

Effect of Different Levels of Nitrogen on SPAD Readings and Yield in Rice (*Oryza sativa* L.) Varieties

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ABSTRACT

An investigation was carried out during *kharif-2019* and *kharif-2020* to study the response of rice varieties on growth and yield parameters under four nitrogen levels (0, 120, 240 and 360 kg N ha⁻¹) as main treatments and three varieties *viz.* BPT5204, NDLR-7 and NLR 34449 as sub treatments. The present investigation the SPAD reading increased with the increase in the N application rates. Higher SPAD readings were recorded at tillering stage, panicle initiation and flowering stage. Among the varieties NDLR-7 (V₂) recorded significantly higher SPAD readings (30.40) compared to BPT 5204 (29.4) (V₁). However, SPAD reading of BPT 5204 and NLR 34449 is on par. This variety also recorded higher number of productive tillers (9.50) maximum grain yield 5681.03 kg ha⁻¹. The interaction effect is significant and higher yield was recorded in the combination of 120 kg N ha⁻¹ in NDLR-7 (7496.77 kg ha⁻¹) and lowest grain yield was recorded in the combination of 360 kg N ha⁻¹ in BPT 5204 (3141.66 kg ha⁻¹). With increasing N application dose the varieties response is varied significantly but with the higher dose of N all the varieties recorded lower yields. Hence application of the intermediate level of nitrogen was economical and environment-friendly.

Keywords: *Rice varieties, SPAD readings and Yield.*