# INTRODUCTION

Insect attack is a major problem in maize cultivation, causing large losses in yield if infestation is not controlled by efficient use of insecticides. At present, good control of maize pests can be achieved with a wide range of insecticides of many formulations, in conjunction with growing resistant varieties and good field management. Treatments tend to be expensive as the severity of attack makes frequent application a necessity. The extreme toxicity of modern insecticides, especially organophosphorus compounds makes their use hazardous in the tropics where adequate precaution against contact is often not taken because of excessive temperatures encountered when protective clothing is worn. A further disadvantage of spraying techniques is that there is considerable scope for errors in applying correct dosage rates. A considerable advantage could therefore be gained from the introduction of an insecticidal treatment for maize pests which involved only a single application per crop and which combined ease of application with safe handling properties.

Granular preparations, a comparatively recently developed formulation for insecticides, possess some of these qualities. Recent work by Fenwick (unpubl.) has shown that polystyrene, a hard plastic, can be impregnated with a systemic nematocide and through gradual release of active ingredient when in the soil, is effective over an extended period.

The object of the work reported here was to determine whether a granular insecticide could be prepared in the same way and used in the control of maize pests.

Initial tests were carried out with Phosdrin (Mevinphos) and Bidrin. Results indicated that Bidrin was unsatisfactory and Rogor (Dimithoate) was substituted. These insecticides were chosen for their systemic action, as the chief insects attacking maize in Trinidad, Heliothis zea (Boddie) and Diatraea spp., are concealed within the plant for most of their life cycle. A further consideration was the safety to consumers of the maize. Phosdrin is highly toxic, but has a short persistence in the plant. Rogor has a longer persistence but a low mammalian toxicity.