

Impact of Weather Parameters on Bengalgram Yield in Prakasam District

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ABSTRACT

This paper attempted to study the yield-weather relationship of chickpea (*Cicer arietinum*) in Prakasam district of AP. The annual yields and month wise weather parameters data for Prakasam district over fifteen years (2000-01 to 2014-15) were used to identify the quantum jumps and the technological changes. The yield-weather relationship was formulated using multiple linear regression.

Analogy of Control charts and Time trend equations suggested existence of quantum jumps. So, the time effect was found to be discrete in nature over time in the Bengal-gram yields creating two sub-periods which indicate technological changes in the study period. Crop yield-weather models revealed that Bengal-gram yields during 2000-01 to 2007-08 were influenced by January rainfall (positively) and during 2008-09 to 2014-15 by December rainfall (negatively) indicating differential weather response of respective technological periods. Thus it was inferred that overall yield-weather relationship may not be appropriate. Hence, individual relationships for the sub-periods prevailing in the yield data were found to be more meaningful.

Key words : Control Chars, Multiple Linear Regression, Quantum Jump, Time Trend.