



**Research Paper**

# Total factor productivity growth of cumin crop in Gujarat: Measurement and determinants

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**ABSTRACT :** The study has examined the growth in total factor productivity (TFP) of cumin crop and its sources in Gujarat state from 1990-91 to 2011-12 using Tornqvist Theil index. The findings revealed higher growth rates of output indices (2.13%) and moderate growth rates of TFP indices (1.48 %) per annum, during the study period. Besides, the investment on cumin research was also found to have generated an internal rate of return of 74.90 per cent. This indicates the possibility of cumin playing an important role of enhancing farm incomes in Gujarat. Further, government expenditure on agricultural research and education, extension education and development of ground water as well as canal irrigation in Gujarat were found to have positive and significant impact on TFP. The study suggests that the growth in TFP can further be enhanced and sustained through varietal improvements in cumin crop and expanding irrigation coverage.

**KEY WORDS :** Cumin, TFP, Research contribution, IRR

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