SHORT COMMUNICATION

A STUDY ON PRE-HARVEST FORECAST OF RICE YIELD USING CLIMATIC VARIABLES

Rajesh Khavse, Sanjay Bhelawe and Rupesh Desmukh

Deptt. of Agrometeorology, Indira Gandhi KrishiViswavidhyalaya, Raipur- 492012
Email: khavse@gmail.com

Abstract: A suitable statistical model has been developed for forecasting the yield of the rice in Raipur district (1981-2013) using the data and weekly weather variable viz., average maximum and minimum temperature, relative humidity morning evening sunshine hours and total weekly rainfall. The forecast model was developed using generate weather variables as regression in model. The generated weather variables were developed using weighted accumulated of weekly data on weather variable, weights being the correlation coefficient of the weather variables, in respective weekly with yield. The data for a period of (1981-13) was used to develop the forecast model. The validation of the model was done using the data from (2011-13).

The results revealed that the forecast model developed was able to explain 57% of variation in the rice yield. And it is possible to forecast rice yield successfully two month before harvest.

Keywords: Generate weather variables, Regression weekly data, Correlation Coefficient, Forecast model

REFERENCES

Agrawal, R., Jain, R.C. and Mehta, S.C. (2001). Yield forecast based on weather variables and agricultural inputs on agro climatic zone basis. *Ind. J. Agri. Sci*. 71(7), 487-490.

Agrawal, R., R.C. Jain, M.P. Jha and D. Singh, (1980). Forecasting of rice yield using climatic variables.Ind. Agric. Sci., 50(9): 680-684.

Amrender, K. and B. Lalmohan, (2005). Forecasting model for yield of Indian mustard (*Brassica juncea*) usingweather parameters, Ind. J. Agric. Sci., 75(10):688-690.

Baweja, P.K. (2002). Predicting grain yield in maize: canopy temperature based regression indices. *J. Agromet.* 4(2),177-179.

Mall, R.K. and Gupta, B.R.D. (2000). Wheat yield models based on meteorological parameter. J. agromet. 2(1), 83-87.

Mehta, S.C., Agrawal, R. and singh V.P.N. (2000). Strategies for composite forecast.J. ind. Soc. Ag. Stat., 53(3), 262-272.

Mallic, K., mukherjee, J., Bal, S.K., Bhalla S.S., Hundal, S.S. (2007). Real time rice yield forecasting over central Punjab region using crop weather regression model.*J. agromet*. 9(2), 158-166.

Bazgeer, S., Kamali, G. A., Eslamain, S.S., Sedahakerdar, A., and moradi, I. (2008). Pre-harvest wheat yield prediction using agrometeorological indices for different region of kordestan province, iran. Res. J. Env. Sci. 2(4), 275-280.