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Effect of shade and intercropping in the management of sweetpotato virus disease in Uganda

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Abstract. Experiments were conducted in Uganda for two seasons during 2002 to investigate the effect of intercropping and shade on activities of whiteflies (*Bemisia tabaci*), the main vector of sweetpotato virus disease (SPVD). SPVD is the major disease constraining sweetpotato production in Uganda. The intercrop experiment consisted of the following treatments: sweetpotato sole, sweetpotato + maize, maize sole, sweetpotato + trap, sweetpotato + maize + trap and unplanted plot with trap. Traps were used to monitor whiteflies abundance in different treatments. Traps consisted of bright yellow sticky strip wrapped on 10-cm diameter plastic tubes 30 cm from the ground. For the shade experiment, sweetpotato plots of 5 x 5 m were established with temporary shade made of papyrus mats 1.5 m above the ground. Treatments under the shade trial were sole sweetpotato, sweetpotato + trap, sweetpotato + shade, sweetpotato + shade + trap, shade + trap and empty plot with trap. There were significantly more nymphs and adult whiteflies on sweetpotato in sole than in the sweetpotato maize intercrop plots. Traps located in sole sweetpotato plots also captured higher numbers of whiteflies. However, mean number of plants with SPVD symptoms was similar in intercropped and sole sweetpotato plots. There was no significant difference in storage root yield for intercropped sweetpotato and sole sweetpotato. Maize yield was not affected by intercropping. Shade did not have a significant effect on number of whiteflies, nymphs or infected plants but shaded plots yielded least in both seasons. This work shows that maize may act as a guard crop without being affected or affecting sweetpotato crop yet checking on SPVD vectors, the whiteflies.