

**2022 University of Connecticut
EASTER LILY SCHEDULE
Richard McAvoy**

Weeks Prior to Easter	Date	Forcing method	
		Case-Cooled	Pot-Cooled (CTF)
27-26	Oct. 10-17	Bulbs dug, shipped & in hand by end of October. Programming starts immediately. Treat bulbs for mites before cooling begins. See Notes on next page & accompanying article for details.	
25-23	Oct. 24-Nov. 7	Start bulb programming as soon as bulbs arrive but no later than 23 weeks before Easter. (If started before week 23, see notes for options for using the extra time). Cool at 40-45F for 6- weeks Pot and allow roots to grow at 60-62F for 3-weeks	
22-20	Nov. 14- 28	---	Cool at 40-45F for 6-weeks
19-17	Dec. 5 - 19	Pot no later than 17 weeks before Easter (If started earlier see week 13 instruction) Force in greenhouse at 60-62F.	---
16-14	Dec.26 – Jan 9	Early plantings emerging & buds beginning to set. On later plantings, roots visible by wk 15 & shoots emerge by wk 14. Start fertilizing & keep moist. --- Force in greenhouse at 60-62F in pot.	
13	Jan. 16	1-2" tall. Apply fungicide drench as needed. Run 46F for 1 to 2 weeks to increase bud count BUT ONLY if lily programming started 1 to 2 weeks early & bud initiation has begun. See article for details.	
12	Jan. 23	2-3" tall. Bud initiation coincides with stem root development. Run 60-62F day/night until bud set is complete.	
11	Jan. 30	3-4" tall. Apply growth regulator when 3-5" tall. Maintain temperature below 65F until bud initiation complete.	
10	Feb. 6	Check for bud set. Begin leaf counting & graphical tracking. Keep house cool if ahead of schedule.	
9	Feb. 13	5-6" tall. Adjust temperatures as needed to maintain schedule. Space lilies to avoid yellow leaves & stretching. If leaf yellowing is evident, apply Fascination to lower leaves (7 to 10 days before visible bud).	
8	Feb. 20	Check for aphids & root problems. Soil test & if leaf scorch is evident, use calcium nitrate for balance of schedule.	
7	Feb. 27	7-8" tall. Lilies are about half final height. 42 days to sale. Buds can be felt. If buds are visible on early planting run 60F until finish.	
6	Mar. 6	35 days to sale. Buds should be visible no later than 30 days prior to sale. Grade for uniformity as buds become visible. Apply Fascination if leaf yellowing seen or anticipated.	
5	Mar. 13	Buds 0.5-1" long.	
4	Mar. 20	Buds 1-1.5", some bending down.	
3	Mar. 27	Buds 1.5-2" long.	
2	Apr. 3	Buds 2.5-4" long., some turning whitish. Stop fertilizing just before sale & apply clear water once. Store lilies at 35-45F to hold. Apply Fascination to entire plant prior to cold storage to prevent leaf yellowing.	
1	Apr. 10	Ready to sell. Shade lilies once removed from storage. If needed, use EthylBloc prior to shipping.	
0	Apr. 17	Easter 2022	

NOTES & COMMENTS ON THE 2022 EASTER LILY SCHEDULE

Easter 2022 outlook: Easter falls on a late date in 2022 (April 17). Growers will need to control (slow) lily crop development without sacrificing quality. Average heights and times for forcing are presented in this schedule. Adjust schedule according to plant growth, bud development, starting time, and experience. If you have problems with your crop, contact your Extension Educator.

Fertigation: Start fertilizing with a soluble formulation when lilies emerge and continue to within 7 days of sale. Combine calcium nitrate (3 parts) with potassium nitrate (2 parts) to make a 15-0-18 soluble fertilizer or use a commercial 15-0-15 formulation. 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 3-3.5 mS/cm based on a Saturated Media Extract. Stop fertilizing just before sale. Provide one clear watering before shipping to this will reduce salt levels and maximize shelf life. Do not withhold water or fertilizer to slow development but avoid over watering (i.e. water too frequently) or root rot problems may occur.

Lily timing: Use lower forcing temperatures to slow crop development for the late Easter 2022. Monitor lily development each week (use leaf counting to accurately gauge crop timing). Adjust temperature to keep plants on schedule. Use average daily temperatures of 70-75F to speed development, use temperatures of 55-60F to slow development.

Pot-cooled bulbs are normally potted & held for 3 weeks at 63F before starting 6 weeks of bulb cooling at 40-45F (see the 2022 Easter Lily schedule for details). The bulbs then require 14 weeks of greenhouse forcing. This entire process requires 23 weeks from initial potting to Easter. This same process is used for both naturally cooled or CTF bulbs. Bulbs should be available to start this process on schedule (Nov. 7, 2021). They may arrive before this date. If that is the case, start case cooling or for CTF plant the bulbs as soon as they arrive and start your vernalization process as normal. You can use the extra time later in the forcing process to increase bud count.

Case-cooled bulbs require six weeks of cooling followed by 17 weeks of greenhouse forcing to flower in time for Easter. Be sure that commercially case-cooled bulbs arrive & are planted by Dec. 19, 2021. If you cool your own bulbs, start by Nov. 7 (23 weeks before Easter). Insurance lighting should not be necessary this year.

Bud initiation: Run 60-62F day & night during bud initiation. Once primary buds initiate, secondary buds can be stimulated by running the greenhouse at 46F for up to 14 days (one day at 46F for each day bulb programming started prior to the Nov. 6th date). Note: Cool temperatures slow lily development - **only use this technique** if greenhouse forcing begins prior to week 17 for case-cooled, or week 14 for pot-cooled bulbs.

Decrease Leaf Yellowing & Delay Flower Senescence: To prevent early-season leaf yellowing (7 to 10 days before visible bud) & mid-season leaf yellowing (7 to 10 days after visible bud) spray Fascination or Fresco at 10/10 ppm. Apply only to lower leaves & cover thoroughly. To prevent late-season leaf yellowing and post-harvest flower senescence, thoroughly cover all foliage & buds with spray at 100/100 ppm to. Apply when buds are 3 to 3 ½" long BUT NOT MORE than 14 days before shipping or cooling. Protects leaves from yellowing for up to 14 days. Note: Avoid direct contact of spray to immature leaves during early- & mid-season applications or increased stem stretch will result.

Disease and pest control: Before planting, clean bulbs of debris removing any damaged scales, especially scales that show evidence of infection. Once potted, root rots associated with Rhizoctonia, Fusarium, and Pythium are a concern. Drench immediately with Banrot, Pageant Intrinsic, broad-spectrum fungicides, or you can treat to control these diseases separately by selecting from the fungicides specifically registered for Rhizoctonia, Fusarium and Pythium control on lily. Materials registered for Rhizoctonia and/or Fusarium include 3336, OHP 6672, Chipco 26019, and many generics; Heritage, Pageant Intrinsic, Spirato, Mural and Terraclor (Rhizoctonia). Materials registered for controlling Pythium include Alude, Banol, Subdue Maxx (beware of using mefenoxam exclusively because of widespread fungicide resistance issues with this active ingredient), Segway O, and Truban. Check with manufacturers regarding compatibility when tank mixing fungicides. Re-applied fungicides later in the crop as needed, check labels for guidance. Preventative biological fungicides (RootShield, Rootshield Plus, Cease, Actinovate, Mycostop, Companion, LALSTOP, and Triathlon BA.) may be applied at planting for disease suppression and to enhance root growth. Check with company or product labels information for safe time intervals between application of biological agents and chemical fungicides.

Aphids, fungus gnats and bulb mites are a major concern. Many chemicals are listed for aphid control, including: Safari, Flagship, Tristar, Marathon, and many generics, Enstar AQ, Suffoil X, M- Pede, Kontos, Endeavor, Aria, Mainspring GNL, Rycar and Ventigra. Fungus gnats can be controlled with some of these same chemicals as well as Citation, Distance, Adept, Pylon, insect parasitic nematodes (Nemasys, NemaShield, Scanmask, Entonem) and Gnatrol WDG. Bulb mites, Rhizoglyphus robini, represent one of the more troublesome insect pests on lilies and effective management requires an integrated approach. Bulb mites are a secondary pest commonly associated with decay caused by fungus gnat damage and soil-borne fungal pathogens. Note: Registration of pesticides varies by state so consult and follow labels for registered use. To avoid any potential phytotoxicity or residue problems, spot test before widespread use. No discrimination intended for products not listed.

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Controlling Lily Height: Monitor lily height regularly during forcing. If height exceeds the target size, run negative DIF or use a growth retardant such as A-Rest, Chlormequat E-Pro, Concise, Cycocel or Sumagic to slow stem elongation. If height is less than the target size, run positive DIF or use a gibberellin PRG such as Fascination or Fresco to increase stem elongation. Split applications of PGRs provide the best results. You can apply any of the PGRs at ½ to ¼ the normal rate (or even less) and use multiple applications as needed. Reduce the concentrations of Sumagic used when combined with DIF. Use DIF, or cool morning DIP, to control lily height. Equal day/night temperatures, high night/low day temperatures or a cool morning temperature dip will produce a DIF effect and keep lilies short.

Lily storage: Lilies can be stored for up to 14 days in the dark at 35-45F when buds turn white but before they open. Spray for Botrytis control prior to moving lilies to cold storage. Fungicides labeled for botrytis control include Affirm, Phyton, and the biofungicide Cease. Always follow label directions and test fungicides on a small group of lilies for damage to or residue on lily buds before using on the entire crop. Water Easter lilies thoroughly before starting cold storage. After removing from the cooler, place lilies in a shady location to avoid excessive wilting.

All agrichemical/pesticides listed are registered for suggested uses in accordance with federal and Connecticut state laws and regulations as of the date of printing. If the information does not agree with current labeling, follow the label instructions. The label is the law. Contact the Connecticut Department of Energy and Environmental Protection for current regulations. Where trade names are used for identification, no product endorsement is implied nor is discrimination intended.

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