By Dennis Carey, Wayne Buhler and Brian Whipker

S

chofield Media Growers have a wide range of PGRs to choose from to meet the growing requirements of their crops and the shipping requirements of their customers. One of the newest chemicals on the market is Fine Americas Inc.'s Confi

figure, a synthetic cytokinin labeled for use on herbaceous ornamental crops as a branching agent.

How Does BA Affect Plants?

The primary activity of Confi

figure is to interrupt apical dominance and stimulate axillary buds to break. Apical dominance is the phenomenon where the terminal bud on a branch inhibits axillary buds along the branch from breaking. Apical dominance is maintained by a balance of auxin produced in the apical meristem of the plant and cytokinin produced in the roots of the plant. Apical dominance can be interrupted by increasing the ratio of cytokinin to auxin with a foliar application of the synthetic cytokinin in Confi

figure. This reduces auxin's ability to prevent axillary bud break and allows the axillary buds to escape from apical dominance. This ability to break apical dominance may potentially be used in certain crops to stimulate early flowering and force buds out of winter dormancy early. Decreased plant size may be a side effect of reduced apical dominance because the plant has to divide its energy budget among a greater number of side shoots. As a result, growers may observe that their plants are shorter. Depending on the overall structure of plant, increased branching may result in a wider or narrower plant.

Confi

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Table 1. Chemical costs for Confi

figure foliar sprays

Based on pot tight spacing of plants, using 0.5 gallons of solution per 100 square feet of bench area.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Concentration (ppm)</th>
<th>Pot spacing (pot tight)</th>
<th>Cost per pot</th>
<th>Cost to treat 1000 pots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christmas Cactus</td>
<td>100 to 200</td>
<td>4 inch</td>
<td>&lt;$0.00055 to $0.001</td>
<td>$0.50 to $1.00</td>
</tr>
<tr>
<td>Hens and Chicks (Sempervium)</td>
<td>200 to 400</td>
<td>4 inch</td>
<td>&lt;$0.001 to $0.002</td>
<td>$1.00 to $2.00</td>
</tr>
<tr>
<td>Salvia ‘Caradonna’</td>
<td>400</td>
<td>6 inch</td>
<td>$0.0048</td>
<td>$4.30</td>
</tr>
<tr>
<td>Echinacea</td>
<td>300 to 900</td>
<td>Gallon</td>
<td>$0.0032 to $0.0096</td>
<td>$3.20 to $9.60</td>
</tr>
<tr>
<td>Hosta</td>
<td>1000</td>
<td>Gallon</td>
<td>$0.01</td>
<td>$10.06</td>
</tr>
</tbody>
</table>

Researchers at North Carolina State University recently trialed a synthetic cytokinin to see how it performed as a branching agent, Confi

figure might be a powerful tool in their PGR arsenal.
prise Blue Vein Improved; Configure at 80-160 ppm tightened up the somewhat loose canopy of the plants. It reduced the overall width, but the overall height was slightly increased (Figure 4). However, on the fast-growing Wave petunias, Configure had no effect at the trial concentrations.

Configure is effective at increasing the number of offsets that form on hens-and-chicks. Out of seven cultivars that were trailed, five had an increase in the offset number. The ideal concentration of Configure for hens-and-chicks is 200-400 ppm, and the number of offsets increased from 2½ to 10 times over the untreated plants (Figure 5).

Configure was also effective on reducing the height and increasing the branching of salvia ‘Caradonna’ at concentrations of 400-800 ppm. It delayed flowering by three weeks, but once flowering began, there were up to three times as many inflorescences (Figure 6).

Application Costs
As with all PGRs, the cost per pot is an important variable to consider when deciding whether to use it. A representative cost for Configure is $85 for a 2-quart container, but growers’ costs vary, so they will need to do their own cost determinations. Table 1 has some example costs for the spray recommendations discussed earlier. For the significant improvement in plant quality, per-pot costs are economical for Configure. To treat single Christmas cactus costs less than ½ of a cent; at the upper end, it costs 1 cent to treat a hosta with 1,000 ppm.

Application Methods
As with all PGRs, the way you apply Configure is important. Configure is similar to B-Nine (damin- ozide) in that it takes several hours to fully absorb across the leaf cuticle. Thus, the best time to apply Configure is when the leaf surface will stay wet for more than four hours, such as early or late in the day, when the sun is low, or on cloudy days. It is better to apply Configure when humidity is high in the greenhouse such as early in the morning or on rainy days. Do not water the plants with an overhead method soon after spraying Configure, it will wash off the leaves.

Configure is similar to Bonzi (paclorutrazol) in that it does not move far from the point of contact. Configure moves primarily in the

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Figure 4. Width is reduced and the canopy is tightened up on slow-growing, highly-branched petunias ‘Surprise Blue Vein Improved’ and ‘Surprise White’ with Configure foliar sprays.

Figure 5. Offset number is increased on hens-and-chicks with Configure foliar sprays.

Figure 6. Height is reduced and flowering is increased but delayed by three weeks on salvia ‘Caradonna’ with Configure foliar sprays.

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Configure is not effective on all plants. Some plants, such as pansy and excalum, appear to be very sensitive to foliar-spray applications of Configure. Concentrations as low as 50-100 ppm can cause long-lasting leaf yellowing and other phytotoxic effects on these sensitive plants. Other plants such as petunia will display minor levels of leaf yellowing at higher concentrations, but the discolorations disappear in a few weeks. On other plants, phytotoxicity can appear with excessively high concentrations in the form of leaf cupping (iresine and zinnia), changes to leaf morphology (e.g., more lobes) or leaf-edge necrosis (salvia, heuchera). In cases where you discover that a plant is sensitive to Configure, multiple applications at a lower concentration may provide better results than a single high-concentration application.

Overall, Configure is a good addition to a grower’s PGR toolbox. It is inexpensive and effective on a number of plants by encouraging axillary shoots.