

## **TIME-SERIES MODELLING FOR SUGARCANE YIELD ESTIMATION IN HARYANA**

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### **ABSTRACT**

An efficient crop forecasting infrastructure is pre-requisite for information system about food supply, especially export–import policies, procurement and price-fixation. The ARIMA models have been fitted using the time-series sugarcane yield data for the period 1966-67 to 2009-10 of Karnal and Ambala districts and 1972-73 to 2009-10 of Kurukshetra district. Models have been validated using the data on subsequent years i.e. 2010 to 2014, not included in the development of the models.. After experimenting with different lags of the moving average and autoregressive processes; ARIMA (0,1,1) for Karnal and Ambala, ARIMA (1,1,0) for Kurukshetra districts have been fitted for crop yield forecasting. A perusal of the results indicates that the percent deviations of the forecast yield(s) from the observed yield(s) are within acceptable limits and favours the use of ARIMA models to get short-term forecast estimates.

**KEYWORDS:** Autocorrelation, Partial Autocorrelation, Differencing, Stationarity, Invertibility