

**Title** Nondestructive technique for mango maturity determination  
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### **Abstract**

Mango is an important tropical fruit which has great potential for international market. Currently, major markets for mango export are North America, Europe, and Japan. The acceptance of the exported mango in the destination countries depends largely on eating quality, which is affected by maturity upon harvest. Mango maturity can be determined visually based on skin color or chemically based on sugar-acid ratio. Maturity determination based on visual observation is unreliable and it is prone to errors. On the other hand, determination based on sugar-acid ratio is destructive. Therefore, it is important to develop a reliable and nondestructive technique for mango maturity determination. In this study, a reliable and nondestructive technique has been developed and tested. This technique uses a digital camera to capture image of the mango skin. The obtained images were analyzed using an image processing software to obtain color parameters (L, a, b values). Each of the color parameters was then regressed against the values of sugar-acid ratio to examine whether color parameters can be used to predict the value of sugar-acid ratio. Results from this study indicate that the color parameters can adequately predict the sugar-acid ratio and, therefore, can be used to determine maturity of mango.