

## Inducing Early Summer Flowering in Chayote in Northern Climes

Excerpt from “Developmental and Nutritional Aspects of Chayote (*Sechium edule*, Cucurbitaceae),”

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“We have observed that, under greenhouse conditions in temperate regions, chayote will flower in the late fall and winter months when the photoperiods are short (less than 10 hour), but fruit set is poor because of relatively low light intensities. An increase of fruit set can be obtained by application of gibberellins with the subsequent formation of seedless parthenocarpic fruits. However, if light intensities are poor and vine growth is relatively vigorous under warmer temperatures and with abundant fertilization, small immature fruits developing naturally or treated with gibberellins under such conditions will fail to develop further. These fruits will shrivel due to reabsorption of their contents by the vine. Also, under such growing conditions, the subterranean enlarged roots with stored materials will be reabsorbed. The mechanism of reabsorption of the immature fruits or enlarged roots by the vine is not properly understood, but may be presumed to be due to the active growth and a greater mobilizing strength of the vines. The enlarged storage roots are formed in the second year of growth after the vines have attained sufficient size to provide assimilates, and may be considered as a form of reserved materials to buffer the species against unfavorable growing conditions.

For chayote enthusiasts, we found it is possible to grow chayote in temperate regions during summer and early fall months. For such a purpose, chayote should be pre-sprouted and grown under greenhouse or protected conditions before setting the plants outdoors when danger of frost has passed. Then after 6-8 week of growth,

the vines are shaded with dark cloth over a sturdy frame to give the plants a daily photoperiod of 8 hours during the next 4-6 wk. Shading should be done before sunset (e.g., 1600), and the shades removed after sunrise (e.g., 0800) to give the desired 8-hour short photoperiod. Subsequently, after floral induction, the vines are allowed to grow under natural day lengths. With normal care, chayote under these conditions will yield a good crop of fruits.”