Research Article

Production forecast of groundnut (*Arachis hypogaea* L.) using crop yield-weather model

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SUMMARY : Groundnut (*Arachis hypogaea* L.) is an annual legume primarily grown for high quality edible and easily digestible protein in its seeds. The paper focus on the identification the weather factors affecting groundnut yield and development of a statistical model for the pre-harvest prediction of groundnut yield based on weather parameters. Data on various weather parameters collected during the period from 1996 to 2009 were considered for the study. Linear correlation co-efficient worked out among yield with various weather factors observed during stage of 50 per cent flowering of the crop resulted in significant direct and indirect influence of different meteorological factors. Multiple linear regression model based on accumulated weather parameters were developed. In the fitted model, 75 per cent of variability in yield was explained by maximum temperature, minimum temperature and humidity. The model can be used by government as a basis for its policy decisions in regard to procurement, distribution, buffer-stocking, import-export, price fixation and marketing of groundnut and its substitutes. while agro-based industries, traders and the agriculturists need forecasts for planning their operations properly.

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