

Resource Use Efficiency In Banana Production In Sindhudurg District

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ABSTRACT

The study on the resource use efficiency in banana production in Sindhudurg district was conducted with a sample of 90 banana growers selected from Dodamarg and Sawantwadi tahsils. The sample banana growers were classified into two groups on the basis of type of banana orchard viz., mixed cropping and sole cropping. Out of 90 growers, 67 were have mixed cropping and 23 have sole cropping. The average area under banana was 0.40ha in mixed cropping and 1.08ha in sole cropping. The Cobb-Douglas production function (log linear form) was fitted for banana production, to estimate the contribution of explanatory variables on banana yield, The variations in yield explained by the various input used in banana cultivation were 99 per cent in both the groups. In mixed cropping planting material and fertilizers were significant variables, while in sole cropping, planting material, male labour, fertilizers and irrigation charges were statistically significant. The ratio of MVP to FC for chemical fertilizers in mixed cropping and planting material female labour and plant protection in sole cropping were less than one indicating excess utilization of these resources.

Key words : mixed cropping , sole cropping, Cobb-Douglas production function, MVP, FC₂

INTRODUCTION

Banana (*Musa paradisiaca*, *Musa accuminata*) is one of the ancient food plants having been used and cultivated. Banana is second important fruit next to Mango in India. The area under banana in Konkan region is about 900 ha. Sindhudurg district occupies near about 100 ha of area under banana producing 5700 MT of fruits. The area under banana cultivation in Sindhudurg district is increasing since last decade. Goa is the nearest market to Sindhudurg. Considering the importance of this crop in the economy of the region in near future, it is need of time to conduct systematic research in respect of production and other related aspects of this highly remunerative crop. In view of the above mentioned aspects the present study was undertaken with the specific objective to study the resource use efficiency in banana production. in Sindhudurg district of Maharashtra state.

MATERIALS AND METHODS

Three stage sampling technique was used in this study for the selection of banana growers with tahsil as a primary unit, village as a secondary unit and banana grower as an ultimate unit. The two tahsils viz., Dodamarg and Sawantwadi were selected purposively for the study from Sindhudurg district, which are having maximum area under banana cultivation. From each tahsil, three villages having maximum area under banana cultivation were selected

purposively. Fifteen banana growers were selected randomly from each village. Thus, the final sample consisted of 6 villages and 90 banana growers.

RESULTS AND DISCUSSION

Functional relationship between resources and product and resource productivities of inputs in banana production:

The functional relationship between per hectare input factors in production of banana namely independent variables like planting material (suckers) (X1), male labour (X2), female labour (X3), total fertilizers (X4), plant protection (X5) and irrigation charges (X6) and dependent variable as yield of banana for both mixed cropping and sole cropping was studied by multiple regression analysis, estimating the Cobb-Douglas type production function. The estimated functional relationship is presented in Table I.

It was observed from Table I that, in mixed cropping, coefficient of determination (R²) was 0.9904 and for sole cropping coefficient of determination (R²) was 0.9956 indicating 99 per cent of variation in both the groups explained by these identified variables. In mixed cropping of banana, the regression coefficients of planting material (X1), male labour (X2), Female labour (X3), Total fertilizer (X4), Plant protection (X5) and Irrigation charges (X6) were positive i.e.0.8152, 0.1075, 0.0964, 0.3793, 0.0193 respectively and for total fertilizer (X4) was negative i.e.-

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