SUMMARY

A simple randomised block field experiment was laid out to investigate the pre-emergence spraying effects of 2-4-D and P.C.P. on the yield of maize. It was found that concentrations of up to 3 lbs/acre 2-4-D and 20 lbs/acre P.C.P. had no detectable effect on the germination, plant population or yield of maize, neither did these concentrations retard weed growth to any measurable extent. Observation plots showed that applications over 25 lbs/acre P.C.P. reduced weed population appreciably but also caused a small yield reduction, when compared with nearby experimental plots. This experiment indicated that rainfall could reduce toxicity by leaching and runoff, especially on cambered beds.

Screening trials indicated that up to 45 lbs/acre P.C.P. and 4.1 lbs/acre 2-4-D could be sprayed without affecting the vigour of the young seedling as long as there was adequate watering. These screening trials showed that rainfall reduces the toxicity of P.C.P. by leaching it out of the soil. An attempt and suggestions are made to improve the system of irrigation used in these trials.

A preliminary field trial indicated that concentrations of C.M.U.; Crag Herbicide No.1; Chloro 1 P.C. and T.CA. above 1 lb/a; 2 lbs/a; 2 lbs/a; 10 lbs/a respectively proved fatal to young corn seedlings when sprayed on at the time of planting. T.C.A., C.M.U. and Crag gave the best weed control. It is suggested that C.M.U. and Crag have possibilities in maize weed control.

It is pointed out that herbicidal weed control on maize in Trinidad is uneconomical. A brief review of the literature on chemical weed control, with regard to maize especially, has been made. In the light of these experiments the difficulties of herbicidal weed control in the tropics have been discussed and possible solutions have been suggested. Recommendations have been made for future work.