females and, when mounted on a microscope slide, can be distinguished by the absence of the parallel-ribbed cover flap which protects the genitalia of the female. As in other species of eriophyids, spermatophores are deposited on the plant. The spermatophore is stalked and firmly attached to the leaf on an expanded base. The head of the spermatophore of this species is about 15μ wide and contains, in its center, a globose sperm sac which is about 7μ in diameter. The studies of this mite are continuing and it is hoped that a disease-free culture of the mites can be produced. This will be of use in our studies of causal agent-vector relationships. Further, we hope to compare the mites from Dholi with those from ICRISAT, in an attempt to discover the reason for the recorded differences in susceptibility to sterility mosaic in the selections grown at these two sites.

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Modified Infector-Row Technique to Screen Pigeonpea for Sterility-Mosaic Resistance

An infector-row technique to screen pigeonpea for resistance to sterility mosaic has already been described (ICRISAT Annual Report 1976-77). A modified technique, which we have named as the infector-hedge system, has now been found more convenient for large-scale field screening. The normal infector-row system, where rows of a susceptible cultivar are planted in advance at frequent intervals all over the field, was found to have certain disadvantages. Planting of the infector-rows at frequent intervals required a greater area for planting, more inoculations, and irrigation of a large area before the monsoon rains started. In addition, the more advanced plants in the infector rows adversely affected the growth of the adjacent test materials that were sown much later.

For the 1980-81 season, planting of a four-row hedge of a susceptible cultivar [NP(WR)-15] on the west side of a 2.0-ha field in December 1979 was found sufficient for a thorough screening of the test materials. This hedge had been infected using the leaf-stapling technique. The test materials, with indicator rows of susceptible BDN-1 after every ten rows (9 m), were sown in June 1980. From then until October the prevailing winds were from the west and these carried the eriophyid mite vectors from the infector hedge across the nursery. The average incidence of the disease in the indicator rows across the field was high (98.7%) at 104 days after planting (Fig. 6). In the initial stages, the disease incidence in the indicator rows near the hedge rows was greater with a progressive decrease to the farther end. Since the crop is susceptible throughout its life and the reaction of the lines is judged by the appearance of symptoms, the delay in the development of the disease is of little consequence.

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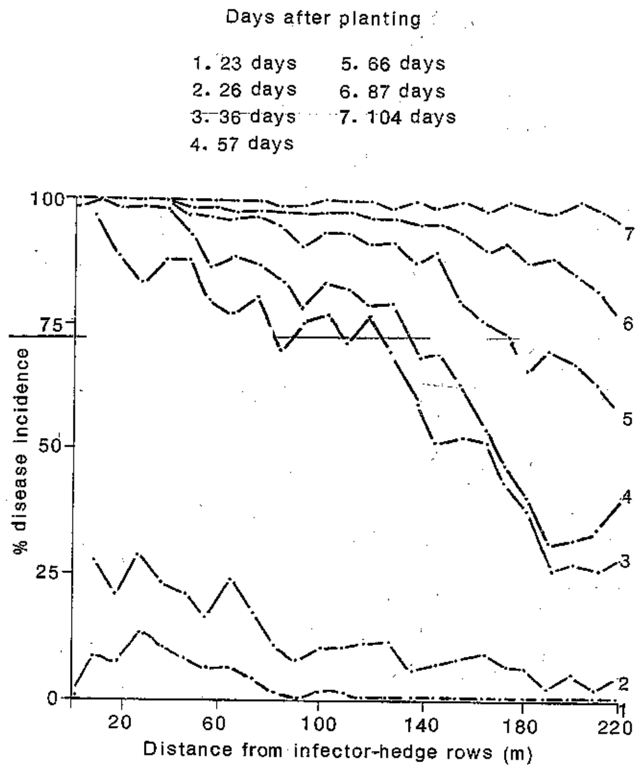

Fig. 6. Incidence of sterility mosaic in a susceptible cultivar of pigeonpea (BDN-1) planted at various distances from the infector-hedge rows at different intervals after planting.

Diseases Observed on Pigeonpea in East Africa

Pigeonpea is one of the important pulse crops in East African countries. Little is known