

SELF-POISONING OF CUT FLOWERS AND PLANTS

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Investigations have been carried out relative to the causes of flower blossom drop of calceolaria, snapdragon, larkspur and St. Paulia. These plant materials show a characteristic flower abscission, which greatly lessens their commercial value. A knowledge of some of the reasons behind this flower drop may lead to the formulation of improved storage and shipping conditions with better keeping quality of the flowers the ultimate goal.

Causes of flower drop have been most carefully worked out for the first two crops mentioned above, however the latter seem to display similar properties. Numerous experiments indicate that the plant material itself produces a toxic gas. This gas apparently is evolved in the respiration, or as a respiration byproduct of the plant material. The gas evolved by the plant seems to have the property of stimulating the flower drop of the particular plant material in question. We have here the essential condition of self-poisoning of the cut flower or plant. The flowers themselves seem to speed their own blossom drop because they produce this toxic gas!

Apparently the main problem arises when the plant material is confined to a small atmosphere. When fresh air is passed through the atmosphere, or if the plant material is placed in the open air, flower drop is much reduced.

It should be noted that trials to date have been made only at room temperature and that the self-poisoning effect has not yet been investigated under conditions of refrigerated storage.