SUMMARY

Of the carbohydrates evaluated mannose gave the best growth of Dothidella ulei when combined in a semi-inorganic medium. Various levels of mannose were compared and a concentration of 20 g./l. was found to be optimum for growth. In all the experiments conducted in Part I, colonies never exceeded 1.0 cm. in diameter and little progress was made in the establishment of a suitable artificial medium for the production of Dothidella inoculum.

The importance was demonstrated of the Sietz Filtration method of sterilization for those carbohydrates that decompose in strong heat. The fungus would not grow on an autoclaved dextrose medium, only when the carbohydrate was filtered.

Treatment of Hevea seed tissues with propylene oxide vapour (overnight) successfully controlled fungi but not bacteria, while treatment with mercuric chloride (for 2 mins.) controlled bacteria but not fungi. The use of mercuric chloride and propylene oxide together proved to be the most effective method of tissue sterilization. One per cent Chlorox and 75% alcohol were comparatively ineffective. External sterilization of the seed coat alone did not give a good control.

A number of fungi were isolated that appeared to be associated with the seed tissues but evidence suggested that they were probably contaminants. Botryodiplodia theobromae was the only fungus to be repeatedly isolated. Dothidella was not observed, if present it would certainly have been swamped by the other fungi and bacteria which grew much more rapidly.

There was an indication that fungi were more often associated with the integument and bacteria with the endosperm and cotyledons.

Species of Fusarium, Cladotrichum and Trichoderma were isolated from Dothidella lesions in the field.

A range of well-known fungicides were evaluated in the laboratory; all effectively suppressed the germination of Dothidella macroconidia.