

Field Expression of Resistance to Coffee Berry Disease (CBD) as Affected by Environmental and Host-pathogen Factors

C.O. OMONDI¹, C.O. AGWANDA², E.K. GICHURU¹

¹Coffee Research Foundation, P O Box 4, Ruiru-00232, Kenya

²CAB International, Africa Regional Centre, P O BOX 633- 00621, Nairobi Kenya

SUMMARY

Field resistance to Coffee Berry Disease (*Colletotrichum kahawae*) can be pre-determined with a high measure of accuracy by screening six weeks old seedlings in the laboratory. However, mature plant resistance is still prone to variation due to wide environmental fluctuations including encounters with pathogen strains that were hitherto not used in the pre-selection tests.

In this study, host x pathogen interaction experiments were conducted alongside comparative evaluation of field and laboratory resistance to determine the causes of variation in mature plant resistance. It was established that variation may be attributed to environmental factors which influence disease epidemics in the field and differences in levels of resistance in the host plant population. Specifically, resistance appeared to be dependent on the duration of the wet season and the dosage effect of genes. This paper discusses means of attaining stability of resistance under different environmental and host-pathogen factors.