

## A NOTE ON THE EFFECT OF POPULATION DENSITY ON FRUIT SET IN THE RATOON CROP OF PINEAPPLE

Light plays an important role in flower bud initiation and differentiation. Boyer (1974) reported that in Cocoa, the number of flowers per tree was 60 to 70% more in moderately shaded trees than in unshaded ones, Jackson and Palmer (1977) observed reduced flower bud formation in apple by shading. Radha (1979) observed that 75 per cent shading resulted in the reduction of flowering in pineapple. The present work is aimed to study the effect of mutual shading of plants on fruit set in pineapple

An experiment was laid out during 1976-77 planting season, at Pineapple Research Centre, Vellanikkara, to study the optimum population density for Kew variety of pineapple for maximising production. The lay out was spilt plot design with nine different densities and two methods of planting viz., two rows and three rows in a trench with seven replications. The crop was given a fertilizer schedule of N. P. and K. at 8, 4, and 12 g respectively per plant per year in two split doses.

The ratoon crop of the above experiment was observed during 1979-80 flowering season to study the effect of population density on fruit set. The study was limited to three row method of planting with the spacing of 30 x 60 x 90 cm, 25 x 60 x 90 cm, 30 x 45 x 90 cm, 30 x 60 x 105 cm, 25 x 63 x 105 cm and 45 x 60 x 180 cm. The nine different densities under these spacings were 47,619, 57,143, 55,556, 66,667, 51,282, 61,539, 44,444, 53,333 and 40,000 plants per hectare. Five plants were randomly selected from each treatment before the application of growth regulator (25 ppm ethrel + 20% urea + 0.04% calcium carbonate) for inducing uniform flowering. After emergence of the inflorescence, the date of opening of the first flower in all the inflorescences as well as the date of completion of flower opening was recorded. The time taken for the opening of the first flower and last flower in each inflorescence was worked out and these were expressed as time taken for fruit set. The data were statistically analysed and presented in Table 1.

The results indicate that there is no significant difference due to treatments on fruit set. However, in the treatment with highest population density the time taken for fruit set is comparatively lesser than in other treatments. Radha (1979) observed that 75 per cent shading resulted in the reduction of flowering in Pineapple.

### സംഗ്രഹം

വെള്ളാനിക്കര കൈതച്ചക്ക ഗേവഷണ കേന്ദ്രത്തിൽ 1979-80 ത്നടത്തിയ പരീക്ഷണങ്ങളിൽ ഒരു ഹെക്ടർ സ്ഥലത്തെ കൈത ചെടികളുടെ എണ്ണം 40,000 മുതൽ 47,619 വരെ യായിരുന്നപ്പോൾ പുഷ്പിക്കുന്നത് മുതൽ ചക്ക പിടിക്കുന്നതുവരെയുള്ള സമയദൈർഘ്യത്തെ ചെടികളുടെ എണ്ണത്തിലുള്ള വ്യത്യാസം സ്വാധീനിക്കുന്നതായി കണ്ടില്ല.

Table-1

Mean number of days taken for fruit set

		Plants per hectare								
		Tr 2	Tr 4	Tr 5	Tr 6	Tr 7	Tr 8	Tr 9		
Tr 1	41,688	50,000	86,866	51,282	61,538	64,444	53,333	28,333		
		18.92	14.8	18.04	15.18	15.72	18.44	15.38		
		15.24	18.92	18.0	15.18	15.72	18.44	15.38		
No. of days taken for fruit set		15.24	18.92	18.0	15.18	15.72	18.44	15.38		

\*F test not significant.

### References

- Boyer, J, 1974, Ecophysiological study of the development of cocoa trees grown in cameron. I. Relationships between the annual climatic cycle and vegetative activity. II. Influence of the predominating climatic factors on flowering and fruiting. *Cafe Cacao* 18. 3-30
- Jackson, J E. and Palmer, J W, 1977. Effects of shade on the growth and cropping of apple trees. I. Experimental details and effects on vegetative growth, *J. Hort. Sci.* 52, 245-52
- Radha, T, 1979. Effect of shade on growth and fruiting in pineapple. M. Sc. (Hort) Thesis, Kerala Agricultural University, Vellanikkara, Trichur, Kerala.

Banana and Pineapple Research Station  
Kannara 680653,  
Trichur, Kerala

M. N. C. NAIR  
LILA Mathew

(M S Received: 25-5-1980)