

THE INFLUENCE OF WATER MANAGEMENT PRACTICES ON RICE
AGRONOMY IN THE ACID SOILS OF THE NILWALA DOWN STREAM

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ABSTRACT

The variability of water regime and its influence on the rice production of the acid soils in Kiralakela sector. Nilwala Flood protection and drainage Scheme was investigated in an on farm research trials in 'Yala' 1987 and 1988.

The major factors which were highly influenced on the rice production of the upper fields were (fields above 0.3 msl) low soil pH and weeds which had a closer relationship with water regime.

In a field trial where four water management methods were tested under the broadcasted and transplanted paddy in Yala 1988, revealed that a yield of 5 t/h could be achieved with a variety BW 272/3 if fields could be kept under the continuous submergence. This is a 20% increment of yield over the alternate irrigation regime of 5 day cycles.

There was a 60% of yield reduction compare to continuous submergence when the fields were subjected to drying and wetting cycles.

The yield increment due to transplanting under the continuous water regime in the upper fields seems to be non significant. More over the transplanting does not give positive results if the drying and wetting pattern of water regime is experienced in the soil.

When fields were subjected to periodical drying the pH of the soil drops where by creating a favourable situation for Aluminium toxicities.