

LOG OF EASTER LILY RECORDS AND NOTES FORCING YEAR 1990-1991 - EASTER, March 31, 1991

by John Erwin 1

Introduction:

This form has been designed to provide factual information to the forcer, jobber, grower and extension agent when/if problems occur with an Easter lily crop. The forcer should accept full responsibility to document cultural steps imposed on their lily crop and to report problems immediately to his jobber. Failure to keep proper records and failure to report problems within two weeks of the date these problems are first observed should absolve the jobber from responsibility of crop problems. Further, these records would be invaluable for future reference when forcing for the various Easter dates.

I. Basic Information:

Date of arrival:

Bulb Source:

Number of cases and bulb size:

II. Inspection Of Bulbs On Arrival:

	Excellent	Good	Fair	Poor
a. roots	_____	_____	_____	_____
b. basal plate	_____	_____	_____	_____
c. scales	_____	_____	_____	_____
d. condition of peat:	Moist		Dry	
e. sprouting:	Yes		No	

If bulbs are sprouting, specify the amounts

If there are serious problems here, immediately contact your jobber.

III. Soil Composition And Test:

Components of medium (do not use superphosphates or perlite)

Item	Quantity (vol. or weight)
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Results of soil test before potting should be on file:

IV. Bulb Planting:

Date bulbs are planted:

Did you soak (30 minutes) bulbs in Kelthane (1-1/3 lbs. 35% WP/100 gal.) for control of possible bulb mite problems? Yes No

V. Programming Method Used:

- a. case-cooled by commercial firm
- b. case-cooled in own facility
- c. potted and then cooled in the field or cold frame
- d. potted and CTF'd (rooted for 2 or 3 weeks at 62-65oF, then cooled for 6 weeks at 35-40oF for 'Ace'; 40o-45oF for 'Nellie White'.

Note: 1,000 hours of cooling (6 weeks) is required for complete programming. If not totally cooled, see the insurance policy technique on the following page. Do not overcool either!

Do you know that at planting about half of an Easter lilies' leaves are already formed? It is true! You, the forcer, form the balance of the leaves and flower buds while under your control.

VI. Cooling To Flower Initiation Stage:

Record both air and soil temperature daily from planting to January 21, 1991 when flower buds have formed. Soil temperature should be 62-65oF for optimal root formation prior to the cold treatment and after the cold treatment until flower buds have initiated (January 13-21). Because of the early Easter this year keep soil temperatures at 65oF. The bulk of your Easter lily population should be emerged by December 22, 1990. Air temperatures should never go above 70oF. High temperatures can delay flower initiation.

Try to day temperature down. High day temperatures relative to night temperatures may cause excessive elongation.

Date of emergence: early population _____

 medium population _____

 late population _____

It is advantageous to sort your crop into three populations: rapid, medium and slow, and place each group into the respective temperature micro-climates in your greenhouse to even your crop out.

Did you light your lilies upon emergence for 1 or 2 weeks, i.e., incandescent mum lighting (10 foot-candles) turned on from 10:00 p.m. to 2:00 a.m. or second best from 5:00 a.m. to 8:00 a.m.? This lighting substitutes for inadequate cooling and evens up the crop and can be considered similar to an "insurance policy". This policy should be used for all early Easter dates. The late emerging populations should be lighted for 1 week.

	Early Population	Medium Population	Late Population
Date insurance policy started:	_____	_____	_____
Date insurance policy ended:	_____	_____	_____

Do not run temperatures above 70oF (21oC) during the insurance policy light treatment. It is not effective at high temperatures.

Dates of rooting, pH, soluble salts or soil test: _____, _____, _____
 (test every 2 or 3 weeks and file the results). Dates and fungicidal material used at routine soil drenches for root rot control. Drenches should be made on the following dates: at planting, after cooling, every 3-4 weeks thereafter (record actual dates).

VII. Flower Initiation And Leaf Counting:

During the third week of January, dissect 3-5 representative plants from each bulb source and bulb size, count leaves and observe if reproductive buds are present. For 19 years 'Ace' bulbs which were CTF'd produced plants which averaged around 92.5 leaves; 'Nellie White' have averaged 82 leaves. In 1972, we had a high of 105 leaves for 'Ace' and in 1977 we had a low of 65 leaves for 'Nellie White' from CTF'd bulbs. Visible bud date should be no later than February 17, 1991, 37 days before Palm Sunday. This will insure that most lilies will be in flower by Palm Sunday. Most plants will flower on March 21, 1991 if plants are grown at an average temperature of 65°F from flower initiation to visible bud and a 68°F average temperature from visible bud to flower with a crop of Easter lilies averaging 90 leaves.

Refer to the article by Royal Heins on leaf unfolding procedures.

Leaves Unfolded At Flower Initiation

Leaves Yet To Unfold By Visible Bud

Total Average Leaf Number Per Plant

Leaves Per Day Needed

Adjust temperatures weekly to hasten or slow leaf unfolding as necessary. Measure temperatures daily and count unfolded leaf number weekly.

VIII. Pest Control

Insecticides:

Insecticides Applied:

Date	Insect	Material
1) _____	_____	_____
2) _____	_____	_____
3) _____	_____	_____
4) _____	_____	_____
5) _____	_____	_____

Fungicides:

Apply fungicides for both Rhizoctonia and Pythium control. Applications of fungicides are recommended on the following dates:

Case cooled:

- 1) at planting
- 2) January 15, 1991
- 3) February 15, 1991
- 4) March 15, 1991

Controlled Temperature Forced:

- 1) at planting
- 2) immediately following cooling
- 3) January 15, 1991
- 4) February 15, 1991
- 5) March 15, 1991

Fungicides Applied:

	Date	Fungus	Material
1)	_____	_____	_____
2)	_____	_____	_____
3)	_____	_____	_____
4)	_____	_____	_____
5)	_____	_____	_____

IX. Final Developmental Data

Average leaf number at flower initiation: _____

Average date of visible bud: _____

Average leaf number at flower: _____

Average flower number: _____

Average date of flower: _____

1990

October

Record Temperatures Daily

Sun

Mon

Tues

Wed

Thurs

Fri

Sat

	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15 Plant	16	17	18	19	20
21	22	23	24	25	26	27
28	29 Start Cooling	30	31			

Extend

1990

November

Record Temperatures Daily

Sun

Mon

Tues

Wed

Thurs

Fri

Sat

				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Extend

1990

December

Record Temperatures Daily

Sun

Mon

Tues

Wed

Thurs

Fri

Sat

						1
2	3	4	5	6	7	8
9	10 Start Forcing	11	12	13	14	15
16	17	18	19	20	21	22
23	24 Emergence	25	26	27	28	29

Extend

1991

January

Record Temperatures Daily

Sun

Mon

Tues

Wed

Thurs

Fri

Sat

30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15 Initiation	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Extend

1991

February

Record Air Temperatures Daily

Sun

Mon

Tues

Wed

Thurs

Fri

Sat

					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17 Visible Bud	18	19	20	21	22	23
24	25	26	27	28		

Extend

1991

March

Record Air Temperatures Daily

Sun

Mon

Tues

Wed

Thurs

Fri

Sat

					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21 Flower	22	23
24 Palm Sunday	25	26	27	28	29	30

Extend