REAL TIME NITROGEN MANAGEMET OF RICE USING THE LEAF COLOUR CHART IN THE DRY ZONE, SRI LANKA

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Nitrogen Use Efficiency cannot be enhanced beyond a limit by following the blanket recommendation of the Department of Agriculture. The most appropriate method for N management in rice Real-time Nitrogen management (RTNM).). Leaf colour can be used as a proxy for detecting N requirement and can be measured using LCC chart. A field experiment was conducted to determine the comparative advantage of LCC based RTNM compared to blanket fertilizer recommendation using variety Bg 360 in *Dambulla*, Sri Lanka in *Maha* 2020/2021. The experiment was consisted with five treatments including three LCC based applications and two controls with no fertilizer and blanket recommendation. One was LCC critical value 3 with Urea 75kgha^{-1} and other two were based on LCC value 4 with, 100kgUreaha^{-1} and 90kgUreaha^{-1} in unequal splits based on weekly LCC reading. Plant height, number of tillers and leaves and leaf area were measured, while number of productive tillers, filled grain percentage, and yield were also recorded. Growth and yield of Bg 360 of three LCC based treatments and blanket applications were statically similar. Higher agronomic nitrogen use efficiency was observed in RTNMs, while saving of 50% of N fertilizer without yield loss than the blanket recommendation. The LCC critical score 3 recorded a yield of 6.51tha^{-1} and saved up to 4500 LKR ha^{-1}season^{-1} without the subsidy, hence selected as the most suitable critical value for Nitrogen application for Bg 360. The Real-time N management using LCC was comparatively advantageous than Blanket fertilizer recommendation, therefore yield and Nitrogen use efficiency improved through it.

Keywords: Leaf colour chart, Nitrogen, Real-time nitrogen management