

# Development of Rice Kernel Characteristics Inspection Machine<sup>1</sup>

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## ABSTRACT

This study is a cooperation with the Professor, Dept. of Bio-Industrial Mechatronics Engineering, National Chung Hsing University. By using the automatic quality inspection and grading system of brown rice as the foundation, which was developed by Professor Wan, to carry on the mechanical improvement of structure, miniaturize mechanics.

Rice characteristic inspection using automatic machine vision system provides quick, objective, consistent and quantitative measurement. The operation of the mechanical structure of the inspection machine is controlled with PLC; the image analyzing software is developed by cooperating the Microsoft Visual Basic program and the Matrox Imaging Library image developing instrument that was offered by Matrox Company. Currently, this research has already finished a semi-automatic and a full-automatic kind of models, respectively. The efficiency is 60-80 pieces and 100-120 pieces of rice each minute, respectively. The whole function of the measuring machine has already reached the goal of prospect.

**Keywords:** rice quality, image processing, automatic measurement.

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