

**COMPARATIVE STUDY OF THREE RICE BRANDS' QUALITY
THROUGH MEASURING BROKEN RICE PERCENTAGE USING SORTEX
A COLORVISION (BUHLER) OPTICAL SORTERS MACHINE**

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ABSTRACT

COMPARATIVE STUDY OF THREE RICE BRANDS' QUALITY THROUGH MEASURING BROKEN RICE PERCENTAGE USING SORTEX A COLORVISION (BUHLER) OPTICAL SORTERS MACHINE

This study is focusing on comparing three rice brands quality in determining the percentage of broken rice by using the ejection system method. Broken rice is referred to rice grains broken into smaller pieces in length and could adversely impact rice quality and marketing price. Generally, conventional methods using micrometers to separate broken rice from normal rice are used to determine broken rice percentage. However, these methods are laborious and time-consuming. Therefore, this study was set to employ an ejection system method by using Sortex A ColorVision optical sorter machine to compare the quality of three rice brands (Jati, Cap Rambutan and Faiza Emas) in terms of their broken rice percentages. The broken rice ratios were measured three times and expressed as average values. The Sortex A ColorVision optical sorter could deliver an acceptable efficiency in optical sorting. The sorter uses up to two types of visible wavelengths, where it allows for excellent detection by color, shape, and length of an object. Hence, the Sortex A ColorVision could successfully determine the percentage of broken rice. According to the results obtained, among the three rice brands investigated only Faiza Emas rice brand was found to meet the requirements set forth by the government of Malaysia for broken rice percentage which is the maximum of 5% for packed rice. While the broken rice percentage in Cap Rambutan and Jati rice brands were stood at 7% and 13%, respectively. As a conclusion, the Sortex A ColorVision Optical machine sorting rice was found as a rapid reliable method to determine broken rice percentage and to compare commercial rice brands on the market. This method could be used by the rice processing industry to monitor the quality of the products produced.

Keywords: broken rice, machine sortex A colorVision optical sorting rice, percentage broken rice, length rice and shape rice.