southern Region (hot and humid climate with ADT > 75 to 80°F)
Tophat™ Begonia Interspecific	0.25 - 0.5 ppm	0.5 ppm
Bright Sparks™ Celosia	0.5 - 1 ppm	1 - 2 ppm
Sparkler™ Cleome	1 - 2 ppm	2 - 3 ppm
Field of Dreams™ Ornamental Corn	2 - 3 ppm	4 - 5 ppm
Sriracha™ Cuphea	0.5 - 1 ppm	1 - 2 ppm
Diabunda® Dianthus	0.5 - 1 ppm	1 - 2 ppm
Big Kiss™, Kiss™ Gazania	0.5 - 1 ppm	1 - 2 ppm
Xtreme™, Athena™ Impatiens	0.125 - 0.25 ppm	0.25 - 0.5 ppm
Accent™, Imara™ XDR Impatiens	0.25 - 0.5 ppm	0.5 - 1 ppm
Starshine™ Laurentia	0.5 - 1 ppm	1 - 2 ppm
Big Top™, Inca II™, Perfection™ African Marigold	1 - 2 ppm	2 - 3 ppm
Zenith™ Triploid Marigold	0.5 - 1 ppm	1 - 2 ppm
Magic™, Maximus™ Mimulus	0.25 - 0.5 ppm	0.5 - 1 ppm
Perfume™ Nicotiana	1 - 2 ppm	2 - 3 ppm
Asti™ Osteospermum	0.5 - 1 ppm	1 - 2 ppm
Colossus™ Pansy	0.5 - 1 ppm	1 - 2 ppm
Freefall™, Freefall™ XL, Wonderfall™ Spreading Pansy	0.5 - 1 ppm	1 - 2 ppm
Arabesque® Penstemon	0.5 - 1 ppm	1 - 2 ppm
Duvet™, Frost™, Tritunia™ Petunia Grandiflora	1 - 2 ppm	1 - 2 ppm
Damask™, Horizon™, Hurrah Petunia Multiflora	1 - 2 ppm	1 - 2 ppm
Flashforward™ Petunia Spreading Milliflora	0.5 - 1 ppm	1 - 2 ppm
FotoFinish Petunia Spreading	1 - 2 ppm	2 - 3 ppm
Picobella™ Petunia Milliflora	0.5 - 2 ppm	1 - 2 ppm
Skybox™ Petunia Spreading Grandiflora	1 - 2 ppm	2 - 3 ppm
Mojave™ Salvia	1 - 2 ppm	2 - 3 ppm
Liberty™ Classic, Snaptastic™ Snapdragon	1 - 2 ppm	2 - 3 ppm
Snaptini™ Snapdragon	0.5 - 1 ppm	1 - 2 ppm
Sunfinity® Sunflower	2 - 3 ppm	3 - 5 ppm
Obsession™ Cascade Verbena	1 - 2 ppm	2 - 4 ppm
Magellan™ Zinnia	0.25 - 0.5 ppm	0.5 - 1 ppm
Syngenta Perennials		
Excalibur™ Delphinium	1 - 2 ppm	2 - 4 ppm
Camelot™ Digitalis	1 - 2 ppm	2 - 3 ppm
Castilliano 2.0™ Lavender	1 - 2 ppm	2 - 3 ppm
Barbarini® Dianthus	2 - 3 ppm	3 - 4 ppm
Prairie Splendor™ Echinacea	1 - 2 ppm	2 - 3 ppm

*Based on average daily temperature

Table 2. Recommended Bonzi PGR Drench Rates for Holding Vegetative Crops*

Crop and Species	Northern Region (moderate - warm climate with ADT > 65°F)	Southern Region (hot and humid climate with ADT > 75 to 80°F)
Carita™ Angelonia	0.25 - 0.5 ppm	0.5 - 1 ppm
Sassy® Argyranthemum	1 - 2 ppm	2 - 3 ppm
Calypso™ Bacopa	0.5 - 1 ppm	1 ppm
Mexican Gold™ Bidens	0.5 ppm	0.5 - 1 ppm
Callie® Calibrachoa	1 - 3 ppm	2 - 4 ppm
Cabrio™ Calibrachoa	1 ppm	1 - 2 ppm
Grandalia™, Sincerity Dahlia	2 - 3 ppm	3 - 4 ppm
Goldalia™ Dahlia	2 ppm	2 - 3 ppm
Dahlegria®, Happy Days™ Dahlia	2 - 3 ppm	3 - 4 ppm
Darla® Diascia	0.5 - 1 ppm	1 - 1.5 ppm
Madinia®, Madinia® Maximo Dipladenia	0.5 - 1 ppm	1 - 2 ppm
Mezoo™ Dorotheanthus	0.5 ppm	1 - 1.5 ppm
Euphoric™ Euphorbia	0.5 - 1 ppm	1 - 2 ppm
Vegetative Geranium - vigorous geranium series (Calliope® Large, Calliope Medium, Mojo™, Caldera™, Cascade, Blizzard™, vigorous Ivy league ivies, Rocky Mountain™, Americana®)	0.1 - 0.2 ppm	0.2 - 0.3 ppm
Scentropia™ Heliotrope	0.5 - 1 ppm	1 - 1.5 ppm
Silhouette® Impatiens	0.5 - 1 ppm	1 - 1.5 ppm
Sidekick™ Ipomoea	1 - 2 ppm	2 - 3 ppm
Bandana®, Bandolero™, Hot Blooded™ Lantana	1.5 - 2 ppm	2 - 3 ppm
Landscape Bandana® Lantana	2 - 3 ppm	3 - 4 ppm
Sonic®, Super Sonic® New Guinea Impatiens	0.5 - 1 ppm	1 - 2 ppm
Techno® Lobelia	1 - 1.5 ppm	1.5 - 2 ppm
Techno® Upright Lobelia	0.5 - 1 ppm	1 - 2 ppm
Tradewinds® Osteospermum	2 ppm	2 - 3 ppm
Phoenix™ Penstemon	1.5 - 2 ppm	2 - 3 ppm
Falling Star™ Pentas	2 - 3 ppm	3 - 4 ppm
Starcluster™ Pentas	2 - 3 ppm	3 - 4 ppm
Dekko™, Itsy™, Shortcake™ Petunia	1.5 - 2 ppm	2 - 3 ppm
Sanguna® Petunia	2 - 3 ppm	3 - 4 ppm
Sanguna® Patio Petunia	1.5 - 2 ppm	2 - 3 ppm
Velocity™ Salvia	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
Lanai® Compact, Lanai Upright Verbena	1 - 2 ppm	2 - 3 ppm
Magelana™ Verbena	1 ppm	2 ppm
Syngenta Perennials		
Sunrita® Gaillardia	1 - 2 ppm	3 - 4 ppm
Grandiflora Coreopsis	1 - 2 ppm	2 - 4 ppm
Sentivia™, Vintro™, Javelin™ Lavandula	2 - 3 ppm	3 - 5 ppm at visible bud
Desert Eve™ Achillea	0.5 - 1 ppm	2 - 3 ppm
Snowsurfer™ Forte, Snow Cone™ Iberis	2 - 3 ppm	3 - 4 ppm

A Bonzi® plant growth regulator (PGR) drench is an excellent height management tool. For most crops it is ideal to apply Bonzi drenches three to four weeks before finishing to minimize potential stretch and keep the plants in their desired shape. Crops sensitive to Bonzi drenches, like geraniums, should be treated one to two weeks before reaching finished size.

Bandana® Pink, Rose and Red lantanas treated with Bonzi plant growth regulator drenches

2009 - Lang, Colorado

Applying a Bonzi holding drench seven to ten days before shipping, or when plants are almost at their finished size, results in more toned and compact plants. This treatment also provides benefits such as:

- Deeper green foliage
- Brighter flowers
- Stronger stems that can better resist breakage during shipping
- Better water use efficiency
- Greater heat tolerance
- Extended shelf life

Drench applications can be beneficial during periods of cold, rainy weather or abnormally warm night temperatures as these conditions can cause plants to stretch. These applications can also supplement an earlier drench if unfavorable weather results in delayed retail sales or causes undesirable stretch. For annuals, holding drench concentrations are typically similar to the drench concentrations used in early production; and the concentrations listed for perennials will aid in holding those plants.

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 slow growth and cause slightly darker foliage. Because of the lower rate, the duration of growth regulation will also be less with a toning drench.



Control

1 ppm
of Bonzi

2 ppm
of Bonzi

3 ppm
of Bonzi

4 ppm
of Bonzi

5 ppm
of Bonzi

Application Tips

In addition to the appropriate concentration, plants must be in the right stage 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 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 growth regulation will occur in those pots receiving more solution volume, even if the concentration in parts per million (ppm) is the same.

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



2018 - Syngenta

Untreated (left) and a Bonzi drench at 0.25 ppm (right) on Tophat™ begonia. The drench held the crop well with no impact on flower size. Tophat plants were treated at week three of a five-week production program.

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 six-inch pot. Since containers vary among manufacturers, the media volume holding capacity will vary. 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 excessive handling or delayed sales. Accurate application technique requires practice.

To learn more, visit GreenCastOnline.com/Bonzi



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