The Basics of Florel Use

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The product Florel is one of the oldest commercial chemical growth regulators used in the greenhouse industry. It was developed in the same era as A-Rest, B-Nine, and Cycoceel. This group of products has been with us much longer than the new generation products Bonzi and Sumagic. Florel however is quite different from the others in the group that I refer to as "the big five". Whereas the other products are used primarily to control internode elongation and hence plant height, Florel has multiple effects that result in higher quality and lower costs of production.

There are three main effects that Florel has on many of the species we grow in the greenhouse. First, it stimulates lateral branching and eliminates the need to hand pinch crops including geranium, both zonal and ivy, fuchsia, verbena, lantana, vinca vine, garden chrysanthemum, impatiens, and many specialty crops. It has been documented that replacing hand pinching with a foliar spray reduces labor and the associated costs by up to 80 percent. Cutting yield from stock plants can be doubled as a result of this stimulation of branching.

Second, Florel maintains a plant in a vegetative state while under treatment. Flowering is prevented while the plant is under the influence of the ethylene in a Florel application. This is desirable for stock plant development as every bit of photosynthetic energy is channelled into the vegetative organs of stems, leaves, and roots instead of flowers. On finished crops Florel treatment early in the production cycle prevents premature flowering at the same time that it stimulates branching resulting in more efficient growth and development.

Third, Florel inhibits internode elongation and results in compact growth to accompany the branching effect. The best example of this effect is vinca vine, whose unruly internodes commonly reach six inches in length. By using multiple Florel applications growers can control internode length on this crop to any degree desired. This is possible partly because vinca vine is not grown for its flowers and hence can be treated very late in the production cycle.

All plants will outgrow the effects of a Florel application. The general rule for timing crop flowering is to allow six to eight weeks after the last Florel application for the crop to come into flower. For most spring crops the practical version of this rule calls for a mid March cutoff date for Mother's Day bloom.

Most crops respond best to a concentration of 500ppm which can be made by using the dilution rate of 1.6 ounces per gallon or 50 milliliters per gallon. The coverage rate is one gallon of spray solution to cover 200 square feet of crop area which equals spray to drip or runoff. Avoid spraying Florel during midday hours when stress from high light or temperature are common. Also, as with other growth regulating products, better absorption occurs when an application is made during overcast conditions as compared to sunny conditions. This is because the rate of drying on the leaf surface is slower during cloudy weather which makes it easier for the active ingredient to penetrate the plant tissue.

Florel releases ethylene once inside a plant's tissue. Ethylene has long been associated with negative plant responses particularly in the post production environment. In the production environment Florel can be
Florel described as a stress exaggerator. If a plant is experiencing stress at the time of an application the ethylene will usually exaggerate the normal signs of the stress. A good example is the common practice of running zonal geraniums dry to check growth. A normal sign of this practice is a yellow leaf at the base of the plant. If Florel is applied to this dry geranium there will be two or three yellow leaves instead of one. While not life threatening, promoting an exaggeration of any plant stress is undesirable and results in delays in crop growth and development.

The key to succeeding with this growth regulator is to treat a plant only if it is actively growing. By definition, an actively growing plant is stress free and the ethylene from the application will have the desirable effects discussed above and not cause stress exaggeration.