

# ECONOMICS OF PESTICIDE USAGE IN PADDY PRODUCTION

## IN MANNAR DISTRICT

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PAR



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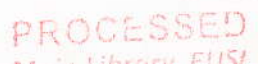
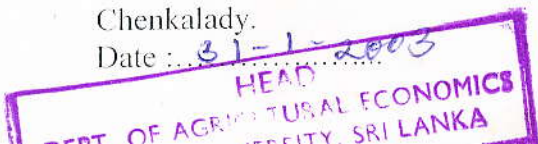
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## Abstract

Pesticides are an important input in paddy production. The application of pesticides should be efficient and economical to the farmer. This study investigated into the economic usage of pesticide in paddy production in Mannar district. Four ASC areas were selected and a structured questionnaire was used to survey 100 farm families involved in paddy farming. The objective of this study was to examine pesticide productivity, estimate the optimal level of pesticide application and cost of production and compare production on different farm sizes and to estimate the Benefit – Cost ratio. This study covered the Maha 2001/2002 period only.

Among the farmers surveyed 87% were able to identify pest and diseases out of their own experience, and 62% applied pesticides at recommended levels. The Cobb-Douglas production function was used to relate variables in paddy production. A multiple regression model with dependent variable yield and independent variables amount of fertilizers used (-0.755), dosage of pesticides (0.258), total used labours (1.853), farming experience (0.157) and amount of credit used (0.121) was explained to identify relationship among these variables. The MPP of pesticides was calculated by using estimated production elasticity of pesticides (0.258) from the Model. The economics of pesticide usage in paddy production in Mannar district was characterized by Increasing Returns to Scale.

The optimal level of pesticide application was 746.05 gram a.i./ac but the average level of pesticide application was 528 gram a.i./ac. It was found that 84% of the farmers applied pesticides below the optimal level for paddy yield. To apply optimal level of pesticides for efficient production the farmer has to spend an additional Rs 713 per acre.

The cost of production of small size farms was about Rs 17,800/ac, but on large size farms it was Rs 18,100/ac. However the average cost of production was about Rs 18,000 per acre. The B/C ratio of small farms was -0.27, but for large farms it was -0.62, therefore small size farms were more efficient productivity-wise than the large farms.

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