

Agricultural Development and Advisory Service

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CONTRACT REPORT

C87/0360 (1987/88)
Pot Chrysanthemums:
Mother Plant Trial
for
Horticultural Development Council

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PRINCIPAL WORKERS

S R Ellis Bsc Hons. Hort. (author of report)

AUTHENTICATION


I declare that this work was done under my supervision according to the procedures described herein and that this report represents a true and accurate record of the results obtained.


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Date 13/10/88.....

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CONTENTS

	Page
Summary	1
Materials and Methods	
Design	2
Culture details	
Recording	
Summary Diary	3
Results	
Discussion	4
Conclusions	
Recommendations for future work	
Appendix I: Crop Diary	

Design

Three replicates of each treatment at each sticking date. One plot consisted of eight recorded pots.

Culture details

Stock beds: stock beds of chrysanthemum Purple 'Princess Anne' were established at Efford EHS over a period of months. Culture of the beds was according to typical commercial practice. Half the beds were treated with daminozide (Alar - 625 ppm) at weekly intervals and half left as untreated controls. Cuttings were taken at regular intervals for despatch to Lee Valley, providing cuttings from the desired flushes in the weeks required.

Prior to packing, all cuttings were dipped into a hormone rooting powder.

Pot culture: unrooted cuttings were direct stuck into 14 cm dwarf pots of a peat based potting compost. Culture followed commercial practices described in report. Crop diary is at Appendix I.

Departure from plans: cuttings from the oldest stock beds were not available at the first sticking date.

Recording

All plants from one sticking were recorded when the majority were at optimum marketing stage. Each plant in each pot was measured for height and the most advanced flower on each plant scored for maturity on a scale of 1 - 8 (Cockshull, 1972), 1 = bud tightly closed and 8 = flower fully open.

Summary Diary

Crop number	stuck	short days	pinched	recorded
49	4 Dec	22 Dec	11 Jan	17 Mar
9	3 Mar	18 Mar	30 Mar	19 May
13	29 Mar	12 Apr	23 Apr	13 Jun

Results

Table 1: Effects of age of mother plant on growth and development at marketing, mean of three crops

	Flush			LSD
	1 2nd	2 4th	3 6th	
Mean height (mm)	181.0	179.0	181.0	-
Standard deviation of height	14.3	14.5	16.4	-
Mean flower stage	6.4	6.4	6.4	-
Standard deviation flower stage (1-8)	0.71	0.66	0.61	-
Flowers and buds	16.5	16.5	17.6	-

Table 2: Effects of the use of daminozide applied to the mother plant on pot chrysanthemums at marketing

	daminozide	control	LSD
Mean height (mm)	178.0	182.0	-
Standard deviation of height	15.5	14.3	-
Mean flower stage	6.4	6.4	-
Standard deviation flower stage	0.69	0.64	-
Flowers and buds	16.7	16.9	-

Discussion

Growers viewed the trials on two occasions; one midway through a crop and once at marketing stage. On neither occasion were there marked differences in the crop and growers had difficulty in identifying any treatment effects before or after the plots were identified.

The data collected were subject to analysis of variance and no significant treatment effects were discovered. It would therefore appear unlikely that within the range tested, neither age of stock plant or use of daminozide has any influence on the final quality of pot chrysanthemums.

Conclusions

Neither age of stock plant nor use of daminozide on stock beds had any influence on plant growth or development at marketing stage.

Recommendations for future work

No further investigation is warranted.

Appendix I: Crop Diary

Operation	Dates		
	Crop 1 Week 49	Crop 2 Week 9	Crop 3 Week 13
Sticking, Purple Anne, covered with polythene	4.12.87	3. 3.88	29. 3.88
Alar applied at 0.75 g/litre	7.12.87	7. 3.88	1. 4.88
Polythene removed	16.12.87	11. 3.88	9. 4.88
Alar applied at 3 g/litre	14.12.87	14. 3.88	8. 4.88
Plants half spaced to 200 mm x 200 mm, feeding commenced	22.12.87	18. 3.88	12. 4.88
Pinching	11. 1.88	30. 3.88	23. 4.88
Plants full spaced to 300 mm x 300 mm	15. 1.88	30. 3.88	24. 4.88
Alar applied at 3 g/litre	27. 1.88	8. 4.88*	3. 5. 88*
Alar applied at 3 g/litre	5. 2.88	15. 4.88	9. 5.88
Disbudding	23. 2.88	3. 5.88	27. 5.88
Recording, all plots	16. 3. 88	19. 5.88	13. 6.88

* Alar applied at 4.5 g/litre