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**Use of ARIMA Models to Forecast Potato Retail and Wholesale Prices in Sri Lanka**

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Sri Lankan per capita consumption of potato is about 5.43kg/yr while production and extent were 51933 t/yr and 3844 ha in 2010 respectively (Department of Census and Statistics, 2010). The local potato production could not meet this demand and hence a fair percentage of the total requirement has been imported every year to avoid high price fluctuation in wholesale and retail markets of potato. This situation together with the perishable nature and the lack of infrastructure facilities, mainly storage facilities can be attributed to low bargaining power of farmers. Hence the objective of the present study was to develop quantitative models for forecasting potato retail and wholesale prices in Sri Lanka by using the Box-Jenkins (ARIMA) methodology. Data necessary for analysis were collected from Hector Kobbakaduwa Agrarian Research and Training Institute for the period of 55 months from January 2007 to June 2011. The results of forecasting were as follows: Best model which can be applied to forecast potato retail price is ARIMA (2,0,1)(1,1,0)<sub>12</sub> and for potato whole sale price is ARIMA(2,1,1) (0,1,0)<sub>12</sub> with Mean Absolute Percentage Error (MAPE) 5.49% and 11.79% respectively. These models can be used by decision makers for effective decision making and by other responsible officers to make farmers and wholesalers known about future prices of potato and thereby to increase the bargaining power of farmers. Further, it will facilitate farmers to decide the land area to be cultivated with potato in the relevant season.

**Keywords:** ARIMA model (BOX-JENKINS methodology), forecasting, Potato, Sri Lanka