# ABSTRACT

Abstract of Thesis Submitted to The Graduate School of Maejo University in Partial Fulfillment of The Requirements for The Degree of Master of Science in Horticulture

STUDY ON FUSARIUM WILT RESISTANT STOCKS
OF CANTALOUPE (*Cucumis melo* L.)
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This study was conducted to identify and classify of *Fusarium oxysporum* f. sp. *melonis* which was isolated from an infected cantaloupe planted in the Division of Vegetable Technology (Department of Horticulture, Faculty of Agricultural Production) at Maejo University (MJU), Chiang Mai province. The strains of *Fusarium oxysporum* f. sp. *melonis* were taken from different cantaloupes of Fusano, CM17187, Charentais and Heart of Gold cultivars infected with Fusarium wilt. Cantaloupe seedlings at ten days old, were inoculated with Fusarium strains at about 20,000 spores per cc suspension poured around the base of the moist seedlings. Ten days after inoculation, the Fusarium strains were classified using the Risser method (Risser *et. al.*, 1976). It was found that the fungus strains of *Fusarium oxysporum* f. sp. *melonis* which was obtained from the vegetable plots of MJU Division of Vegetable Technology belongs to the Race 2 .

The selection of cantaloupe varieties resistant to the strains of *Fusarium oxysporum* f. sp. *melonis* at the seedling stage, was conducted under Experiment I using cantaloupe of Fusano, $ANO_1$ and Thai native variety (Luk Dok). Results showed

that Fusano and Thai native variety, Luk Dok, provided the highest resistance to the causal fungus while the $ANO_1$ cantaloupe gave only an intermediate resistance.

The study on the growth and yield of Sunrio cantaloupe used as scion that was grafted on open pollinated stocks as compared to the $F_1$ stocks were resistant to the Fusarium wilt disease, was also conducted in the MJU Division of Vegetable Technology. The experiment was designed on a Randomized Complete Block Design (RCBD) using five (5) treatments with three (3) replications per treatment. The result of the study showed that Sunrio scions was compatible with the stocks of each variety. There was no significant difference in terms of vine length, age of maturity, average fruit weight and sweetness among the stocks. Moreover, the stocks of each variety has produced more resistance in the cataloupe plant against the Fusarium wilt disease caused by fungus than the Sunrio variety which was directly planted by seeds.