Evaluation of some methods for varietal identification of some crops

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Approval Sheet

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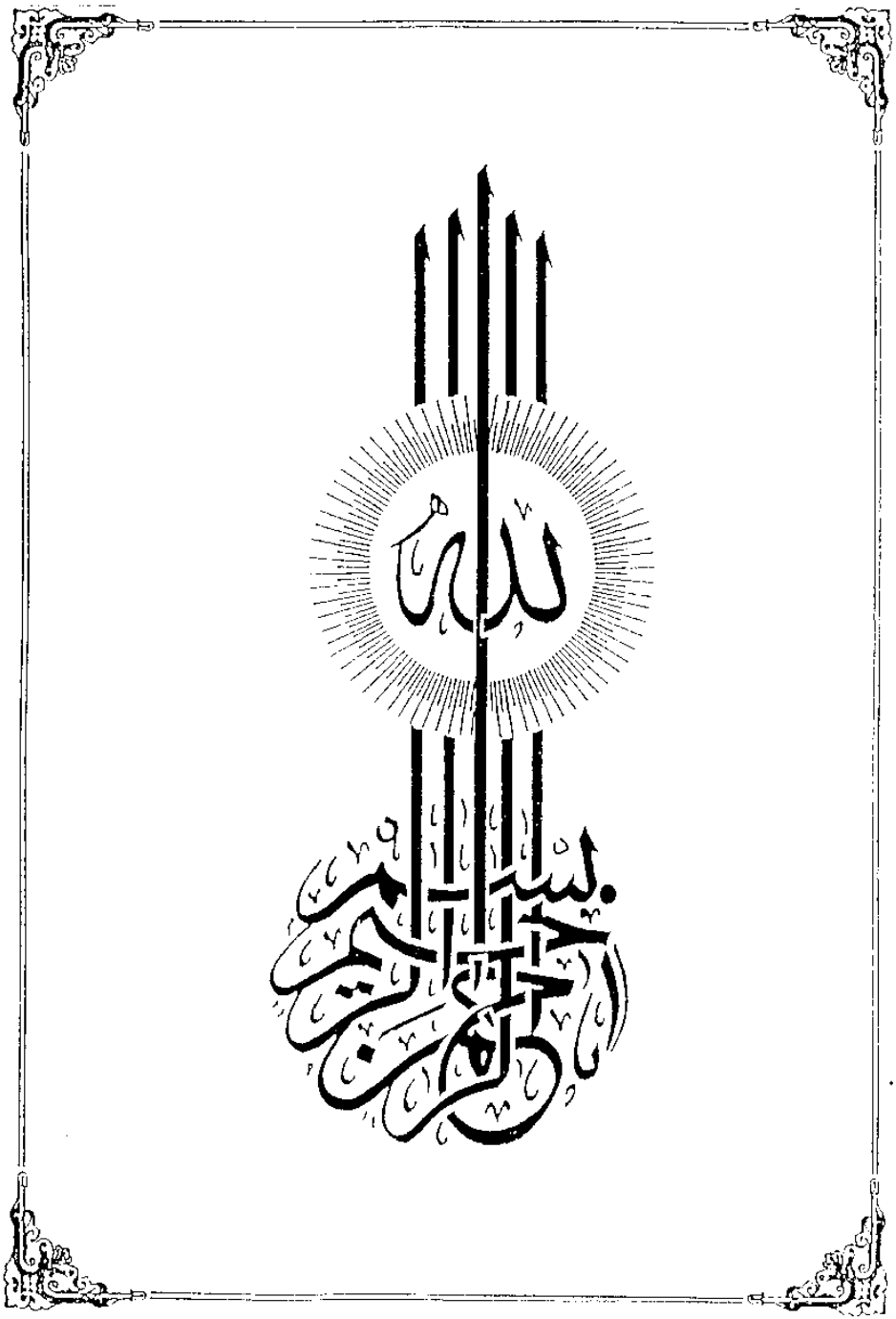

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ABSTRACT

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Emad Kamal Gandy ., Evaluation of some methods for varietal identification of some crops . Unpublished Master of Science, University of Ain Shams , Faculty of Agriculture , Department of Agronomy, 1996 .

This study was carried out with the objective of finding given differences amang between the crop varieties under test at various stages of growth. The necessity for such information was to assist identifying these varieties in the quality control and certification tests. Nine rice varieties (*Oryza sativa L.*) were subjected to certain examinations . These varieties were G.171 , G.172 , G. 176 , Sabeiny , Nabatat Asmar and Agami. which belong to the Japonica group, and G.175 , G.181 and Red Seed which belong to the Indica group .

Certain quantitative and qualitative morphological characters were investigated on grain , seedling and adult plants .

In addition, reaction to phenolic acid and some solvents, reputed to deal with phenolic compounds, were tested on grain .

Moreover , the protein content of grain patterns were studied by using S.D.S-PAGE electrophoresis method .

It may be concluded that the differences of the phenotypic characters could support the efforts for discrimination between such varieties . The chemical reaction to carbolic acid or the effect of the phenolic

The analyses of protein potterns by electrophoresis gave positive discriminative results ,its employment to the quality control and certification was not foreseeble .

Three varieties of wheat, namely ,G.164 and Sakha 92 (which belong to bread wheat) and Sohag 2 which belongs to hard wheat (durum) were selected to test for possible varietal discrimination .Certain selected quantitative and qualitative characters were studied .

The general trend, which was obtained with rice varieties , may be applicable in the case of wheat, i.e it was possible toidentify some morphological characters and enzymatic and reagent reactions to discriminate between such varieties again , The analyses of protein pattern by electrophoresis though indicated differences in the amino acid contents, they do not support the quality control and certification processes .

Key Words :

Quantitative characters - Qualitative characters - SDS-PAGE
Grain staining reaction to certain chemical reagents .

List of Contents

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Second Part : The Wheat