EFFECT OF INCORPORATION OF LEUCAENA LEUCOCEPHALA (LAM.) DE WIT. ON NITROGEN UPTAKE AND YIELD OF RICE

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Field studies were conducted to determine the effect of incorporation of leucaena leucocephala (Lam.) de Wit. leaves on the plant nitrogen uptake and grain yield of rice at the Regional Agricultural Research Station, Girandurukotte in Mahaweli system C during Maha 1985/86 and Yala 1986. The rice variety selected was BG 94.1. The main treatments were four levels of leucaena (0, 4, 8 and 12t/ha) with three levels of mineral nitrogen (0, 43.65 and 87.3kg N/ha) applied in the form of urea in a factorial combination. The nitrogen uptake was evaluated at the time of maximum tillering, panicle initiation and harvest. Incorporation of leucaena increased the nitrogen uptake at all levels of mineral nitrogen in both seasons. This was significant during Maha up to the time of panicle initiation and in Yala only at panicle initiation. Leucaena incorporation of 8t/ha without mineral nitrogen indicated nitrogen uptake values comparable to the highest mineral nitrogen application in both seasons. Grain yield increased significantly due to theincorporation of leucaena in both seasons at all levels of mineral nitrogen. Incorporation of 12t/ha of leucaena without mineral nitrogen application produced a grain yield of 5.6t/ha ie. approximately 1 tonne more than that of the highest mineral nitrogen treatment in Maha. The results clearly demonstrated that the incorporation of leucaena leaves for this soil was as effective as mineral nitrogen in terms of nitrogen uptake and grain yield.

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