

APPLICATION OF ARIMA MODELLING FOR MUSTARD YIELD

PREDICTION IN HARYANA

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ABSTRACT

The present study deals with application of time-series modelling in agriculture. The mustard yield data of Hisar, Bhiwani, Sirsa, Mahendergarh and Gurgaon districts of Haryana have been considered for this empirical study. Autoregressive integrated moving average (ARIMA) models have been fitted using the district-level time series yield(s) from 1966-67 to 2010-11 and the models have been validated for the post-sample period(s) 2011-12 to 2013-14. After experimenting with different lags of the moving average and autoregressive processes; ARIMA(0,1,1) for Hisar, Bhiwani and Sirsa districts and ARIMA(1,1,0) for Mahendergarh and Gurgaon districts have been fitted for mustard yield(s) estimation in Haryana. 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 modelling to get short-term forecast estimates.

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