

## **Studies on ethrel induced fruit and leaf abscission of kumquat (*Fortunella margarita* (L.) swingle)<sup>1</sup>**

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### **summary**

"Ethrel" was applied on detached branches and potted plants of Kumquat to study the possibility of labor-saving harvest method. Fruits and leaves treated by ethylene were observed anatomically first, the abscission zone of mature fruit laid at the junction of the fruit and the pedicel ( abscission zone C). While two abscission zones were found at the laminar and the nodal areas of the leaf. Fruit abscission zone C and leaf laminar abscission zone were observed distinctively before fruit and leaf drop. Excised twigs treated continuously with 3 ppm ethylene resulted in a stain reaction of starch grain at the fruit abscission zone after 18hr. However, both fruits and leaves were dropped after 48hr. Fruit drop were enhanced when trees were applied with ethephon over 1,000 ppm while fruits and leaves were both dropped when treated with 2,000 ppm. Due to the diffusion of ethylene, ethephon solution was not necessary to spray on the abscission zone exactly to induce reaction. Fruits and leaves at different physiological age showed different sensitivity toward the application of ethephon. Large fruits and small fruits were more sensitive than fruits with medium size. Leaves from previous year were the most sensitive in the whole plant. Meanwhile, leaves on the first shoot and second shoot of the present year were more sensitive than those on the third shoot.

(Key Words: Ethrel, Kumquat fruit, Leaf abscission)

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