



Research Paper

Chilli price forecasting using auto regressive integrated moving average (ARIMA)

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ABSTRACT : Chilli is considered as one of the commercial spice crops. It is the most widely used universal spice, named as wonder spice. Indian chilli is considered to be world famous for two important commercial qualities namely, its colour and pungency levels. India is the world leader in chilli production followed by China, Mexico, Turkey, Indonesia, Spain and United States. Farmer's decision making on acreage under chilli depends on the future prices to be realized during harvest period (January-March). Hence, this paper presents a methodology to forecast prices during harvest period and applied the method to forecast for the *Kharif* 2019-20. This price forecast is based on the monthly modal price of chilli obtained for 17 years from Khammam regulated market using econometric models like ARIMA, SARIMA, ARIMAX, ARCH and GARCH and also the market survey. Model parameters were estimated using the SAS 9.3 software. The performance of fitted model was examined by computing various measures of goodness of fit viz., low AIC, BIC and MAPE values. The ARIMA (212) model was the best model for the price forecast of chilli. Chilli price per quintal will be around Rs. 8500 – 9100 at the time of harvesting (January to March 2020).

KEY WORDS : Stationary, Differencing, ARIMA, SARIMA, ARCH, GARCH, Price forecast, MAPE

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