

I.

INTRODUCTION.

It is evident that, with a few exceptions - melongenes pumpkins, bodi beans etc. - vegetable crops in the wet tropics are much more satisfactorily grown in the dry saeson, with irrigation if necessary, than during the rainy season. It is the practice in Trinidad for market gardeners to grow their crops on raised beds or ridges, though in the drier climate of Barbados ridging is not so common and mulching is practised. From a consideration of soil physics it would appear that such ridging, by improving the drainage of the rooting zone, would be beneficial during the rains when water is in excess, though possibly detrimental when drought is a danger. Mulches have been shown generally, if not always, to conserve moisture already in the soil (1). They tend to prevent the panning of the top-soil by heavy rainfall, so increasing the power of the soil to absorb water (see percolation experiments by McIlroy and Lamrock on bare soil capped by rain). However, work by Maher (2), Griffith (3) and others has shown that there may be a critical thickness of mulch - varying with the type of mulch and with rainfall - below which mulch tends to conserve moisture in the soil, and above which the reverse is true due to the absorption of the rainfall by the mulch before ever it reaches the soil.

The thesis is that faulty soil / air / moisture relationships are the reason for the failure of vegetable crops in the rainy season, and this was a preliminary experiment

(designed)

2.

designed to test the hypothesis and to show how to alleviate the position by the use of ridges and mulches on the principles outlined above.

The experiment as a test of the thesis was a failure but provides information which may be of use in designing further experiments.