Letters to the Editor

VASCULAR-STREAK DIEBACK OF COCOA

I would like the opportunity, through *Harvest*, of congratulating Mr Keane, Professor Flentje and Professor Lamb on the research programme which has led to the publication of their paper *Vascular-Streak Dieback of Cocoa in Papua New Guinea* (University of Papua and New Guinea, Department of Biology, Occasional Papers: No. 1). This paper records the isolation of a previously unknown fungus, *Oncobasidium theobromae*, from dieback-infected cocoa branches and reports results of experiments which indicate this fungus to be the cause of this serious cocoa disease. The identification of the causal organism is of great significance in the fight against the disease. It is very pleasing that the University team plans to continue its research programme and we look forward to further advances in dieback control.

However, I think it desirable at this time to emphasize to cocoa growers and DASF staff that, for the present, the finding does not lead to any significant change in the recommendations for dieback control but does reinforce those recommendations. The paper itself notes that the knowledge that disease may be spread by spores produced on diseased branches strengthens the existing recommendation for pruning out of infections. The fact that, under wet conditions, fungus fruitbodies on pieces of stem cut from diseased branches shed spores for up to three successive nights afterwards confirms the need to remove and destroy prunings. Confirmation that the fungus grows ahead of visible streaking in the cocoa branch also strengthens the recommendation that infected branches be pruned off 1 to 2 feet beyond the limit of internal streaking.

It is an obvious inference that, as the disease is spread by fungus spores falling onto young growth, infection might be prevented by protecting young growth with fungicide spray. However, it is unlikely that this would be practical or economic because of the constant production of new flushes of growth which would require a very high frequency of spraying to maintain a fungicide cover, especially under conditions of high rainfall. This Department has been carrying out fungicide trials for some years and has not found any significant effect of fungicide sprays on the incidence of infection. Nor have trials with systemic fungicides shown any consistent reduction in number of infections on treated trees as compared with untreated.

Recommendations

Our recommendations for dieback control therefore remain as before:

1. Inspection of seedling, young and bearing cocoa as frequently as possible by the owner or a disease team trained to locate early symptoms of infection.
2. Immediate removal and destruction of infected seedlings and resowing of any vacant positions.
3. In older cocoa, pruning off infected branches 1 *to* 2 *feet below the lowest internal streaking*, immediate removal and destruction of the prunings.

When making new plantings, dieback resistant clones or seed from resistant parents should be used. Keravat distributes rooted cuttings of 16 clones which have been selected as good producers with desirable growth habits, pod characters, etc., as well as showing lower than average levels of dieback infection in field plantings at Keravat. It is important that any planting should comprise a mixture of several clones because of the danger of individual clones proving susceptible to a new pest or disease or unfavourable conditions. It must be stressed, also, that the dieback resistant clones are not immune to the disease and growers must still follow the inspection and pruning practices described above.

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