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**Forecasting groundnut production of India using nonlinear growth models**

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**ABSTRACT**

*Groundnut is one of the major sources of edible oil in India. Around one-fourth of country’s total edible oil is produced from groundnut. This paper deals with a critical study of groundnut production of India with a non-linear approach. Different nonlinear growth models viz. Monomolecular, Logistic and Gompertz models have been employed for modeling of India’s total groundnut production during the period 1950-51 to 2011-12. The parameters of these models were estimated using Gauss- Newton algorithm. It was observed that Monomolecular and Logistic models performed better followed by Gompertz for this dataset based on various goodness of fit criteria viz. Coefficient of determination (R2), Mean absolute error (MAE), Root mean square Error (RMSE) and Mean absolute percentage error (MAPE). Finally, India’s total groundnut production for 2014-15 to 2019-20 has been forecasted by using the Monomolecular and Logistic models.*

*Keywords:* Forecasting, groundnut production, logistic, monomolecular, model, nonlinear growth model