

# The Qualities of Wax-apple and Surface Run-off Influence by Apply Different Quantity of Fertilizers

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## Abstract

Farmers expect to increase personal revenue utilized lots of materials to improve the yield and quality of wax-apple(*Syzygium samarangense* Merr.et Perry). In the same time the pollutants such as agricultural chemicals and fertilizer via various routes into farmland and hydrographic net to jeopardize the ecosystem. The mainly purpose of this research was to propagation fertilizer rationalize apply concept to ameliorate non-point source pollution. The treatment of fertilizer C(N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O = 2400 : 1800 : 1800g/plant) has the highest total nitrogen(TN) content in surface run-off. The nitrogen level was higher than our recommend, which was easily washed away into the run-off by the torrential rain cause the TN increases in the water. The plant treated with fertilizer C and D(N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O = 800 : 2400 : 2400g/plant) has higher total phosphate (TP), biological oxygen demand (BOD) and chemical oxygen demand (COD) than the others. Because of water flowage and settlement in the end of canal resulted the suspension solid (SS) content accumulation in the treatment of fertilizer D. The contents of organic matter, phosphate, potassium, magnesium and sodium didn't influence by the quantity of fertilizers. Fertilizer A(N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O= 800 : 1800 : 1800g/plant) has higher calcium, manganese and iron content than the others. The plant treated with fertilizer D, that manganese content in the leaf was higher than the other. The qualities of wax-apple were influence by the fertilizer levels. Fertilizer B has the best fruit weight compare with other treatments. The plant treated with fertilizer D has the longest fruit length. Fertilizer B(N : P<sub>2</sub>O<sub>5</sub> : K<sub>2</sub>O = 1600 : 1800 : 1800g/plant) has the best red valve in the epidermis of fruit compare with other treatments. The 0Brix of fruit has significant difference among the treatments. Fertilizer B not only accelerates anthocyanins content

accumulation in the epidermis, but also increases <sup>0</sup>Brix of fruit.

Key words : Wax-apple, Nitrogen, Water quality, Run-off

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