



**STUDYING THE NATURE RELATIONSHIPS BETWEEN
CLIMATIC FACTORS AND COTTON PRODUCTION
BY DIFFERENT MATHEMATICAL AND
STATISTICAL METHODS**

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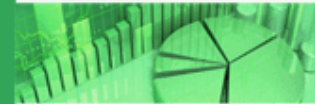
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Abstract

This study investigates the statistical relationship between various climatic factors and overall flower and boll production. Also, the relationship between climatic factors and production of flowers and bolls obtained during the development periods of the flowering and boll stage. Further, predicting effects of climatic factors during different convenient intervals (in days) on cotton flower and boll production compared with daily observations. Furthermore, collects information about the nature of the relationship between various climatic factors and cotton boll development and the 15-day period both prior to and after initiation of individual bolls. And, provide information on the effect of various climatic factors and soil moisture status during the development stage on flower and boll production in cotton. Evaporation, sunshine duration, relative humidity, surface soil temperature at 1800 h, and maximum air temperature, are the important climatic factors that significantly affect flower and boll production. The five-day interval was found to be more adequately and sensibly related to yield parameters. Evaporation; minimum humidity and sunshine duration were the most effective climatic factors during preceding and succeeding periods on boll production and retention. There was a negative correlation between flower and boll production and either evaporation or sunshine duration, while that correlation with minimum relative humidity was positive.

Keywords and phrases: cotton flower and boll production, evaporation, relative humidity, soil moisture status, sunshine duration, temperature.

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