1999 EASTER LILY SCHEDULE

by Richard J. McAvoy

Weeks to Easter	Date	Forcing method: Case-Cooled	Forcing method: Pot-Cooled (CTF)	1999 notes
25-24	Oct. 11-18	Bulbs are dug & shipped, late Sept. to mid-Oct. Treat bulbs with Kelthane before pot cooling begins.		**Potting medium:** Drainage is essential to avoid root-rot and leaf yellowing later in the crop. Prepare & test mix before lilies arrive. Test periodically during the crop! After planting, drench with Terraclor & Subdue. Then use Banol or Truban plus Terraclor or Cleary's 3336 once per month.
23	Oct. 25	*Begin programming as soon as bulbs arrive but no later than 23 weeks before Easter.* Cool at 40-45F (6 wks).	Pot at 63F (3 wks).	
20	Nov. 15	--	Cool at 40-45F (6 wks).	**Bulb cooling** is very important. Program lilies by providing 1000 hours cooling. Case & Pot cool 'Nellie White' at 40-45F.
17	Dec. 6	**Latest date to pot commercially case-cooled bulbs.** Force in greenhouse, 63F in pot.	--	
14	Dec. 27	*Root development should be evident by wk 15. Shoots should emerge by wk 14. Start fertilizing & keep pots moist.* --	Greenhouse force, 63F in pot.	**Bud initiation:** Run 60-62F day & night during bud initiation. Bud initiation begins when stem roots start to develop & continues for several weeks. Note: If your programming begins on or after 23 weeks before anticipated sale, you will not have enough time to use a cool temperature dip to stimulate secondary bud initiation. On years when forcing begins prior to week 23, bud count can be increased by running 'Nellie White' at 46F for 7-10 days after primary buds have initiated.
13	Jan. 3	1-2" tall. Do not allow to become dry. Apply fungicide if roots are not healthy.		
12	Jan. 10	2-3". Bud initiation coincides with stem root development. Check roots & look for evidence of bud initiation. Run 60-62F day & night until bud initiation is completed.		
11	Jan. 17	3-4". Apply growth regulator when 3-5" tall. Buds initiating.		**Lily timing:** Monitor lily development each week. Make temperature adjustments if plants are behind or ahead of expected stage of development. Use constant monitoring and temperature adjustment, to avoid radical adjustments late in the crop. Use high average daily temperatures (70-75°F) to speed development & lower temperatures (55-60°F) to slow development.
10	Jan. 24	Bud set nearly done, maintain temperature below 65F until complete. Then begin leaf counting & graphical tracking.		
9	Jan. 31	5-6" tall. Adjust temperatures as needed. Space lilies to avoid yellow leaves & stretching.		
8	Feb. 7	Check for aphids & root problems. Apply Marathon sometime during weeks 10, 9, or 8. Soil test & use calcium nitrate for balance of schedule if leaf scorch seen.		**Controlling Lily Height:** Use A-Rest or Sumagic along with cultural and temperature manipulation as needed. But, do not use Sumagic with DIF. *Cultural practices:* Keep glazing clean, space lilies on time, avoid high day-time temperatures. *Temperature control:* Use DIF, or cool morning DIP, after buds have initiated. Equal day/night temperatures, high night/low day temperatures or cool morning temperatures will cause DIF effect (i.e. keep lilies short).
7	Feb. 14	7-8" tall, lilies are about half final height. 42 days to sale. Buds can be felt - some seen.		
6	Feb. 21	35 days to sale. Buds should be visible no later than 30 days prior to sale. Once buds are seen, grade lilies for uniformity.		
5	Feb. 28	Buds ½-1" long.		
4	Mar. 7	Buds 1-1 1/2", some bending down.		
3	Mar. 14	Buds 1 1/2-2" long, use dithio or Vapona smoke or vapor for aphids if Marathon was not used earlier.		**Prevent leaf yellowing:** Apply 100 ppm Accel or Promalin to all leaves on the lower portion of the stem before leaf yellowing begins in the greenhouse (wk 7 or 6). Maintain proper nitrogen fertilization & proper spacing.
2	Mar. 21	Buds 2-4", some turning whitish. Cool lilies at 35-45F. Stop fertilizing just before sale & apply clear water once.		
1	Mar. 28	Ready to sell. Shade lilies once removed from storage.		
0	Apr. 4	HAPPY EASTER!		

COMMENTS ON THE EASTER LILY SCHEDULE

Expectations for 1999: Easter falls on April 4 in 1999. Easter holidays that falls between April 3 & April 15 are classified as mid-date Easters. Mid-date Easters are generally good for growers because they afford adequate time for proper cooling and forcing without adding a lot of extra time to hold the crop.

Insurance lighting is used to compensate for insufficient cooling. If you arrive at week 14 with CTF or naturally cooled bulbs, or week 17 with case-cooled bulbs, and have not accumulating the 1000 hours of cooling needed for normal greenhouse forcing then you will need to use insurance lighting. If insurance lighting is needed, provide one week of lighting for each week of cooling needed to reach 1000 hours. Incandescent lighting used for photoperiod control (10 fc from 10pm-2am daily) will do the trick.

***Media, fertilization, & irrigation:** Test potting medium before bulbs arrive. If especially low in phosphorus, incorporate up to 3 lbs of superphosphate per cubic yard. If leaf scorch has been a problem in the past adjust pH to 6.5-7.0 and do not add superphosphate. If calcium is low (below 100 ppm) but pH is in a good range, incorporate gypsum at 2 - 4 lbs. per cubic yard. Ten to thirty percent mineral soil added to the potting medium (v/v) will decrease leaching of many nutrients under acidic water conditions.*

Start fertilizing with soluble formulation when lilies emerge and continue to within 7 days of sale. Use a 15-0-15 fertilizer formulation or combine calcium nitrate (3 parts) with potassium nitrate (2 parts) to make a 15-0-18 soluble fertilizer. If phosphorus was not added to the medium, 20-10-20 can be used on an alternating basis with a 15-0-15. Fertilizer rates should range from 200-400 ppm. Do not allow medium EC to exceed 2 mmho/cm based on a 1:2 soil:water extract (i.e. Spurways analysis) or 3.5 mmho/cm based on a Saturated Media Extract.

Stop fertilizing just before sale. Provide one clear watering (no fertilizer) before lilies are shipped - this will reduce salt levels in the potting medium and maximize lily keeping quality.

Do not withhold water or fertilizer to slow development. Do not over water (i.e. water too frequently) or root rot problems may occur.

***Disease and pest control:** To control Pythium apply Subdue 2E (1.5 tsp/25 gal.), or Truban 25 EC (1-2 fl. oz./25 gal.). To control Rhizoctonia apply Terraclor 75WP (1-2 oz./25 gal) or Cleary's 3336-F (5 fl.oz./25 gal). Use Banrot 40WP (at 1.5-3 oz/25 gal.) to control both disease organisms. Apply these materials at the 1st or 2nd watering using 8 fl.oz/6" pot or 5 fl.oz./5" pot. Allow sufficient space in the top of the pots to hold the drench and follow label directions on all fungicides. Alternatively, Banrot 8G can be incorporated into the mix before planting at a rate of 16 oz/cubic yard to control both diseases, or for Pythium only, incorporate Truban 5G at 5 oz/cu.yd.*

Aphids, fungus gnats and bulb mites are the major concern. For aphids Marathon, Dithio, Enstar II, Thiodan, Ultrafine Oil, Insecticidal Soap, Talstar, Tempo or Vapona can be used. Use only smokes or aerosols once in bud. For fungus gnats, use Vapona or Resmethrin for adults, use Knox Out (Diazinon), Gnatrol or Nemasys or ScanMask for larvae. (Note: Nemasys or ScanMask is specific for fungus gnats and will not control Shoreflies). Treat for Bulb mites (Rhizoglyphus robini) by soaking lily bulbs in Kelthane (5 oz/25 gal.) or Dursban (2-4 oz/25 gal) for 30 minutes prior to potting.

***Plant growth regulators:** Apply PGRs, A-Rest or Sumagic, when shoots are 3-5" tall to control lily height. Use A-Rest at a rate of 1 oz./gal. and Sumagic at a rate of 0.07-0.13 fl.oz/gal. Apply both as a drench at 4 fl.oz./6" pot. A-Rest can be applied as a split application (0.5 fl.oz./gal.) at one week intervals. Sumagic can also be used as a spray, 10-30 ppm (2.5-7.5 fl.oz./gal). For split applications, spray Sumagic when lilies are 3" tall and, if needed, repeat when lilies reach 6".*

***Lily storage:** Lilies can be stored at 35° - 45° (in the dark) when buds turn white but before they open for up to 10 days. Spray with Chipco 26019 (4-8 oz./25 gal.) or dust lightly with Daconil 2787 WP for Botrytis control during storage. Follow label directions. Water thoroughly before storage and place in a SHADY location after removal to avoid excessive wilting.*

Average heights and times for forcing are presented in this schedule. Adjust according to plant growth, bud development and past experience. See 1999 Notes on reverse side and articles in this issue.

If you have problems contact your Extension Educators.

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