

VARIATION IN SOIL TEMPERATURE OF IRRIGATED PUDDLED  
LOWLAND RICE FIELDS IN THE SOUTHERN DRY ZONE.

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High soil temperature affects the plant growth and the fertilizer use efficiency. Therefore, information on soil temperature at different farming conditions has to be recorded for investigations on its variation and relationships. Temperature was measured weekly at 0700h and 1400h, in standing water, at soil surface, at 5cm and 10cm depths of soil, in irrigation water and in air from third to eighth week after sowing. These measurements were at four different levels of puddling at RARC, Angunakolapelessa. A minimum of 25°C and a maximum of 44°C were recorded during this period. The air temperature ranged from 28°C to 35°C while the temperatures ranged from 28 to 32, 30 to 38, 28 to 44, 25 to 38 and 26 to 37°C in irrigation water, standing water, at soil surface, and at 5cm and 10cm soil depths respectively. The widest daily temperature variation and the highest temperature were observed at soil surface. A clear relationship between the degree of puddling and the soil temperature could not be established. However, the daily variation of temperature at soil surface was increased with the increasing degree of puddling at the eighth week after sowing. Higher levels of soil temperature and wide daily variations were recorded in these irrigated lowland rice fields.