EVALUATION OF PHYSICOCHEMICAL PROPERTIES AND NUTRIENT CONTENT OF HARUMANIS MANGO LEAF AND FRUIT IN ASSOCIATION WITH INSIDIOUS FRUIT ROT (IFR)

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ABSTRACT

EVALUATION OF PHYSICOCHEMICAL PROPERTIES AND NUTRIENT CONTENT OF HARUMANIS MANGO LEAF AND FRUIT IN ASSOCIATION WITH INSIDIOUS FRUIT ROT (IFR)

In Perlis, the primary limiting factor for the commercial production of Harumanis mango is the insidious fruit rot (IFR) caused by physiological or deficiency disorder. The information on nutrient content that caused the disorder, the management practice, and environmental factors is useful to prevent postharvest losses. This study is to determine physiochemical properties and nutrient content in fruit and Harumanis leaves with IFR incidence. This study was done at the Harumanis plot B; Unit Ladang, UiTM Arau, Perlis. About nine trees out of 60 trees were chosen systematically with a total of 57 fruits successfully harvested. Fruits were examined for IFR using the IFR Harumanis Analyzer at Federal Agricultural Marketing Authority (FAMA) Negeri Perlis, before postharvest treatment and followed with the cutting section method after postharvest handling. The fruits and leaves from each tree were also examined for nutritional analysis and physiochemical analysis, such as pH, total soluble solids (TSS), and titratable acidity tests (TA). Harumanis fruit with IFR had a higher total soluble solid (TSS) value ($17.01 \pm 1.28\%$) than fruit without IFR ($16.22 \pm 1.38\%$). The value for titratable acidity (TA) in fruit with IFR ($0.72 \pm 0.29\%$) is higher than the value for TA in fruit without IFR ($0.60 \pm 0.22\%$). For pH, fruit with IFR has lower pH (3.90 ± 0.48) than fruit without IFR (4.00 ± 0.31). For nutrient analysis, calcium (Ca) has the highest percentage (0.014%-0.024%) in leaves, followed by potassium (0.008%-0.017% K) and phosphorus (0.0013%-0.0026% P) meanwhile in Harumanis fruits, K is higher (0.026%-0.048%), followed by Ca (0.0016%-0.0029%) and P (0.0015%-0.0023%). In contrast, a low concentration of Ca (0.0016%-0.0029%) suggested causes for the IFR in Harumanis fruit. In conclusion, the physiochemical and nutrient contents of Harumanis fruits and leaves were discovered differently from those without IFR fruit incidence.

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