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Resource productivity, resource use efficiency and optimum resource use in rose flower production

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ABSTRACT

Rose (***Rose domascence***) **is popular species of rose, belong to family *roseaceae*. It is important commercial flower. Investigation was carried out for the year 2005-06 in order to study the marginal productivity, economic efficiency and optimum resource use in rose production in Nanded district of Maharashtra. Results revealed that regression coefficient of nitrogen (0.018), manure (0.103) and pesticide (0.028) were highly significant at 1 per cent level while regression coefficients of phosphorus (0.025), potash (0.008), irrigation (0.108) were positive and statistically significant at 5 per cent level. Thus it was inferred that these resources were under utilized and there was scope to increase them in rose production. The ratios of MVP to price with respect to above resources were higher than unity. Optimum resource use, where value of the additional product would be equal to the cost of additional resource.**

Key words : Marginal product, Resource use efficiency, Optimum resource

INTRODUCTION

These days flower cultivation occupies an important position in India particularly in the big cities. The major flower growing states in India are Tamilnadu, Karnataka, Maharashtra, West Bengal, Uttar Pradesh, Rajasthan and Haryana. In these states rose is mainly grown as traditional flowers. Rose is mainly cultivated in Nanded district on commercial scale. The present investigation, therefore, has been devoted to determine resource productivity, resource use efficiency and optimum resource allocation in rose production.

MATERIALS AND METHODS

Multistage sampling technique was used to select district, tehsil and villages. In the first stage, Nanded district was selected purposively. In the second stage, on the basis of the higher area under rose flower, Bhokar and Nanded tehsils were selected for present study. In the third stage, six villages were selected from tehsils on the basis of their highest area under rose flower crop. In the fourth stage, from each village list of rose flower growers with area of rose flower crop was obtained. Obviously three flower grower were selected from each of the villages. Thus, thirty six rose growers were selected for the investigation. Cross sectional data were collected from thirty six rose growers by personal interview method with the help of pretested schedule. Data pertained to production of rose from each flower grower and use of resources namely area under rose garden, labour, bullock labour, nitrogen, phosphorus, potash, manure, pesticide and irrigation for the year 2005-06 with the help of correlation matrix of the above variables, independent variables which were significant with respect to dependent variables were taken into consideration. Thus, these independent variables were included in both the linear and Cobb-Douglas functions. On the basis of goodness of fit (R^2). Cobb-Douglas production function was found to be the best fit to the data to estimate the resource productivity, resource use efficiency and optimum resource allocation (Ahuja, 1995). The fitted equation was in the following manner:

$$Y = aX_1^{b1}.X_2^{b2}.X_3^{b3}.X_4^{b4}.X_5^{b5}.X_6^{b6}.X_7^{b7}.X_8^{b8}.X_9^{b9}$$

where,

Y = yield of flower in quintal per garden

a = Intercept, bi = regression coefficient of the respective resources, X_1 = area of the flower garden in hectare, X_2 = labour in manday per garden, X_3 = Bullock labour in pair day per garden, X_4 = nitrogen in kg per garden, X_5 = phosphorus in kg per garden, X_6 = potash in kg per garden, X_7 = manures in quintal per garden, X_8 = pesticide in lit, X_9 = irrigation in m^3.

$$\mathbf{LogY = loga + b_1logX_1 + b_2logX_2 + b_3logX_3 + b_4logX_4 + b_5logX_5 + b_6logX_6 + b_7logX_7 + b_8logX_8 + b_9logX_9}$$

Concepts which were frequently used in the present study are cleared as follows. Man day referees to measurement of human labour where as female labour is equal to 0.50 man day in case of both hired and family labour because the prevailing wage rates for hired or family female and hired or family male labour were Rs.30 and Rs.60 per day, respectively. Rent refers to price for use of land of one for the crop period. Resource productivity refers to marginal physical product with

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