STUDIES ON THE RELATIONSHIP BETWEEN NEMATODES AND SUGARCANE IN SOUTH AND WEST AFRICA : RATOON CANE

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In a previous paper (Cadet & Spaull, 1985) we reported on the noteworthy difference between the response of the plant crop of sugarcane to treatment with nematicide in Burkina Faso and South Africa. On sandy soils in both localities there is a large increase in yield but whereas in Burkina Faso this is due largely to an increase in the number of stalks, in South Africa it results more from an increase in the length of the stalks. The situation in ratoon cane is the same in South Africa but not in Burkina Faso. Data from several nematicide trials show that whereas there was little or no increase in yield following treatment with nematicide in ratoon crops in

South Africa and attempt to explain this difference. The rider given in the introduction to our previous paper (Cadet & Spaull, 1985) is applicable here; in particular, that the two trials constitute not one but two experiments, each conducted separately but with the same aim.

Methods

The trials were established on first ratoon crops of

Results and discussion

shoot roots in the following summer. Fewer endoparasites were recorded in the stool roots; these roots eventu-

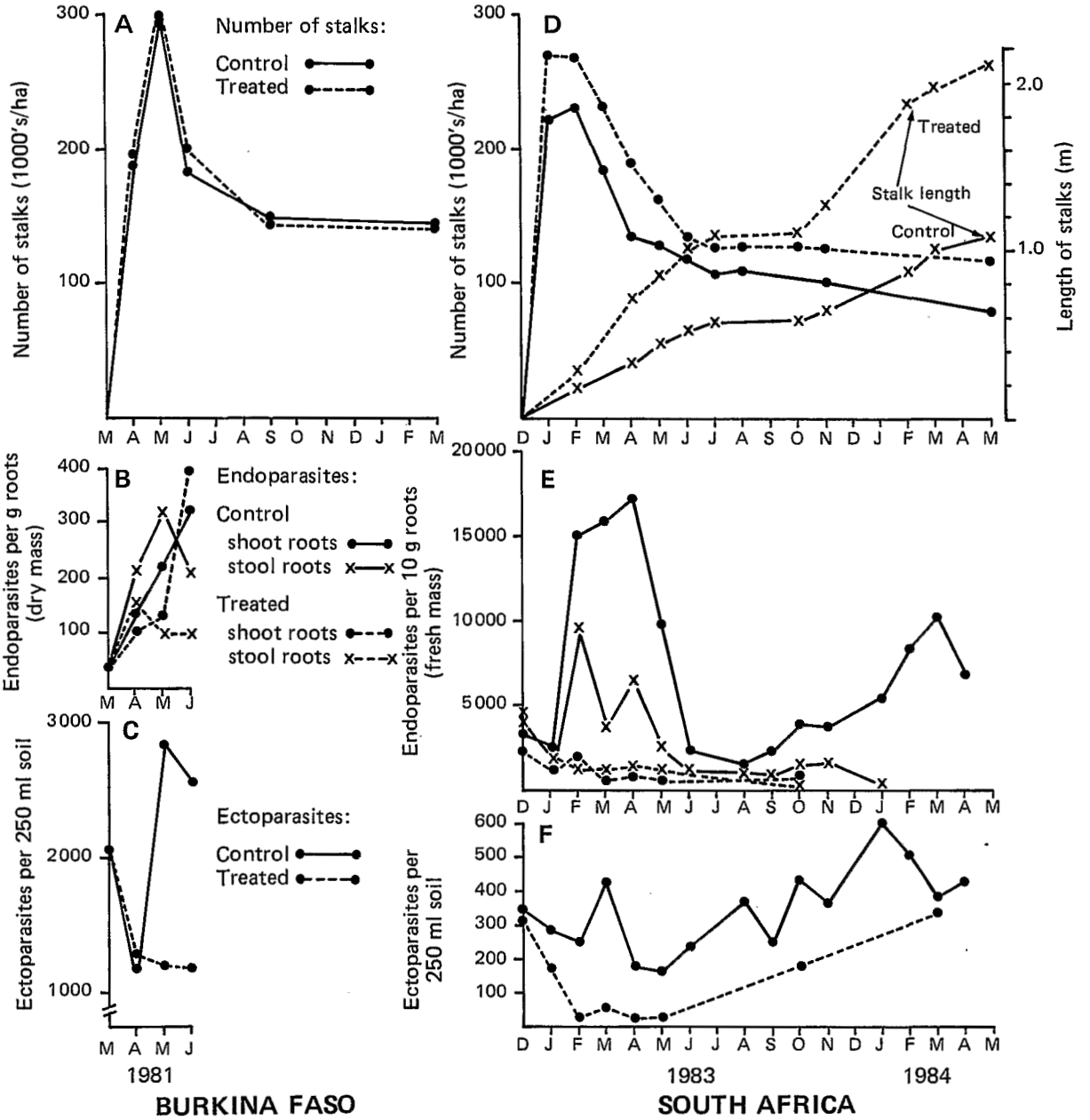

Fig. 1. Patterns of change in the numbers of ecto- and endoparasitic nematodes in relation to the patterns of change in the development of ratoon sugarcane in Burkina Faso and South Africa (Note that 10 g fresh mass of stool or shoot roots are equivalent to *c* 2.5 g dry mass).

Burkina Faso and the expanding populations of endoparasites are not diluted as the root system develops. These comments are largely conjecture though if true they would be of some relevance when breeding for tolerance to endoparasites.

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