FACTORS INFLUENCING THE RESPONSE TO PHOTOPERIOD (LD TREATMENT) DURING THE WINTER IN AN AUTUMN-PLANTED CARNATION CROP

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In the Netherlands, it is usual for autumn-planted carnations to be given a few weeks of long days (mostly 24 hrs) in January or February to bring forward flowering in spring. Comparative variety trials have shown large varietal differences in response to LD. In general, early-flowering cultivars respond best to LD.

Average response to LD is usually expressed as the difference in av. flowering date between the Control and LD treatments. In view of the effects of LD on yield distribution, av. response may be better defined as the proportion of shots induced to early flowering and the average flowering date of these shoots in comparison with the Control.

The complex relationships between shoot position, shoot development (number of leaf pairs at a given date) and rate of shoot development influence the date of flowering of individual shoots and their response to LD and can also explain varietal differences:

— the speed of shoot development varieties with shoot position (upper shoots develop more rapidly) and influences average flowering dates in the Control both within and between genotypes

— the number of leaf pairs at the time of LD influences the proportion of shoots responding to LD, again within and between genotypes

Highly responsive genotypes, like the Diantini cultivars, combine relatively high speeds of shoot development with the favourable situation of a higher number of leaf pairs in the lower placed shoots. With cultivars of this type planned carnation production may become a realistic proposition.

External factors — time of planting and pinching, light and temperature — may have a considerable influence on the response to LD treatments. In a breeding programme standardization of selection methods is therefore advisable.

PROFESSIONAL MEETINGS

GREENHOUSE HEATING
Joe J. Hanan

November 5, 1987

Adams County Fairgrounds

7-9 p.m.

Fee: $3.00

FORT COLLINS GREENHOUSE CLIMATOLOGICAL SUMMARY FOR FOUR WEEKS, BEGINNING AUGUST 2, 1987 (See Bulletin 426 for details.)

	Week beginning							
	Aug. 2		Aug. 9		Aug. 16		Aug. 23	
	Day	Night	Day	Night	Day	Night	Day	Night
Average outside temperature (°F)	81	66	76	65	75	65	65	54
Maximum outside temperature (°F)	93	78	90	77	94	81	86	65
Minimum outside temperature (°F)	62	55	64	57	55	52	53	46
Degree-days of heating								77
Accumulated total solar radiation (MJ/sq.m.)	79	1	28	0	122	1	101	1
Average relative humidity (%)	48	67	41	72	40	53	68	93
Maximum relative humidity (%)	83	93	74	87	94	100	100	100
Minimum relative humidity (%)	16	34	20	33	10	13	16	56
Average absolute vapor pressure (mb)	14	14	12	12	10	11	13	14
Average wind speed (mph)	2	1	3	1	2	1	2	1
Maximum wind speed (mph)	15	12	26	10	22	19	23	8
Average CO_2 concentration (Pascal)	23	—	31	—	32	—	33	—
Maximum CO_2 concentration (Pascal)	29	—	34	—	41	—	43	—
Accumulated gas consumption (cu.ft./sq.ft.)	1	1	1	3	4	8	11	34

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