

Progress towards Searching for Durable Resistance to Fusarium Wilt (*Fusarium xylarioides*) in *Coffea canephora* Germplasm in Tanzania

D. L. KILAMBO, N. M. NG'HOMA, D. J. MTENGA, J. M. TERI, T. NZALLAWAHE, R. MIKE, L. MASUMBUKO¹

Tanzania Coffee Research Institute, P.O. Box 3004 Moshi, Tanzania

¹CABI UK. E-mail: tacriced@yahoo.com – Fax no: +255 27 275 6773

SUMMARY

Since its appearance in Tanzania in 1997, *Fusarium* wilt has clearly demonstrated both its ability to spread rapidly to new areas and to cause serious losses on *C. canephora*. Commercial Robusta clones MS 1, 2, 3, 4 & 5 released to coffee growers in recent years are all vulnerable to *Fusarium* wilt. Search for durable resistance was initiated in April 2004, 175 clones each having five clonal seedlings were artificially inoculated with *F. xylarioides* at a spore concentration of 1.3×10^6 , using stem nicking procedures. Assessment was carried out by identifying and counting free diseased seedlings every month for nine months. Out of 175 clones, 11 were found to resist *Fusarium* wilt. Survivors were re-assessed in April 2005 using root-dip procedures at the same spore concentration. After nine months, Robusta clones showed a certain level of consistency in terms of resistance with stem nicking and root dipping procedures. Although root dipping procedures showed high selection pressure than stem nicking, there is positive correlation ($r = 4.75$). The study indicated that there is no pathogenic variation among *F. xylarioides* isolates from Robusta coffee in Tanzania.