THE RELATIONSHIP BETWEEN CALCIUM WITH CRACKING PHENOMENON AND QUALITY OF ‘RONGRIEN’ RAMBUTAN FRUITS (*Nephelium lappaceum* Linn)

Tran Thi Bich Van, Le Bao Long, Nguyen Bao Ve

**Summary**

The purpose of the experiment was to find out the relationship between calcium with cracking phenomenon and quality of ‘Rongrien’ rambutan fruit in My Khanh and Nhon Ai Commune - Phong Dien District - Can Tho City, including two experiments: (1) investigated relationship between calcium in soil and fruit content with the fruit cracking phenomenon and quality, carried out on 30 rambutan trees from four to six years old in 2014 season; and (2) investigated the effect of calcium forms as foliar spraying to the ratio of fruit cracking and quality, spraying over the leaf canopy with the dosage of 4 liters.tree$^{-1}$ after 8 weeks of fruit set, spraying 4 times and at fifteen-day intervals; treatments included control (water spraying) and different of calcium forms [Ca(NO$_3$)$_2$, Ca(OH)$_2$, and CaCl$_2$ at 2%]. The results showed there was a correlation between the content of exchangeable Ca$^{2+}$ in soil and total Ca$^{2+}$ in leaves ($r = 0.45^*$) but no correlation with total Ca$^{2+}$ in peels; the ratio of fruit cracking did not correlation with exchangeable Ca$^{2+}$ content in soil and leaves, having a strong negative correlation with total Ca$^{2+}$ and strong positive correlation with ion leakage rate in the peel ($r = -0.69^{**}$ and $0.75^{**}$ respective); the content of total Ca$^{2+}$ of cracking fruits were lower than but their the proportion of ion leakage were higher than those of normal fruits. Results also showed that spraying of calcium over the leaf canopy reduced fruit cracking rate from 1.2 to 1.8 folds compare to the control, despite having the lowest fruit cracking rate but spraying with CaCl$_2$ had a tendency to reduce weight and ºbrix.

**Keywords:** calcium, ‘Rongrien’ rambutan (*Nephelium lappaceum* Linn), quality, fruit cracking, fruit weight.