

Resource productivity and resource use efficiency in soybean production

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ABSTRACT

Investigation was carried out during the year 2010-2011. About 32 soybean growers were randomly selected from eight villages of Udgir tehsil of Latur district of Maharashtra. Cross sectional data were collected from soybean growers with the help of pretested schedule by personal interview method. Data were related to soybean output and inputs like area under soybean, hired human labour, bullock labour, machine labour, seed, manure and use of nitrogen, phosphorus, potash and family labour as resources. Cobb Douglas production function was fitted to the data. The results revealed that, regression co-efficient of human labour was (0.129) followed by machine labour (0.024) which were positive and highly significant at 1 per cent level. Regression co-efficients of bullock labour (0.067) and plant protection (0.011) were positive and significant at 5 per cent level. Regression co-efficients of seed, manure, nitrogen and phosphorus were also positive but non-significant. Marginal product of area under soybean was 10.803 q followed by machine labour (0.274 q), bullock labour (0.231 q) and so on. MVP to price ratio with respect to phosphorus was 3.01 followed by that of nitrogen (2.98). Hence, preference might be given to increase the use of phosphorus on priority basis in soybean production.

KEY WORDS : Soybean, Estimates, Marginal product, Intercept, Production

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Soybean [*Glycine max* (L.) Merrill] is the most important crop grown in India. It is the richest and cheapest source of high quality protein, mineral, vitamins and fats. It supplies most of the nutritional constituents essential for human growth.

India is the fifth largest soybean producing country in the world. Madhya Pradesh tops with its share of 70 per cent of the total area under soybean followed by Maharashtra (19%) and Rajasthan (8%) in the country (Sharma *et al.*, 2006). Soybean was introduced in India in 1970-71, mainly for rich protein and edible oil content. It was introduced in

Maharashtra during the year 1984-85. It is triple beneficiary crop, which contains 18.20 per cent edible oil, 45 per cent high quality protein and high level of essential of amino acid. It is commonly referred to as one of the most nutritious amongst the beans and also having tremendous industrial potentials. It is rich in unsaturated fatty acid with anticholesterol properties.

Latur district of Maharashtra has favourable climate for soybean as oilseed crop. Hence, soybean is predominant crop in cropping pattern of farmer in the district. The district has medium to heavy soils. The average rainfall of district is 750 mm. In soybean production, area under soybean, human labour, bullock labour, machine labour, seed, manure, nitrogen, phosphorus, potash and family labour are the important resources. In production process, some of the resources are either over utilization or under utilization. By keeping in view the resource management in soybean production, the present investigation has been undertaken to determine the resource use efficiency in soybean production.

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