Disclaimer: Poinsettias, and specifically poinsettia bracts, can be very sensitive to chemical applications, including wetting agents. This presentation provides some suggestions for growers to trial at their greenhouses. Results will vary based on many variables including climate, cultivar, and the actual product used, so you are responsible to perform adequate trial applications PRIOR to making an application to your entire crop. The applications discussed in this presentation are not recommendations.

The last two months of the poinsettia season require vigilance to finish a successful crop. This presentation focuses on the most important tasks to complete after October 7.

Decreasing Stem Elongation
Plant growth regulator options are limited at this time. Chlormequat (Cycocel, Citadel) and daminozide (B-Nine, Dazide) should no longer be applied due to their potential to reduce bract size and delay flowering. Paclobutrazol (Bonzi, Paczol, Piccolo) is the product of choice at this time. Paclobutrazol microdrenches (0.05 to 0.10 ppm) can be applied up until the last 1-2 weeks prior to anthesis (pollen shed). Paclobutrazol drenches (0.25 to 0.50 ppm) can be applied during the last 1-2 weeks prior to anthesis when the plants are within 1 inch of the desired final height and the bracts are near full expansion. This application is especially helpful on varieties that tend to elongate rapidly at the end of the season.

Increasing Stem Elongation
Products that include benzyladenine and gibberellic acid (Fascination, Fresco) can be used to increase the height of overly short plants; however the application method used is important. Foliar applications should not be made just before or during early bract development due to their potential to delay bract development. The resulting phenomenon is sometimes referred to as ‘bract re-greening’. Drench applications affect bract development much less than sprays. Drench rates are typically 1 to 2 ppm, assuming the full soil profile is wetted to expose all of the roots to the active ingredients. Expect 1-2” of additional growth with the low rate and 3-4” of additional growth with the high rate (lower drench volumes will produce less response). Note that Fresco is labelled for drench applications while Fascination is not.

Increasing Bract Size
Products that include benzyladenine and gibberellic acid (Fascination, Fresco) can be used to increase bract size on plants that have received excessive plant growth regulation. Sprays of 2 to 3 ppm applied late in the crop to bracts (7 to 10 days before anthesis) will increase bract size and raise bracts over the foliage. Application will also cause white-bracted varieties to be whiter. Timing is critical. If applications are made too early (more than 10 days prior to anthesis), bract re-greening may occur and excess stem elongation will occur at the top the canopy resulting in a very poor appearance.

Botrytis Control (Bract Edge Burn)
Bract edge burn results from Botrytis infection on the bracts that have a low calcium content. White varieties display symptoms more so than red varieties. Foliar calcium applications begin at first color and can be made weekly. A typical calcium concentration is 400 ppm. Calcium nitrate or calcium chloride can be used to supply calcium. A wetting agent will increase calcium uptake into the plant tissues.
Addressing Nutrient Deficiencies
The most common nutrient deficiencies for poinsettias are nitrogen, calcium, magnesium and iron. Nitrogen deficiencies usually arise when the injector is not functioning properly. The symptoms are a light green appearance to the entire canopy. Calcium deficiencies result in bract edge burn and are best corrected with foliar calcium applications, since fertigation with calcium may not provide sufficient calcium to expanding bracts. Magnesium deficiency symptoms are interveinal chlorosis of the lower leaves. Application of magnesium sulfate (100-200 ppm Mg) should correct magnesium deficiencies although damaged leaves may not improve. Iron deficiencies may arise due to high media pH (>6.3), so the best solution may be to inject acid in the irrigation water, change to a more acidic fertilizer or apply a chelated form of iron, such as Fe-EDDHA. Do not apply iron sulfate to poinsettia foliage or bracts!

Finishing Temperatures
Cool finishing temperatures (16-18 °C) enhance bract color in red varieties, although white varieties will be more green/yellow/cream colored.

Holding Temperatures
Once poinsettias reach anthesis, temperatures can be reduced to 12 °C to slow the maturation of the cyathia (true flowers) and keep the plants looking good until the plants are sold.

Cyathia Development and Retention
Low light is the primary cause of cyathia abortion or premature drop due to insufficient energy being available for cyathia development, although cool finishing temperatures also reduce cyathia development. However, tremendous variation occurs between varieties. So, if poor cyathia development has been a problem, you may need to select different varieties in the future. Paclobutrazol sprays (10 to 20 ppm) targeted directly onto the cyathia, not on the bracts, can prolong cyathia longevity if the application is made 7-10 days before shipping.

Standard Fertilization Practices
Currently, the standard fertilization practices for poinsettias provide 150 ppm N while adjusting the minor nutrients so that the iron concentration is 1 ppm. Some growers are even trying lower rates of nitrogen. Note that many commercial fertilizers provide 1 ppm Fe when mixed at a rate of 200 ppm N.

Pythium Control
Water management is essential for control of Pythium root rot. Drought-stress weakens roots and makes them more susceptible to Pythium, so the growing media should be kept moist throughout the poinsettia crop. Monthly applications of fungicides can be useful at this time. A common fungicide that is effective on Pythium is etridiazole (Truban). Beneficial mycorrhizal fungi are useful if applied early in the crop to prevent Pythium, but are not used for curing an existing problem.

Whitefly & Mite Control
Pesticide applications are sometimes necessary at the end of the poinsettia crop when whitefly and mite populations have not been properly controlled earlier in the season. Pesticides can cause phytotoxicity damage or leave unsightly residues on the bracts, so extreme caution must be exerted. Applications should be made as early in the season as possible to avoid the need to make applications during bract development. Abamectin (Avid) is effective for both whitefly and thrips and generally considered to be safe for poinsettia bracts. Beauvaria bassiana (BotaniGuard WP) has been successfully used for late season whitefly control while bifazate (Floramite) has been used for mite control on poinsettias.