ABSTRACT

The downy mildew disease of grape vine is confined to the wet season of the year. The incidence of disease initiates at the beginning of the wet season in September or October and reaches the peak in late February or March, after which there is gradual decrease and the fungus disappears by April.

The development of Plasmopara viticola on vine leaves has been investigated. Eight days is the time period for germination of sporangia, internal colonization, infection and sporulation. Lesions remain productive upto the fifth day from the time of appearance. Both the commonly cultivated varieties of grape vine are susceptible to the fungus. Leaves are the most susceptible organs to fungal attack and these form the source of inoculum for subsequent infection to other organs. Very yound leaves were resistant.

Temperature around 25°C is favourable to germination and development of infection but, sporulation occurs well at 20°C. High humidity is essential for germination, infection and sporangia production. Leaf wetness enhances all three phases of the fungal development but, an initial wet period is essential for germination. Darkness enhances germination and the development of infection and sporulation are favoured in the presence of light. Spore release in field is enhanced by dryness and maximum spore release occurs during mid day.

Amount of sporangia deposited vertically was greater than that deposited horizontally. Maximum spore deposition is reported just below canopy level.

Of the sixteen fungicides tested, all reduce germination and sporulation and antracol, benlate and brassicol are effective in suppressing infection. Some of the fungicides are more effective when, applied in association with another compatible fungicide than when tried individually.