

SUMMARY

Improved methods of planting, spraying and watering in box screening trials have been devised.

Results from box screening trials indicated that pre-emergence spraying of maize with C.M.U. (3-(p-chlorophenyl) 1, 1-dimethyl urea) is dependent upon a number of environmental factors. Of these factors depth of planting was of the greatest importance.

At a planting depth of one inch, with no subsequent rainfall it was found that an application of .9 lbs./acre of C.M.U. could be safely applied, but where heavy rainfall followed the application of the herbicide, only .5 lbs./acre was advisable.

At a planting depth of two inches it was found that 1.5 lbs./acre could be safely applied even when heavy rainfall followed.

Box screening trials and field micro plots showed that maize tolerated much higher concentrations of Amizol (3-Amino-1,2,4 Triazole) when applied as a preplanting and pre-emergence spray than as a post-emergence spray.

Results indicated that Dalapon (2,4-dichloro propionic acid) increased the vigour and rate of growth of maize during the first week of growth, but then acted as a growth inhibitor at concentrations of 3 lbs./acre and above.

The effects of various concentrations of T.C.A. (Tetrachloroacetic acid), Crag Herbicide No. 1 (Sodium 2:4 Dichloro phenoxyethyl sulphate), Dicotex 40 and C.I.P.C. (Isopropyl N-(3-chlorophenyl carbamate)), on the growth of maize and the control of weeds has been investigated using field micro plot experiments. Good weed control with negligible injury to the maize seedlings was obtained with concentrations of 4 lbs./acre of Crag Herbicide No. 1, 2 lbs./acre of Dicotex

INTRODUCTION.

Agricultural methods employed in the tropics are often

40, 2 lbs./acre of C.I.P.C. and 4 lbs./acre of T.C.A. are in

low, but even with modern farming methods the yields are com-
paratively low, and the situation is not improving.

Recommendations have been made for further study.

One of the major causes of low crop yields is poor
weed control. Weeds compete with the crop for light, air,
plant foods, moisture, root space and unless controlled
effectively, seriously affect the yield and reduce consider-
ably the margin of profit.

The comparatively recent introduction into the Tropics
of mechanized farming has led to an increase in the area
under cultivation and this combined with the increasing cost of hand
cultivations, as well as mechanical operations has created
a severe problem.

The discovery of selective control of weeds by means
of chemicals has given man a new and powerful weapon in this
struggle against weeds.

One of the greatest dangers in tropical farming is
soil erosion which is often encouraged by present methods of
cultivation such as clean weeding and the pulverization and
powdering of the top soil by repeated mechanical weeding.
It is often necessary that a cover crop be provided especially
with poor cover crops such as maize. One method which should
be suggested is the use of weed killers to retard the growth
of weeds until the crop has become established, and at the
same time supply adequate ground cover to reduce soil erosion.

When the new selective herbicides were first discovered
research work was concentrated on finding out what weed species
they would kill. Generally, at first, it was found that most