

## **BEDDING PLANTS - AGERATUM, IMPATIENS, ETC.**

### General Information

#### PRODUCT INFORMATION

Topflor Plant Growth Regulator is for use on ornamental plants grown in containers in nurseries, greenhouses and shadehouses. Use of Topflor effectively reduces internode elongation through the inhibition of gibberellin biosynthesis, resulting in a more desirable compact plant. Topflor has been shown to increase the quality of plants even in the absence of growth reduction. Some of these desirable qualities include darker leaf color, higher chlorophyll content, greater leaf thickness, stronger stems, and decreased water loss. When used as directed, Topflor produces no phytotoxic effects. Do not reuse pots, trays, or other containers that previously were used in the production of a crop that was treated with Topflor.

In New York State, Topflor can be used for greenhouse applications only.

#### FACTORS AFFECTING PLANT RESPONSE TO TOPFLOR

There are many factors that can affect a plant's response to the application of Topflor. They include cultivar, application technique, environmental conditions, cultural practices and container size. Therefore, the amount of Topflor that is required for the desired plant height may vary.

CULTIVARS OR VARIETIES within a given plant species may respond differently to Topflor. Varieties that are taller or more vigorous generally require more Topflor than naturally short or less vigorous varieties. Growers may consult university research and extension specialists and plant or seed suppliers for vigor and other growth characteristics for newly released varieties.

#### APPLICATION TECHNIQUES

Plants absorb Topflor through foliage, stems, and roots. Topflor may be applied as a spray, drench or chemigation to achieve the desired plant height control. Use industry standard application equipment, which may include backpack sprayers, low-pressure hand wand drench applicators, or other similar equipment. Additionally, standard chemigation equipment and practices may also be used.

Multiple or split applications may allow greater treatment flexibility, more uniform growth regulation, and safety from over-application and may be, therefore, desirable.

## SPRAY APPLICATIONS

Topflor applied as a foliar spray is absorbed through plant foliage and stems. Additional growth regulation will result from root uptake of Topflor reaching the root medium as runoff from foliar treatments or over-spray.

Dilute Topflor to the desired concentration (a.i.) using Table 1 in the label.

When applying as a spray, the following should be noted:

- Do not use additional wetting agents in combination with Topflor as crop injury may occur.
- The spray technique used should provide consistent and uniform coverage over all treated plants. Uneven application or overapplication may result in irregular or excessive growth control.
- Adequate spray volume should be used to thoroughly wet the plant foliage. The spray volume that drips down to the stem or media may be desirable as it will be taken up by the stems and roots increasing the effectiveness of Topflor. However, too much runoff into the media may result in excessive height control.
- Apply uniformly at a rate of 1 gallon of spray per 200 sq. ft. of growing area, regardless of plant spacing. For small plants in small containers or plug trays that are closely spaced, use 0.5 - 1 gallon of spray per 200 sq. ft. of growing area. For larger plants with a well-developed canopy, a spray volume of 1.5 gallons per 200 sq. ft. of growing area is recommended.
- Typical foliar application rate is 0.5 ppm - 80 ppm a.i. (varies by cultivar), applied in 1 gallon of spray mix over 200 square feet.
- Do not allow spray drift to contact non-target plants.

## DRENCH APPLICATIONS

Topflor applied as a drench provides treatment accuracy for consistently uniform results. Topflor is readily absorbed by the roots and translocated to the terminals.

Root medium should be moist, but not wet at the time of treatment. Best results are obtained when moisture content allows the drench treatment to become well distributed and retained entirely within the pot. This may be achieved by watering the plants the day before treating.

Response may be variable if part of the drench solution is lost to flow-through or if root medium is too dry to allow for even distribution of the treatment, especially when multiple cuttings are in the same container. Generally, a volume of 2 fl. oz. (59 ml) is required to treat a 4-inch pot or 4 fl. oz. (118 ml) for treatment of a 6-inch pot (Table 2). The typical application rate is 1 gallon of drench solution (typically 0.25 ppm - 10 ppm as a.i.) (varies by cultivar), per 32 six inch potted plants. Dilute Topflor to the required concentration (a.i.) using the method described in Table 1 in the label. When applying as a drench, the use of pine bark in root media may reduce the effectiveness of drench treatments.

Pesticide supply tanks are recommended for the application of these products. See label instructions for dilution use rates and timing of applications. Agitate prior to use. Since the material is used in an injections proportioner the pesticide is to be applied continuously for the duration of the water application.

#### APPLICATION RATES

The amount of Topflor required for an optimum growth response depends upon several factors: desired height, duration of growth response and degree of control, pot size, stage of growth, method of application, season and cultivar response. Species-specific cultural practices such as watering, potting media, fertilization, temperature and light conditions also affect the growth response to a given dosage. Therefore, growers should establish specific application rates based on small-scale treatments under actual use conditions and keep records as to plant species and cultivar sensitivity before Topflor is applied to a large number of plants. The rates recommended on the label are rate ranges and should be used only as a guideline.

For spray, drench and chemigation applications, do not exceed the maximum recommended rate of 0.36 lbs a.i./A for single applications. Do not exceed more than 3.0 lbs a.i./A/year. Rate (lbs a.i./A) will determine the maximum number of seasonal applications allowed not to exceed 3.0 lbs a.i./A/year. If required, repeat applications to the same crop may be applied at 5 to 21 day intervals.

Topflor is effective in controlling the height of most ornamental crops. The use and

rate recommendations for the species that follow should be a starting point in determining the best rate for your specific cultural and environmental growing conditions. Before Topflor is applied to a large number of plants, read and understand the section titled Application Rates in the label.

#### Limitations, Restrictions, and Exceptions

#### BEDDING PLANTS

Topflor is effective on a wide range of bedding plants for height control. See Table 3 in the label for application rate guidelines for a variety of common bedding plants.

- Rate ranges were determined largely under mid-Atlantic conditions using medium-vigor cultivars. Rates should be adjusted to reflect the need for higher rates for vigorous cultivars and in the Sunbelt Region and lower rates in the Northern Belt Region. Topflor is not recommended for use on fibrous begonia. Overly stunted plants can result if they receive spray drift from applications to surrounding crops.

Rates for spray application technique have not been determined.

#### Method

[Spray](#)

#### Rates

[field rates 0](#)

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#### Restricted Entry Interval

12 hours

#### Timings

[N.A.](#)