

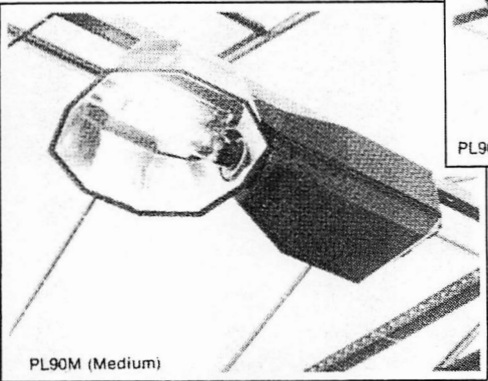
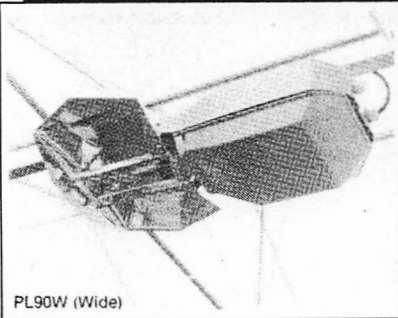
- December 16 Continue as above. Check temperatures. There should be plenty of time for a cool start this year because Easter is later, April 19.
- December 23 Continue relatively cool temperatures until emergence. White roots should be coming visible in some pots. Keep pots uniformly moist. Start feeding program now or plant quality will suffer.
- December 30 First plants emerging.
- January 6 Many plants should be emerging. Start lighting if needed. Some growers start sorting for flowering uniformity and applying growth regulator.
- January 13 Crop is mostly emerged. Move non-emerged plants to warmer areas. Maintaining cool temperatures (55 F to 58 F) for seven to 14 days during flower initiation can increase bud count. Under no circumstance should warm nights (above 65 F) be used, or reduced bud count will result.
- January 20 Buds are probably initiating. Stem roots become visible at this time also. Start graphical tracking. Dissect a few plants for evidence of flower initiation so you can begin leaf counting. Drench with Banrot at 8 ounces or Subdue at one-half ounce per 100 gallons of water.

- January 27 Consider A-Rest applications and/or negative DIF depending on graphical tracking information after buds have initiated.
- From Feb. 3 Follow same schedule as for controlled temperature forcing.

Commercial case cooling schedule
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 if ice is found in the cases. If bulbs are received earlier or later than above, check with your supplier as to proper procedure. Pot immediately. Don't unpack bulbs until ready to pot. Don't let bulbs dry before potting. Store cases and bulbs between 60 F and 65 F before planting (colder than this if bulbs have sprouted). Assume potting December 9 for this schedule. Suggested dates are: emergence, January 6; flower initiation, January 24; and visible bud, March 2.

- November 19 Make final plans for greenhouse space, soil and pots.
- From Dec. 2 Follow same schedule as for home case cooling.

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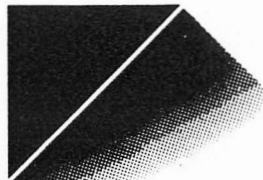
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**Lily leaf counting
 technique and
 time schedule**

by Royal D. Heins

Here are suggested dissecting and counting techniques and schedules for the Easter 1992 forcing schedule for a late Easter, April 19.

Leaf counting is a technique used to ensure proper timing of a lily crop. Once a lily shoot initiates a flower bud,

55(8)

no more leaves will form. At visible bud, all the leaves have unfolded. So if you know how many leaves have yet to unfold on a plant before the visible bud stage, you can calculate how many leaves must unfold each day (or week) to reach the visible bud stage by a particular date. By knowing the number of leaves that must unfold each week and by counting leaves that actually unfolded the previous week, you can determine if a crop is slow, fast or on time. Then you may increase or decrease the air temperature to hasten or delay plant development for proper crop timing.

1. **Leaf counting** is usually started three to four weeks after emergence or when plants are 3 to 4 inches tall. Examine the first plants to determine if flower initiation has occurred. If they're still vegetative, examine a new set of plants four to five days later.

2. A **minimum** of three to five plants for every bulb source and bulb size should be taken to estimate crop's average leaf number. Count how many leaves have unfolded on each plant and how many have yet to unfold. Unfolded leaves are at an angle equal to or greater than 45 degrees with the plant stem. The actual leaf angle is less important than consistency between countings. Use a large needle and a magnifying glass to help remove small, scale-like leaves near the shoot apex. The embryo-like flower buds will be present on reproductive plants. Estimate a future bud count on these plants.

3. **Divide** the number of leaves already unfolded by the number of days from emergence until the present date. This will tell how many leaves have unfolded each day to date.

4. **Determine** the visible bud date. The visible bud date is normally 30 to 35 days prior to the expected flower date (often the week prior to Palm Sunday, April 9, 1992). March 5 is 35 days before April 9, 1992. It takes 30 days from visible bud to flower at 70 F and 35 days at 65 F. Not all plants reach visible bud the same day.

5. **Divide** the number of leaves that have yet to unfold by the number of days from leaf-counting day until the expected visible bud date. This figure tells you how many leaves must unfold each day to achieve visible bud at the desired time.

6. **If the number** of leaves to unfold each day is greater than the number of leaves unfolded each day from emergence until the day of counting, increase the average greenhouse air tem-

perature. If the number of leaves to unfold each day is smaller than the number of leaves unfolded each day prior to leaf counting, decrease air temperature to slow development.

7. **In the greenhouse**, mark the last unfolded leaves on several representative plants of each lot and bulb size. Different methods can be used. They include marking each unfolded leaf with a magic marker or hole punch or by placing a wire hoop above all expanded leaves on the shoot but below the yet unexpanded leaves. (We recommend using a wire hoop.)

8. **Twice a week**, count and record

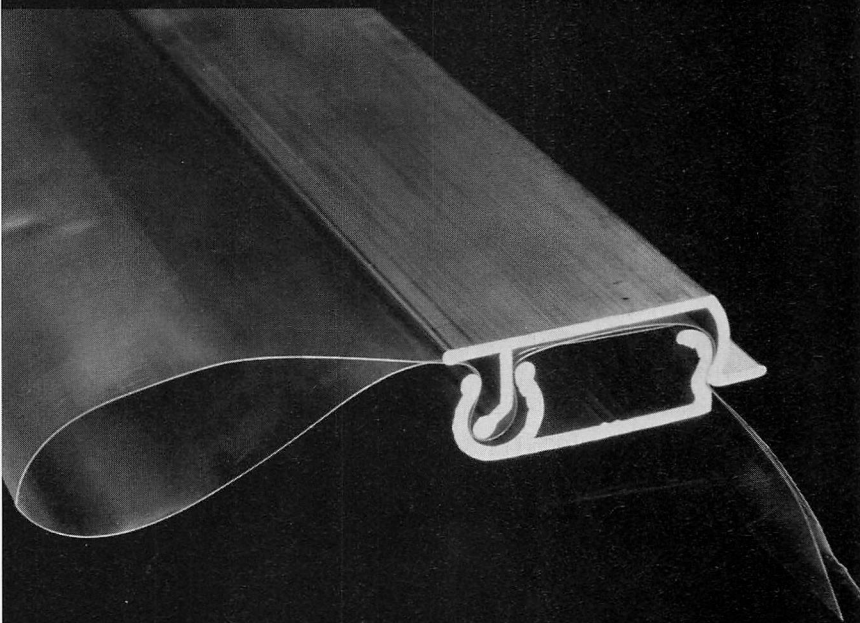
the average number of leaves unfolded and calculate the daily unfolded rate. Compare data to determine if leaf number is higher or lower than that necessary for proper timing. Adjust temperatures accordingly.

9. **The rate of leaf unfolded** is a linear function of the average temperature delivered to a lily crop over time. In other words, the increase in the rate of leaf unfolding resulting from 55 F to 60 F is the same as that from 70 F to 75 F.

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