

Table 1. Effects of GA<sub>3</sub>, BA and Daminozide on Growth of Pear\*.

Treatment	Length of shoot (cm)	Number of leaves	Thickness of shoot (mm)
Control	14.4 ± 2.50†		4.4 ± 0.09†
GA <sub>3</sub> 10 ppm	16.2 ± 2.56		4.3 ± 0.12
GA <sub>3</sub> 100 ppm	24.5 ± 2.83		4.3 ± 0.17
BA 10 ppm	14.2 ± 1.98		4.4 ± 0.08
BA 100 ppm	14.7 ± 1.88		4.4 ± 0.09
Daminozide	12.5 ± 1.30		5.9 ± 0.22
500 ppm			
Daminozide	12.2 ± 1.20	10.75 ± 0.95	6.0 ± 0.21
1000 ppm			

\*Thirty days after spraying.

†Mean and standard deviation.

growth retardation effects of daminozide have also been reported by earlier workers (5, 7, 8).

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## Floral Initiation in Young Trees of Golden Delicious Apple and 'Bartlett' Pear Under Greenhouse Conditions<sup>1</sup>

C. B. S. RAJPUT AND B. J. E. TESKEY<sup>2</sup>

Apple and pear trees bear two types of shoots, namely, short and long, a study of which is important from the point of view of floral initiation (3). The short shoots (spurs or brachyblasts) grow for 3-5 weeks after bud burst solely by extension of internodes already formed in the resting bud, whereas long shoots (mesoblats) are those in which shoot apex during growth initiates new internodes and leaf primordia.

It is well known that before a plant comes into the reproductive phase, it has to complete a period of juvenility (1, 2, 4, 5, 6, 7, 8). The juvenile period varies from crop to crop. In apple and pear the juvenile stage persists for several years.

An interesting case of flowering was observed by us in two-year old plants of apple cv Golden Delicious and pear cv Bartlett. Dormant trees were taken into greenhouses in early February.

<sup>1</sup>Work partly supported by the Royal Society and Nuffield Foundation, London, England.

<sup>2</sup>Post-doctoral Fellow and Professor of Horticulture, respectively, Department of Horticultural Science, University of Guelph, Guelph, Ontario, Canada, N1G 2W1.

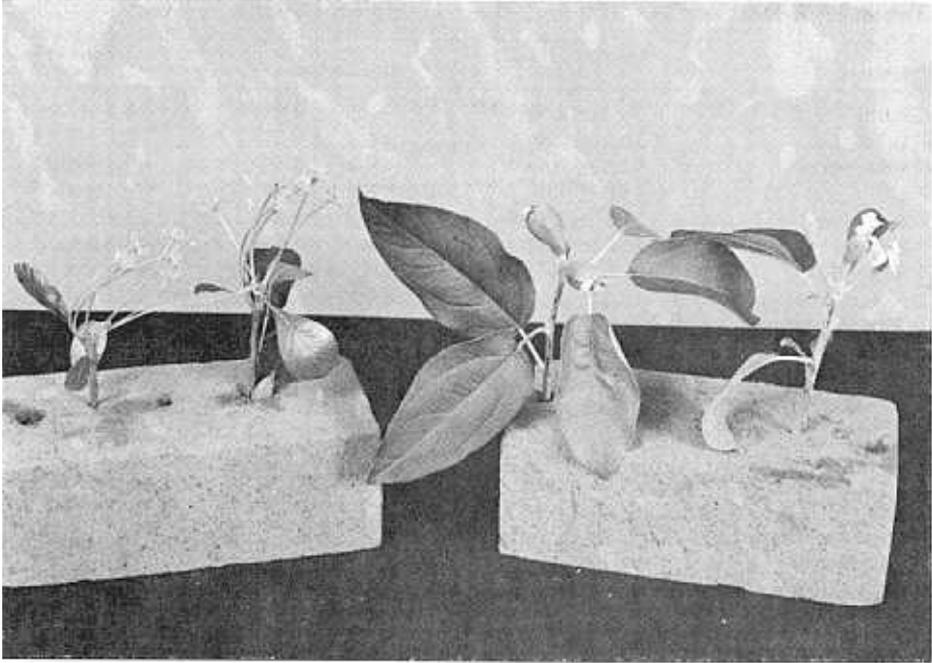


Fig. 1. Flowering on current year shoots of apple and pear.

Soon after the resumption of growth, three plant growth regulants i.e., gibberellic acid, benzyleadenine and daminozide were applied as a spray with the objective of assessing their effects on growth and development.

Flowering was seen on many of the growing shoots in both apple and pear (Fig. 1), irrespective of plant growth regulant sprays. Control as well as the treated plants flowered. In apple, some of these flowers set fruits and a few reached maturity. On examining these fruits it was observed that they were seedless. Perhaps these developed parthenocarpically.

Early flowering in apple under greenhouse conditions has earlier been reported by Zimmerman (6). It may be quite probable that the temperature of the greenhouse causes the plants to flower earlier. Subsequent planned experiments may prove this interaction of temperature and flowering. This will be of immense value

in shortening the period of juvenility and the time required in breeding trials in fruit crops.

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