GENERAL INTRODUCTION.

In Trinidad, fungicides are not in general use as sprays or dusts, though certain serious foliar diseases of vegetable crops are present, which are controlled by spraying in other countries. In the present investigation at I.C.T.A., fungicides already proven elsewhere were tested for their effectiveness, under the ecological conditions obtaining in Trinidad, in controlling certain of these foliar pathogens. Problems involving three crops were dealt with and these are discussed in three sections of this thesis, under the following headings:

1. Foliar Diseases on Tomato.
2. Web blight of Bean (Phaseolus Vulgaris).
3. Downy mildew on cabbage and cauliflower seedlings.

Before a fungicide can be recommended for general use, it must be shown not only to give effective disease control but also to give an economic increase in yield. It is important that yield be considered, for a particular fungicide, while controlling a disease may itself have a deleterious effect on the plant. Thus, Hendrson (II) and Horsefall & Heuberger (13)have reported that Bordeaux mixture delays the ripening of tomatoes, which may lead to loss of fruit by frost or drought.

Fungicidal spraying is a protective but not a curative measure. It is therefore of great importance to commence before the disease it is hoped to control has become well established. Equipment varies from small hand-operated sprayers to heavy stationary or mobile power-driven machinery, such as is used in

/large banana

large banana plantations or citrus orchards. For small scale vegetable growing, as practised in Trinidad on many peasant holdings, light hand-operated sprayers are probably most suitable, and these were used in all the experiments. Where vegetables are grown on a rather larger scale small portable power-driven units are probably better.

There are certain extra problems and difficulties of spraying in tropical climates where deterioration of machinery is rapid, expense of materials and equipment is greater, and adequacy of water supply is less certain. In addition violent rainstorms in the wet season may necessitate more frequent spraying and the presence of surface drains to deal with these heavy showers makes the moving of equipment more difficult.