

## RAINFALL AND CROPPING PATTERN OF GUDIYATHAM TALUK IN NORTH ARCOT DISTRICT

N. T. JAGANNATHAN<sup>1</sup> and P. DEVA SENAPATHY<sup>2</sup>

The daily rainfall data for 33 years period (1950-1982) recorded at taluk head-quarters at Gudiyatham were analysed for annual, seasonal monthly and weekly periods and presented in this paper. Based on the rainfall a suitable cropping pattern with 200 percent intensity was suggested under rainfed conditions.

Recent detailed studies have shown that research work on the pattern of rainfall helps the farmer to alter his cropping pattern to suit the expected pattern of rainfall. For evolving a profitable cropping system in a rainfed tract on a scientific basis, rainfall analysis is of great help (Kulandaivelu *et al.* 1980). The analysis of rainfall data for Gudiyatham taluk of North Arcot District and the suitable cropping system are reported in this paper.

### MATERIALS AND METHODS

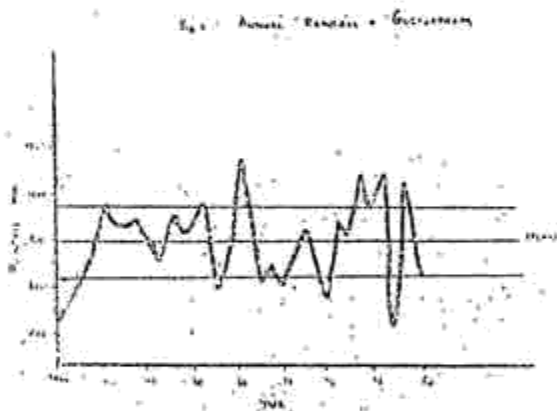
The daily rainfall data for the 33 years period (1950 - 1982) recorded at Taluk head quarters at Gudiyatham are used in the study. The rainfall data were analysed statistically for annual, seasonal, monthly and weekly periods and are presented.

### RESULTS AND DISCUSSION

#### *Annual rainfall*

The mean annual rainfall of 803 mm is received in 52 rainy days.

The co-efficient of variation for the annual rainfall is 22 percent. Out of 33 years of rainfall 19 years are normal, 8 years are deficit and 6 years are surplus (Fig. 1)



#### *Seasonal rainfall*

The distribution of rainfall in the four seasons with percentage to the annual rainfall and the degree of dependability are given in Table-1.

The seasonal distribution of rainfall indicates that about 48 per cent of the rainfall is received during South West monsoon period followed by 38 per cent during North East

\* 1 and 2 Tamil Nadu Agricultural University Research Centre, Vellore-1,

Table 1 Seasonal rainfall of Gudiyatham Taluk

Season	Rainfall mm	Percentage to the annual rainfall	C. V. %
Winter	10.50	1.30	142.00
Summer	101.40	12.65	59.90
Southwest Monsoon	387.90	48.25	32.30
Northwest Monsoon	304.00	37.80	35.30

Table 2 Monthly rainfall of Gudiyatham Taluk

Month	Rainfall mm	C. V. %
January	9.00	162.90
February	1.50	297.00
March	4.70	186.80
April	22.20	91.80
May	74.50	72.00
June	54.30	61.00
July	91.30	59.80
August	101.50	60.30
September	140.80	49.80
October	152.70	44.80
November	110.50	68.30
December	40.80	131.80

monsoon period. The rainfall received in Summer is 101 mm. The rainfall received during winter is less than 2 per cent to the annual rainfall and is negligible.

#### *Monthly rainfall*

The mean monthly rainfall and its co-efficient of variation is given in Table 2. The highest rainfall is received in the month of October followed by

September and November. An increasing trend in rainfall is noticed from April to October with a short decline in June but it is more dependable as it registered low percentage of co-efficient of variation.

#### *Weekly rainfall*

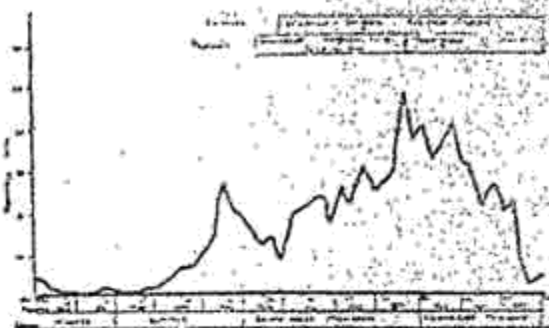
The mean weekly rainfall is presented in Fig 2. A continuous and increasing trend in the rainfall is observed from 27th standard week onwards. The highest rainfall is received on 38th standard week. The rainfall is more than 20 mm per week from 29th standard week (i. e.) from July 16th onwards with a slight fall on 31st standard week. A fairly good trend in rainfall is observed between 19th to 23rd standard week (i. e.) between May 7th and June 4th. The possibility of getting good-showers is also observed after October.

#### CROPPING PATTERN

- Existing :
1. Groundnut + Redgram local in rows or Sorghum Co. 19 as mixer (June-July to December)
  2. Groundnut + Sorghum Co. 19 mixer (July to December)

#### PROPOSED

The rainfall received from May 7th to June 4th can effectively be used for taking up summer plough-



ing. Utilising the early showers in June the dry groundnut can be sown on the first fortnight of June. The groundnut may be sown with a mixed row crop of Sorghum Co. 25, redgram Co. 5 and Castor TMV. 5 in lines with definite proportions. The Sorghum will be harvested in the second fortnight of September or early October and the interspace between the rows of redgram and Castor and the vacant space that result after the harvest of Sorghum and groundnut may be utilised for sowing short duration pulses like blackgram or oilseeds like sunflower and or millet like ragi as there is a steady rainfall from October onwards.

#### REFERENCE

- KULANDAIVELU, R., N. KEMPUCHETTY and Y. B. MORACHAN, 1980. Rainfall pattern and cropping system in Coimbatore. *Madras Agric. J.* 67 (3) : 171-176.