

# **BULB CROPS - TULIP - PREPLANT BULB SOAK**

## General Information

### GENERAL INFORMATION

Bonzi is a plant growth regulator for use on ornamental plants grown in containers in nurseries, greenhouses, shadehouses, and interiorscapes. Use of Bonzi effectively reduces internode elongation, resulting in more desirable compact plants. When used as directed, Bonzi produces no phytotoxic effects. **DO NOT REUSE POTS, TRAYS, OR OTHER CONTAINERS THAT PREVIOUSLY WERE USED IN THE PRODUCTION OF A CROP WHICH WAS TREATED WITH BONZI.**

See TABLE 1 for Bonzi Dilution Table

### APPLICATION TECHNIQUES

Desired height control with Bonzi can be obtained with three different types of applications: sprays, drenches or bulb soaks.

Under certain conditions, sequential spray applications may be desirable.

Frequent agitation of the Bonzi solution and proper application techniques are critical in order to achieve desired results. Be sure of your calculations, volume measurements and sprayer calibration. When in doubt, recalculate.

#### 1. Spray Applications

In spray applications, Bonzi penetrates into plant stems and is translocated to the terminal where it reduces internode elongation.

When applying a spray application, it is important that:

- Adequate spray volume is used to thoroughly wet plant stems. The misting technique used for some other growth regulators, where only upper leaves are covered with a light spray, will not produce desired results with Bonzi;
- Sprays are not applied to the point of excessive runoff into the potting media. The spray volume which drips down into the media may be desirable as it will be taken

up by the roots and increase the effectiveness of Bonzi. However, too much runoff into the media may result in excessive height control;

- The spray technique provides thorough, consistent, uniform coverage of all plants. Failure to do so may result in non-uniform height control.

Bonzi may be applied at any time of the day without danger of burning leaves or causing chlorosis.

Overhead irrigation or rain 30 minutes after spray applications does not reduce the effectiveness of Bonzi.

Addition of wetting agents for spray applications is not necessary.

The recommended spray volume for small plants in small containers or plug trays which are closely spaced is 1-2 qts./100 sq. ft. of bench space. For larger plants with a well-developed canopy, a spray volume of 3 qts./100 sq. ft. of bench space is recommended.

Using sequential applications may provide more uniform growth regulation and safety against over application. In general, sequential spray applications are to be applied using 50-100% of the lower recommended rate. Growers in cooler climates may have to use lower rates.

With some plant species, particularly chrysanthemums, hibiscus and azaleas, individual lateral shoots will outgrow the other laterals, causing non-uniform plant appearance. This results when individual laterals do not receive enough chemical when spray is applied. The use of sequential applications will reduce this problem.

## 2. Drench Applications

Application of Bonzi to the growing media will provide good control of plant height. Bonzi is readily absorbed by plant roots and translocated to the terminals.

Drench applications generally provide a longer-lasting, more uniform height control than spray applications, having little effect on flower size. Drench applications are very useful when applied late in the production cycle when plants have reached, or are near, the desired marketing size. Late drench applications are particularly useful on poinsettias, chrysanthemums and bulb crops.

Drench applications should be made to moist potting media. This may be achieved by watering plants the day before treatments. Drench applications to dry media will result in poor distribution.

Multiple plants growing in the same pot require a more uniform distribution of drench solution to achieve uniform height control.

**Drench Rates and Volumes:** The rates recommended for soil drench applications are based on a drench volume of 4 fl. oz. of final solution for an average 6-inch 'azalea' pot. Based on this recommendation, one gallon of solution will treat 32 6-inch pots. For smaller or larger pots, a suitable drench volume is enough final solution applied to achieve total run through of no more than 10%, providing that the potting media is properly moist before treatment. Table 2 may be used as a guide in determining appropriate drench volume needed for the specified pot sizes. For the grower who likes to apply Bonzi as a known amount of active ingredient per pot, Table 2 also shows the amount of active ingredient found in a specific volume at a known concentration.

**Note:** The recommended drench volumes are based on the soil capacity of a common 6-inch 'azalea' type pot. Extrapolating the recommendation for this 6-inch 'azalea' type pot to smaller or larger containers may not be correct for total drench volume but should only be used as a guideline. The user must determine the appropriate rate and drench volume needed to achieve the desired result, based on both pot size and potting media used.

Bonzi can also be applied as a “drench” through sub-irrigation in saucers, benches or flooded floors. Using this method, the solution is applied to the media through the bottom of the container. Because most plant roots grow in the lower half of the container, this sub-application of Bonzi delivers the chemical to the plant more efficiently than the typical drench application, and therefore requires the use of lower rates than the typical drench. The optimum rates for a one-time sub-application is typically about 50-75% of the rate used in a typical drench. The optimum rate for continuous application in the irrigation water is about 10-33% of the rate needed for a one-time sub-irrigation application.

### 3. Preplant Bulb Soaks

Soaking of bulbs in solutions of Bonzi is also a very effective way to attain height

control. The rates used and length of soaking time will vary, depending on the species. See the section on BULB CROPS for specific recommendations.

## FACTORS AFFECTING PLANT RESPONSE TO Bonzi

IN ADDITION TO PROPER APPLICATION TECHNIQUE, THERE ARE SEVERAL ENVIRONMENTAL AND CULTURAL FACTORS WHICH CAN AFFECT A PLANT'S RESPONSE TO TREATMENT WITH BONZI. These factors may cause a variation in the amount of Bonzi needed to provide desired plant height.

Cultural practices may affect the plant's response to Bonzi. Plants which are grown at close spacing or in smaller pots and using high water and fertilizer levels may require an increase in the amount of Bonzi needed.

For drench applications, plants grown in media with pine bark or a high organic content may require higher rates of Bonzi than those grown in media without pine bark or with a low organic content.

Different varieties or cultivars within a given plant species may require a higher or lower rate of Bonzi. The taller, more vigorous varieties generally require more chemical than do the naturally short, less vigorous varieties.

Growers should consult with plant and seed suppliers for vigor and other growth characteristics for newly released varieties.

Temperature can be the overriding factor in determining the amount of Bonzi needed. Stem elongation increases with increased temperatures. Growers in warm climates need to use higher rates and/or more applications compared to those in cooler climates.

The amount of Bonzi needed and number of applications may also vary depending on the time of year, with higher rates and/or more applications needed during warmer months.

## DETERMINING OPTIMUM RATES

Optimum Bonzi rates will vary with different growers and will depend on their individual desired final plant height, growing conditions, and applications techniques. Different varieties or cultivars of the same species may respond differently to Bonzi. Before Bonzi is applied to a large number of plants, growers

should conduct trials with small numbers of plants using the recommended rates to determine the optimum rates for their situations.

The rates recommended on the label are rate ranges and should be used only as guidelines. However, DO NOT exceed the maximum recommended rates.

The user should conduct trials on a small number of plants, adjusting the rate of Bonzi to achieve the desired height and length of control. For preplant bulk soak trials, it may be necessary to adjust both the rate and length of soak time in order to achieve desired results.

For plant species listed on the label, the user should run initial trials using the lowest recommended rates.

For plant species not specifically listed on the label, the user should run initial trials using the rates recommended in Table 3.

#### Limitations, Restrictions, and Exceptions

##### BULB CROPS - HYBRID LILY

Preplant bulb soaks are also very effective. Effective rates for most species are in the range of 5 to 25 ppm, with a soaking time of 5-15 minutes. In general, lower use rates will require longer soaking times.

For species not specifically listed, trials should be conducted using rates outlined in the section on DETERMINING OPTIMUM RATES.

#### Method

##### [Soak](#)

##### Rates

##### [field rates 0](#)

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#### Restricted Entry Interval

12 hours

#### Timings

##### [Preplant](#)