New Growth Retardant for Floriculturists in Illinois

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Growth retardants are necessary production tools for floriculturists. They are used to control the height of potted plants and bedding plants. In addition to reducing the size of plants so that they appear in better proportion to their containers, growth retardant application also has several side benefits. Such benefits include giving the foliage of plants a darker green color, intensifying flower color, and increasing the plant's resistance to stresses incurred in the market channel. In addition, growth retardants can decrease the time needed for flowering of some species.

Although we would probably all agree that growth retardants are useful, we also know that to date there is no perfect growth retardant on the market. No growth retardant is effective on all species or on all cultivars of the same species, and optimum rates for application vary widely with chemical and species used. Therefore, chemical companies and university researchers continue to work together to test new growth retardant chemicals.

An excellent new growth retardant is now being tested at Southern Illinois University. This new chemical is soon to be marketed under the name of SuMagic. Before being marketed, extensive testing must be done in many locations across the country to determine the recommended rates of application on the many floriculture crops. It is important to test the new chemical in different geographic areas because environmental factors such as temperature and light will affect the rates needed to obtain the desired results. For instance, rates of SuMagic needed to reduce height of Easter lilies or chrysanthemums in Florida may not be the same as those needed to get the same height control of these crops in Illinois.

Optimum rates of SuMagic for bedding plants, as determined by researchers at Southern Illinois Universi-

Table 1. Summary of optimum rates of Sumagic for several species of bedding plants.

	Cultivar	Optimum Rate (ppm)
1.	Geranium Sunbelt Scarlet	10.0
2.	Geranium Sunbelt Hot Pink	10.0
3.	Periwinkle Little Bright Eye	3.0 - 5.0
4.	Salvia Red Pillar	5.0 - 15.0
5.	Marigold Gold Galore	40.0
6.	Celosia Apricot Brandy	20.0
7.	Coleus Rainbow Velvet	5.0

ty, are shown in **Table 1.** It can be seen that SuMagic is used at much lower rates than B-Nine or Cycocel which are used at rates of 1500 to 5000 ppm. This is due to the greater effectiveness of SuMagic on plants than that of the other growth retardants.

Because SuMagic is a more "powerful" growth retardant it must be applied at the correct volume. Whereas other growth retardants may be sprayed to runoff, SuMagic is applied at only ½ gallon per 100 square feet. With practice to get uniform coverage, you will find this to be just as easy as spraying to runoff and the results are much more uniform.

In addition to its effectiveness at lower rates, SuMagic is proving to be effective on many species of plants. In the coming year, we will be testing SuMagic on chrysanthemum, Easter lily, poinsettia, plugs, and perennials in order to determine optimum rates for Illinois growers.

When using SuMagic, growers should apply the proper rate and volume on a small sample of their crop in order to determine the optimum rate needed for their particular environment.