

WATER REQUIREMENT FOR WET LAND PREPARATION IN NON-CALCIC BROWN SOILS WITH DIFFERENT DRAINAGE CAPABILITIES IN YALA SEASON

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Irrigated agriculture is the largest consumer of water in Sri Lanka. However, poor on farm water management is the reason for the overuse of irrigation water. Water is the most important input for farmers. Judicious use of such input is a must for the welfare of individuals and the nation.

Non Calcic Brown soil covers about 35% of the Maduru Oya irrigation scheme (Mahaweli system B) which lies in the Eastern dry zone of Sri Lanka. Rice is cultivated in moderately well drained and poorly drained soils, out of three drainage classes such as well drained, moderately well drained and poorly drained soils of Non Calcic Brown soils. The study was attempted to estimate water requirement for land preparation water requirement in two rice cultivated lands in two drainage classes of Non Calcic Brown soils at Regional Agricultural Research and Development Centre in Aralaganwila. This experiment was conducted in Randomized Complete Block Design. After the initial soaking, primary tillage and secondary tillage were performed using disk plough and tine tiller respectively. They were followed by 8 and 7 days submerging periods respectively. Finally the land was ploughed using rotary plough and prepared for crop establishment. The delivered water to plots was estimated by using long throated flumes and the water requirements were calculated.

The analysis revealed that there is a significant difference between the water requirements for wet land preparation of moderately well drained and poorly drained Non Calcic Brown soils. It was revealed that 619.30 mm and 376.74 mm was required for moderately well drained and poorly drained Non Calcic Brown soils for wet land preparation respectively.

Key words: Water requirement, Non Calcic Brown soil, Drainage classes, Long throated flume