LATE ABSTRACTS*

A Study to Assess the Losses Caused by the Drought

BY

SATYENDRA KUMAR, O.P. KATHURIA, S.K. RAHEJA

I.A S.R.I., New Delhi

India faced one of the worst droughts of the century during 1979-80. The initial estimates at the national level indicated that about 220 million people and 120 million farm animals were affected by the drought. Crops totalling about 15 million tonnes over an area of 35 million hectares were estimated to have been lost or badly affected. Crop losses in Delhi alone were estimated to run into several hundred lakhs of rupees. In the present paper an attempt has been made to assess the extent of crop and input losses caused by the drought in the 1979-80 season and its possible impact on the subsequent rabi crops. In a sample survey conducted in the Union Territory of Delhi, a random sample of 360 cultivators selected from 36 villages spread over all the 5 blocks of Delhi, was taken up for this study.

The study revealed that 93 per cent of the area under various crops had suffered losses of various intensity. In about one third of the area, the crops were completely lost and in another 27 per cent of the area losses exceeded 50 per cent. The study also showed that 87 per cent of area under maize, 77 per cent under bajra and 47 per cent under jowar suffered heavy or total loss due to drought. Most of the affected area under these crops belonged to marginal and small farmers having holdings less than 2 hectares. On the other hand, 20 per cent of the area under vegetables and 13 per cent of the area under maize, which belonged mostly to medium and large farmers had not been affected by the drought.

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* Present Address : Jr. Statistician (S—1), Divn. of Agril. Physics, I.A.R.I., New Delhi.

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A Study of Growth and Instability in Sugarcane Production

BY

B.K. GUPTA AND B.B.P.S. GOEL

Indian Society of Agricultural Statistics, New Delhi-110 012

Sugarcane is one of the most important cash crops in India, yearly fluctuations in its production during last few years have considerably caused instability in Sugar Industry and price. Thus there is need to examine the nature and extent of instability and growth in sugarcane production and factors as area and yield giving rise to this situation. With this objective an exponential trend was fitted to the time series, data on sugarcane production, area under and yield of the crop for ten major producing states and all India as a whole for the last 14 years from 1967-68 to 1980-81. Compound growth rates were computed for all the three characters and thier significance tested. To know the relative importance of two components of production viz. area and yield to its growth, correlation coefficient between production and area, production and yield and regression plane of production on area and yield were worked out. Magnitude of instability in the characters under study were measured with the help of coefficient of variation of residuals.

Analysis revealed that for majority of states and for India as a whole, both sugarcane production and area registered positive significants growth rates while the growth in yield have been insignificant in both positive and negative directions. Broadly speaking, yield is more stable than both area and production and area is more stable than production. In general the states with high level of production and area witnessed and higher stability and growth. Correlation and regression analyses suggest that at the All India level area is a more important component contributing to the growth in production than yield. However in a few states yield is more important than area for growth in sugarcane production.

A Discrete time Queueing Problem with Heterogeneous Servers

BY

P. S. RANA

IASRI, New Delhi.

The steady state behaviour of a discrete time queueing situation with a finite number of heterogeneous servers is considered. The service rate is different for each server. The steady state probabili ties for the number of units in the system both in queue and in

service have been obtained for the two models. Model A and B differ from each other in the sense that in model A an arriving unit at a time mark is not considered for service at that time mark and in model B afresh arrival can be serviced at that time mark. The probabilities, when the rate of arrival and that of no arrivals are equal, have also been derived as special cases for each of the models A and B.

A Study on Size and Shape of Plot for Jowar

BY

V. R. KARANDIKAR[1], P. S. RANA[2] AND P. K. BATRA[3]

Size and shape of the plot plays an important role in field experiments for improving the precision of the estimate. In the past large number of studies have been conducted on annual crops but on jowar no such study has so far been conducted and the information on the suitable size and shape of plot for the adoption in field experiments is lacking. A uniformity trial was therefore planned at Mahatma Phule Agricultural University, Rahuri with variety SVV-86. The entire field was divided into sub-units of size 1.35 m. x 1.35 m. and the yield for each of the sub-unit was recorded separately. For the determination of the suitable plot size the CV for different plot sizes obtained by combining the adjacent unit plots were worked out. To study the behaviour of these CVs according to the plot size, the Fairfield Smith Law we fitted and it was observed that the law fitted well to the observed data suggesting that as the plot size increases the CV decreases. For a given precision, the required area for different plot sizes was worked out. A suitable plot size corresponding to different block sizes was also worked out. The study was also attempted for split plot design. The detailed results of the study are discussed in the present paper.

1 Mahatma Phule Agricultural University, Rahuri.

2 and 3 : Indian Agricultural Statistics Research Institute, New Delhi-12.