

AGRONOMIC CONSTRAINTS TO FARMERS' RICE YIELDS IN  
PIMBURATTEWA COLONIZATION SCHEME, MAHAWELI SYSTEM 'B'

BY

EKERIYAGALA RALALAGE UPALI WIJETILAKE NILMARGODA

B.Sc. (Agric.) Sri Lanka

Thesis

Submitted in partial fulfilment of the requirements

for the degree of

MASTER OF PHILOSOPHY

in the

POSTGRADUATE INSTITUTE OF AGRICULTURE

of the

UNIVERSITY OF PERADENIYA

SRI LANKA

Approved.

Supervisor

..... 15/7/86  
(Prof. H.P.M. Gunasena)

Examiner

..... 19/7/86  
(Dr. H.M.G. Herath)

Examiner

.....  
(Dr. M. Sikuraja)

July 1986.

401108

C 633.1858

N34



401108

AGRICULTURE LIBRARY  
UNIVERSITY OF PERADENIYA

## ABSTRACT

Trials were conducted in farmers' fields at Pimburettawa colonization scheme in the North Central dry zone of Sri Lanka to ascertain the agronomic factors responsible for the yield gap. Irrigated paddy was grown in 1983 maha and 1984 yala. The treatments were fertilizer, pest control and weed control at farmer's and improved level.

Yield per plot varied within a farm and among farms due to the effect of controlled treatments and other uncontrolled factors. Interaction between fertilizer practice and pest control was observed in maha trials suggesting the importance of pest control for better response to fertilizer. Hence fertilizer and pest control according to departmental recommendation jointly gave increased yield over farmers level by 97%. Leaf eating caterpillars, leaf rollers and paddy bugs were found to cause considerable economic damage to the crop. From maha season trials, weed control was determined not to be a contributory factor.

In yala season trials, it was shown that all the three factors were equally important individually. Fertilizer, pest and disease control and weed control resulted in 40, 30 and 20% higher yields respectively. Thrips damage coupled with the desiccatory effect of strong winds during early yala and later stem borer and paddy bug damage were prominent.

In both maha and yala no major outbreak of disease occurred.

The major uncontrolled factor that contributed to yield gap was delayed planting with aged seedlings in maha.