Coffee yield forecasting using climate indices based agrometeorological model in Kerala

M. JAYAKUMAR and M. RAJAVEL*

Regional Coffee Research Station, Coffee Board, Chundale, Wayanad, Kerala, India
*Meteorological Centre, India Meteorological Department, Raipur, India
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e mail: agrokumar2013@gmail.com

ABSTRACT. Climate plays important role in production of coffee. Adequate quantum and timely receipt of blossom rainfall for flowering and subsequent backing showers influence the berry set and yield of coffee. Harvesting of Arabica coffee in Kerala State with humid tropical climate in India is done by December-January and harvesting of Robusta coffee is taken up during January-February. In this paper, attempt was made to develop agrometeorological models to forecast the yield of these two varieties coffee by utilising monthly climate variables from January to December. Long term data from 1991-92 to 2012-13 on coffee yield and weather data from 1991-2012 recorded at Regional Coffee Research Station, Chundale located in Wayanad district of Kerala State was used to develop agrometeorological model. Statistical regression model between climate indices and yield of Arabica and Robusta coffee was developed and the model was validated using crop and climate data for 2013 and 2014. The model demonstrated that climate indices based agrometeorological model is able to forecast the yield of coffee in Kerala.

Key words – Coffee yield, Climate indices, Statistical regression model.