VARIETY AND ENVIRONMENT AFFECT PEPPER SPOT INFECTION ON APPLE

S.J. GURNSEY and P.G. LONG

Institute of Natural Resources, Massey University, Private Bag, Palmerston North

Pepper spot is a fungal disease of apple caused by the pathogen *Venturia inaequalis*. Infection occurs in the field but symptoms do not appear until fruit has been coolstored for several weeks. The minimum hours of wetness and inoculum levels needed to obtain constant infection were studied for 'Braeburn', 'Fuji' and 'Granny Smith' apples. Five wetness durations ranging from 24 to 120 hours were used in combination with six inoculum levels (8,000, 2,000, 200, 20, 2 and 0 conidia/cm²). Fruit were held at 20°C for the duration of the incubation period, after which they were stored at 1°C for 32 weeks. The first pepper spot lesions appeared after 12 weeks on 'Granny Smith' and 'Fuji' apples with peak disease levels occurring after 24 and 25 weeks respectively. Lesions on 'Braeburn' took twice as long to appear with the first lesions visible after 24 weeks. The total amount of disease also varied between cultivars, indicating differences in cultivar susceptibility to pepper spot. 'Granny Smith' appeared to be the most susceptible and 'Fuji' the most resistant.

SCREENING FOR RESISTANCE TO CAMELLIA FLOWER BLIGHT

C. H. TAYLOR and P. G. LONG

*Institute of Natural Resources, Massey University,
Palmerston North*

Camellia flower blight, caused by the fungal pathogen *Ciborinia camelliae*, was discovered in New Zealand in 1993 and is now found in Auckland, much of the central and lower North Island, Nelson and Bays, Marlborough and Christchurch. There has been little research on the pathogen or the host/pathogen interaction and there are no known sources of resistance. A method was developed to infect petals by inoculation with airborne ascospores. The apparatus consisted of an aquarium pump to blow air over apothecia suspended in a small container and into a settling chamber where they settled out on petals at the bottom. After 3 d incubation at 20°C, petals were assessed for infection. All commonly grown camellia varieties were susceptible to the pathogen, but other, less common species appeared to have some resistance. Resistance to *C. camelliae* has previously not been shown to exist in the genus camellia and this work introduces the possibility of studying the infection process, resistance mechanisms and for developing resistant varieties. Since the inoculum load could not be controlled in this apparatus, it was not possible to quantify resistance, and ways of standardising inoculum loads are being investigated.