

1994 Easter Lily Schedules

Bill Miller, Department of Horticulture, Clemson University

Easter, April 3, 1994

1994 Pot Cooling (Controlled Temperature Forcing)

Bulbs will be received from early to late October. Include time for 6 weeks of vernalization (cooling) plus a warm rooting period of up to 3 weeks, based on greenhouse forcing starting on December 13. Most growers will not be able to give a full three week warm rooting period this year. Upon arrival, pot bulbs, water thoroughly, apply a fungicide drench, and hold with good ventilation at 63°F. Make frequent checks for even moisture and proper temperature. Precooling (vernalization) is a cool moist process, and requires a full 6 weeks, so lower temperature to 40°F no later than October 26. The schedule below assumes 16 weeks from placing in the greenhouse until Easter.

Upon arrival. Pot in standard depth pot with 1 inch of media below the bulb. Water in to just moisten soil, then drench with 4 oz. Terraclor and 1/2 oz. Subdue per 100 gallons of water. Place in cooler, preferably not stacked so that you can check moisture and observe sprouting. Set cooler at 63°F (for root initiation). Plan only two Subdue applications (1/2 oz. each) for the crop.

October 26. Reset temperature in cooler to 40°F to start vernalization process. Check temperatures in cooler. Double check moisture...bulbs will not perceive the cold temperatures if not moist enough.

November 8. Check cooler temperatures and water pots if necessary. Keep records.

November 15. Watch for sprouting. If sprouts are present and growing to 1-2", lower temperature a few degrees. Do not go below 35°F and do not go below 40°F unless sprouting is serious.

November 22. Continue to monitor temperatures. Make final plans for greenhouse space, etc.

November 29. Check moisture and sprouting. Keep records.

December 1. Clear space for moving pots into the greenhouse. Segregate any sprouted plants if deemed necessary.

December 6. Move plants into the greenhouse. This is a mid-Easter year (April 11). Start crop with 60° night and 68°F day temperatures. This will give a 24-hour average temperature near 63°F. If major problems with inadequate cooling are known, use "insurance lighting" for 2 weeks after crop emerges. Prepare for this now.

December 20. Continue these temperatures until emergence. White roots should be coming visible in some pots. Keep pots uniformly moist. Start feeding program now. Do not wait. Plant quality will suffer.

December 27. First plants are emerging. If not, raise temperature to 67°F night, 75°F day, for a 70-71°F 24-hour average. Start lighting if needed.

January 3. Many plants should be emerging. Some growers start sorting for uniformity of flowering and growth regulator applications.

January 10. Crop must be emerged. Move any non-emerged plants to warmer areas. Start graphical tracking and begin height management depending on the results of the graph. Supplemental dry nitrogen fertilizer (for some slow release characteristics and to supply fertilizer even when irrigations are not needed) is probably needed. One-half teaspoon urea formaldehyde (Nitroform) topdressed per pot is useful now to add nitrogen.

January 17. Buds are probably initiating; plants are 2-4" tall. Stem roots become visible at this time also. Consider A-Rest or Sumagic applications and/or negative DIF depending on graphical tracking information. Since strong negative DIFs increase lower leaf yellowing, we prefer zero DIF, as some height control is realized with less chance of leaf yellowing later on. Dissect a few plants for evidence of flower initiation so leaf counting may begin. Now is the time to run the lowest temperature possible from a timing standpoint to increase flower bud count. In no case should you go below 56°. Drench with Banrot 40WP at 8 oz/100 gal.

January 24. Space plants as soon as possible. Do not try to finish a Valentine's Day crop before spacing lilies; lilies stretch when crowded.

January 31. Adjust temperatures in relation to leaf counting and leaf unfolding rates. Watch excessively

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high day temperatures which will stretch plants. Again, high average temperatures now are bad for bud count. **February 7.** Since 1/2 of the final height is determined by the time of visible bud, it is important to control height by acting on information obtained by graphical tracking. Keeping them short now helps a lot later on. Lilies must be spaced for quality and height control. Again check leaf unfolding rate.

February 14. First buds visible. Watch height--it can easily get away with increasing sun and warmer daytime plant temperatures. If plants are short or stunted, positive DIF will cause them to increase in height. Watch roots. Check for insects and consider a final supplemental slow release nitrogen application, as above. This nitrogen application (dry) is important to control lower leaf yellowing now and later on. Drench with Banrot 40WP at 8 oz/100 gal.

February 21. Last date for buds visible. Give extra heat to those plants without visible buds.

February 28. Watch roots. Avoid bad lower leaves by keeping roots healthy, nitrogen feed high (without excessive soluble salts) and by proper spacing. After visible bud, consider finishing lilies on calcium nitrate (200-400 ppm; 18-36 oz/100 gal). Remember, a lily will double in height from visible bud to flowering. Maintain graphical tracks and height control measures.

March 7. Buds 1" long. Use a bud stick. Drench if not done in previous 2 weeks. Use 8 oz. Banrot and 1/2 oz. Subdue per 100 gal. water.

March 14. Buds 2" long. Double check for aphids.

March 21. Buds 4" long. Watch *Botrytis*. First plants go to a cooler at 35-40°F.

March 26/28. The major ship days for most wholesalers.

April 3. Easter Sunday.

1994 Home Case Cooling

Stack cases in a cooler for air circulation at 40°F. Plan 6 weeks of precooling. After the peat surrounding the bulbs reaches 45°F or below, it is helpful to add 1 quart of cold water to each case. This replenishes water lost from the cases during shipping. Since vernalization requires moisture, and cases lose water during shipping and storage, the additional water helps keep the peat moist and increases vernalization uniformity throughout the case. Whether bulbs are received early or late, pot after 6 weeks and move to greenhouse. Assume receipt October 23-24 for this schedule, with potting on December 6, and a greenhouse forcing period of 17 weeks. Contact your supplier or Bill Miller if you receive bulbs much later than this schedule assumes.

October 25. Check cooler and internal case temperature. Base cooling on case temperature of 40°F for a duration of 6 weeks.

November 1. Check temperatures and add cold water to cases if cases are below 45°F. Make plans for media containing no superphosphate with a pH near 5.8 to 6.5 and containing good levels of calcium and some available nitrate nitrogen fertilizer.

November 8. Watch for sprouting in the cases. Check 'Ace' and 'Nellie White' separately as they can sprout at

different times. If sprouts are present and many are 1-2" long, consider lowering temperatures. Do not go below 35°F and do not go below 40°F unless sprouting is serious.

November 15. Continue to monitor temperatures. Make final plans for greenhouse space, soil, pots, etc.

November 22. Continue to monitor temperatures.

November 29. Clear space in the potting area.

December 6. Pot in standard depth pot with 1 inch of media below the bulb. Drench with 4 oz. Terraclor and 1/2 oz. Subdue per 100 gallons of water. April 11 is a mid-date Easter. Start crop with 60-62°F night and 65-68°F day temperatures.

December 13. Continue as above. Only if major questions exist about proper cooling, use "insurance lighting" for 1-2 weeks after crop emerges.

December 20. Continue temperatures until emergence. White roots should be coming visible in some pots. Keep pots uniformly moist. Start feeding program now. Do not wait, or plant quality will suffer.

December 27. First plants emerging. If rooting and emergence are slow, see December 27 on the pot cooling schedule.

January 3. Many plants should be emerging. Start lighting if needed. Some growers start sorting for uniformity of flowering and growth regulator applications.

January 10. Crop must be emerged. Move non-emerged plants to warmer areas. Supplemental dry



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nitrogen fertilizer (for some slow release characteristics and to supply fertilizer even when irrigations are not needed) is probably needed. One-half teaspoon urea formaldehyde (Nitroform) topdressed per pot is useful now to add nitrogen.

January 17. Buds are probably initiating. Stem roots become visible at this time also. Maintaining cool temperatures (56-58°F nights) for 7 to 14 days during flower initiation can increase bud count. Under no circumstance should warm nights (above 65°F) be used. Reduced bud count will result. Start graphical tracking. Dissect a few plants for evidence of flower initiation so leaf counting may begin. Drench with Banrot 40WP at 8 oz/100 gal.

January 24. Consider A-Rest applications and/or negative DIF depending on graphical tracking information. Since strong negative DIFs increase lower leaf yellowing, we prefer zero DIF, as some height control is realized with less chance of leaf yellowing later on. Space plants as soon as possible. Do not try to finish a Valentine's Day crop before spacing lilies; lilies stretch when crowded.

January 31. Adjust temperatures in relation to leaf counting and leaf unfolding rates. Watch excessively high day temperatures which will stretch plants. Again, high average temperatures now are bad for bud count.

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1994 Commercial Case Cooling

Bulbs may be received from late November through December 7 to 12. Let your supplier give the proper time for precooling. After bulbs are received, check for frozen bulbs. Notify your supplier immediately if ice is found in the cases. If bulbs are received earlier or later than above, check with Bill Miller or your supplier as to proper procedure. Plant immediately! Do not unpack bulbs from the case until ready to pot, and do not let bulbs dryout before planting. Assuming planting December 6 for this schedule, follow the schedule given above for home-case cooled crops. Suggested dates are: Emergence, December 27-January 3; Flower initiation, January 15-24, and Visible bud, February 14-21.

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