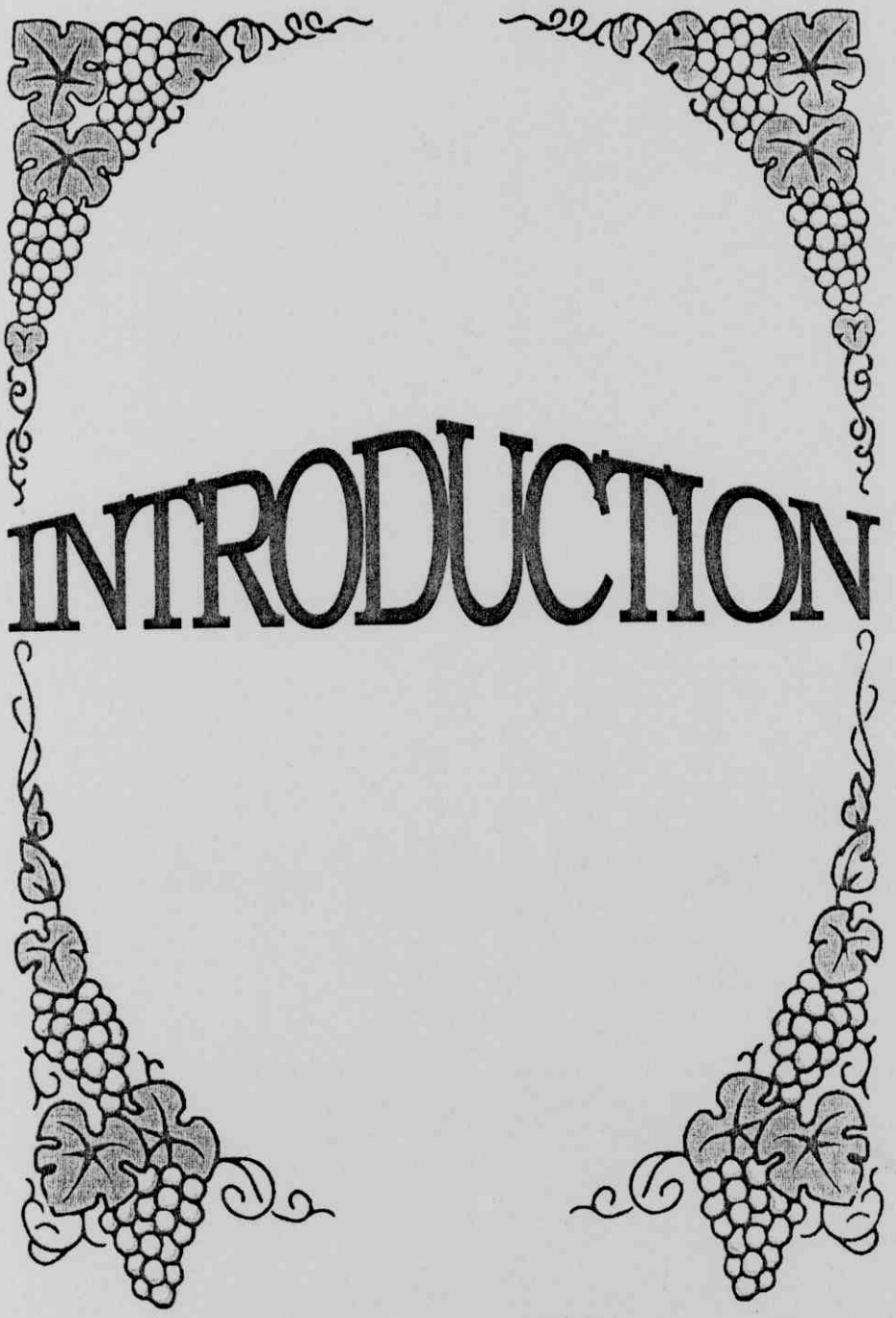
INTRODUCTION

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Rice (Oryza sativa L) is considered to be the second export crop after cotton and also as the second major food crop after wheat in Egypt.

It occupies about 1.57 million feddan with an approximate production of 6.02 million metric tons of paddy with an average production of paddy rice was 3.835 tons / feddan which equals 9.10 tons / ha

The production of rice can be increased in three ways (i) introducing high yielding varieties (ii) nitrogen fertilizer essential plant nutrient required for growth of rice plants in Egypt and (iii) Water requirement of rice plants is generally greater compared to other crop plants.

Rice plants are specific to grow generally under the submerged condition. as rice cultivars maintain better growth and produce higher yields when grown under flooding conditions. Saving irrigation water is necessary through irrigation interval without any drastic effect on the yield or by using drought tolerant and short duration rice cultivars. Irrigation of 4 days interval or at saturation maintain better rice stand as well as good yield and water use efficiency compared with irrigation at field capacity (Abo- Soliman et al , 1990) .

*Introduction. (Statistical and Agricultural Research Institue, Ministry of Agriculture, 2000).

Increasing nitrogen efficiency through use best N source and is one of the most important factors that limits productivity of rice. Ammonium sulfate and urea are the recommended and the most commonly used N sources in rice production in Louisiana and the mid-South (Funderberg et al. 1991) Urea is generally favored by growers over ammonium sulphate and application costs are lower with urea than ammonium sulphate because urea has a higher N contents than ammonium sulphate (46% vs 21%). In Egypt, among various N fertilizer sources, ammonium sulphate and urea are the most common essential forms required for growth and yield of rice plant. The effect of both N sources are being evaluated in different locations and under various conditions. Some studies have shown superiorty of ammonium sulphate over urea (Koriem et al, 1992). Which contradicate the findings of Badawi and Ghanem (1991).

The purpose of this investigation is to study the response of some rice cultivars to irrigation intervals and different sources of nitrogen fertilizer. On growth characters, yield components and grain yield as well as chemical analysis of rice plants.

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