Ktc 3a. Seedling Exposure Trial

Aim: To determine the incubation period of the fungus Oncobasidium theobromae in seedlings raised in the insectary, exposed for short periods in the field & returned to the insectary.

Method:- Open-pollinated seed ~~from a number of clones from a susceptible clone~~ B ~~K23, was~~ was planted in pots in the insectary in six batches of 60 at fortnightly intervals commencing on 8th December, 1966. Each of these batches was treated as follows:- 10 seedlings were left in the insectary for the duration of the trial ~~the other 50 of the~~ seedlings were placed in the field at age 8 months. 10 were returned to the insectary after 3 days, 10 after 7 days, 10 after 10 days and 10 after 14 days while the other 10 were left in the field. The first group went into the field on 15th August 1967 and the others followed at fortnightly intervals in order of planting. ~~at fortnight~~

All groups were inspected for dieback twice-weekly commencing 4 weeks after the first group was exposed. The frequency of reading was reduced to once per week from early December as no infections had shown up in any treatment and readings were suspended a month later. A final reading was made on 23rd February 1968 at which time two infections were noted, one in a seedling which had been exposed in the field since 15th August, 1967 and one in a seedling exposed since 29th August, 1967.

Discussion

Infections have been noted in the past in field-planted seedlings at the age of two months in the Indicator Plots (KTC 20/B). Obviously, therefore, the length of time between infection and symptom expression can be much less than the length of time the exposed seedlings had been under observation. Also, the rate of infection in the sixty plants which were left in the field for the duration of the trial was very low considering that the first group of ten were transferred to the field ~~=~~ from the insectary on 15th August 1967 and the last ~~in~~ October 1967.

There are two factors which could be responsible for the low incidence ~~over~~ over the whole trial (2 infections in 300 plants which were exposed in the field). One is that the area in which the plants were exposed, Material Nursery C, was not a source of sufficient inoculum during the course of the trial. The other is that the plants were grown in the insectary to the age of eight months before being exposed and were therefore pot-bound when the exposure treatments were initiated. This, plus the fact that conditions in the field were less suitable than those the plants had experienced in the nursery, produced very hard slow-growing plants which probably resisted invasion by the causal organism ~~or attack by the vector of the~~

~~disease~~ more than would plants growing under normal conditions.

The trial ~~there are light on the~~ did not provide any ~~useful~~ information on the incubation period of the causal ~~organism~~ of vascular-streak dieback.