

Age Has No Effect on Chrysanthemum Budding

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The time required to flower chrysanthemums was the same regardless of the age of the plants when the plants were grown at a night temperature of 60°F. Vegetating periods from zero to six weeks gave no difference in time to flower after short days were started with either single stem or pinched plants. All varieties responded similarly, regardless of time of year.

These experiments were made to determine the effects of the age of the vegetating stem the growth and flowering time of three pompon varieties.

Rooted cuttings were planted at two week intervals. The cuttings were spaced 7 x 8", 50 plants per treatment. Two weeks after planting the plants were soft pinched. The shoots were grown so that at the start of the short day treatment the age of the lateral shoots were 6, 4, 2, 0 weeks from the pinching date. The three strongest lateral shoots were selected. The same pompon varieties were grown under normal light intensities at three different seasons of the year. The

Pinched Plants

Variety	Vegetating Period in weeks	Weight in ounces	Length in inches
1. May Flowering Encore:	6	2.6	36.5
	4	1.9	34.4
	2	2.1	30.2
	0	1.5	18.0
Golden Chord:	6	2.3	36.0
	4	2.2	37.9
	2	1.8	38.2
	0	2.2	33.2
2. October Flowering Encore:	6	3.2	39.0
	4	2.7	29.8
	2	2.1	23.7
	0	1.5	16.7
Golden Chord:	6	2.65	39.4
	4	----	----
	2	1.9	31.2
	0	1.4	27.6
3. February Flowering Encore:	6	1.2	28.6
	4	1.0	23.0
	2	0.8	15.5
	0	0.6	10.1
Golden Chord:	6	1.1	25.0
	4	1.0	20.8
	2	1.0	15.2
	0	0.6	9.1

Table 2 Single Stem Length, Weight, Number of Flowers Per Stem

Variety	Veg. Period in Wks.	Wght. in ozs.	Length in inches	No Fls.
1. October Flowering Encore:	6	3.83	38.3	21.5
	4	3.01	32.9	17.2
	2	2.37	26.4	12.6
	0	1.41	19.9	9.2
Golden Chord:	6	2.16	39.4	19.7
	4	2.34	33.0	15.0
	2	2.19	30.5	10.0
2. February Flowering Encore:	6	1.36	33.5	12.6
	4	1.35	28.7	9.7
	2	1.44	25.8	8.8
	0	1.17	19.4	8.2
Golden Chord:	6	1.16	29.8	14.3
	4	1.04	26.7	12.6
	2	1.20	22.5	10.2
	0	1.07	18.4	9.3

first crop matured in May, the second in October, and the third in February of 1952-1953. The plants were grown at a 60°F minimum night temperature in an automatically heated and ventilated greenhouse. The cuttings which produced flowers in May were supplied by Yoder Brothers, Barberton, Ohio. Plants flowering in October and February were propagated from cuttings grown as stock plants originally supplied by Yoder Brothers and kept at 60°F day and night when the outside temperature permitted.

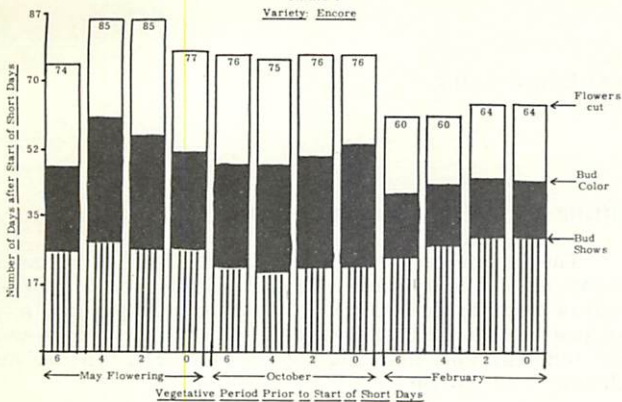
The three varieties used were Encore; a 10-week white pompon; Golden Chord, a 11-week yellow pompon; and Snow, a 14-week white pompon.

Charts 1 & 2 show little difference in number of days for initiation of the buds, and the development of the buds into open flowers. With the varieties Encore and Golden Chord, some of the flowers were open earlier than others, but the difference in complete average cutting date was not significant. Heavier sprays with longer stems and larger number of flowers were produced on the older plants (table 1). In the October and February maturing crop, single stem as well as pinched plants (table 2) were produced. The variety Snow produced salable flowers only in May.

The uniform flowering of the varieties Encore and Golden Chord in October and February, contrasted with irregular flowering in May, can be attributed to the temperature at which the stock plants were grown. Plants that flowered in May were from cuttings of unknown temperature. The delayed flowering is doubtless a result of the low temperature at which the

CHART I

Variety: Encore



stock plants were grown and not related to the age of the plant.

The association of older plants flowering after younger ones is the result of three factors.

1. Low growing temperature (50° vs 60°F) of stock plant produced as much as one month's delay in flowering time, even though the cuttings and plants were grown at 60°F minimum temperature. The delay in flowering resulted in much taller plants, heavier sprays and a larger number of flowers.

2. With accurate control of temperature, terminal or crown flowers can be produced at will by manipulation of daylength. Temperature may alter the daylength response during the growing period, the temperature during stock plant and vegetative period determines the ease of budding.

3. A longer growing period with more than one pinch offsets the effects of low temperature in the stock plant. The maximum delay from low temperature results when a single pinch and a minimum vegetating period is given.

Within the limitations of a six week vegetative period, the age of the plant is not correlated with difficulty of budding and development of flowers. As described, the temperature, daylength control, and growing method actually determine the ease of budding.

CHART II

Age of Plant - Variety: Golden Chord

