

# Resource productivity and resource use efficiency in Bt cotton production

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## ABSTRACT

Investigation was carried out during the year 2010-11. About 32 cotton growers were randomly selected from eight villages of one tehsil of Nanded district of Maharashtra. Cross sectional data were collected from cotton growers with the help of pretested schedule by personal interview method. Data were related to cotton output and inputs like hired human labour, seed, manure, fertilizer and family labour as resources. Cobb Douglas production function was fitted to the data. The results revealed that, regression co-efficient of area under cotton was 0.412 followed by, human labour (0.218), bullock labour (0.085), manure (0.064) and nitrogen (0.015) which were positive at 5 per cent level. Regression co-efficient of seed, phosphorus and irrigation were positive but non-significant. Marginal product of area under cotton was 6.400 quintals followed by that of seed (0.359 q), bullock labour (0.298 q), and manure (0.127 q) and so on. MVP to price ratio with respect to irrigation was 26.56 followed by manure (5.27), seed (3.74), phosphorus (3.67) and human labour (2.11). Hence, preference might be given to increase irrigation on priority basis in cotton production. Optimum use of area under cotton

**KEY WORDS :** Bt cotton, Geometric mean, Resource productivity, Marginal productivity, Optimum resources

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Cotton (*Gossypium* spp.) is one of the most important commercial crops playing a key role in economics, political and social affairs of the world. All the four cultivated species are being grown in India viz., *Gossypium hirsutum*, *Gossypium barbadense*, *Gossypium arborium* and *Gossypium herbacium*. *Gossypium hirsutum* which covers about 50 per cent of the area followed by that of *Gossypium arborium* with 29 per cent and *Gossypium herbacium* with 21 per cent. Area under *Gossypium barbadense* is negligible and covers only a few thousand hectares. India is the third largest producer of cotton in the world. Cotton is cultivated in almost

all the states in the country. However, 9 states like Punjab, Haryana, Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Andhra Pradesh, Tamil Nadu and Karnataka account for more than 95 per cent of the area under cotton. Maharashtra is the first in area and production of cotton in the country. Thus, state is contributing 22.70 per cent of total production in the country. Climate of district is favourable for cotton production. In cotton production process, some of the resources either are underutilization or overutilization. There is need to now optimum resources use for maximum profit in cotton production. Keeping in view the above aspects, the present study has been undertaken.

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## METHODOLOGY

Multistage sampling design was used in selection of district, tehsil, villages and cotton growers. In first stage, Nanded district was selected purposively. In the second stage, Himayatnagar tehsil was selected on the basis of higher area