

ABSTRACT

Investigation of the Potential of Coffee Hull
Extract for Moko Disease Control

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Local banana farmers have observed that when coffee hulls are used as a mulch around banana plants, they do not succumb to Moko disease. This observation initiated the decision to carry out research to determine the components present in coffee hulls that are responsible for this.

Extracts from coffee hulls were bioassayed for their ability to inhibit the growth of *Pseudomonas solanacearum*, the bacterium that causes Moko disease in bananas. The extract was separated into its constituent components by various chromatographic techniques, and each component was bioassayed for inhibition towards *P. solanacearum*.

Components that were found to have inhibitory properties were characterised by spectroscopic techniques. One component identified to be caffeine was studied for its effectiveness against Moko disease in banana using pot trials and a field trial.

Results from the pot trials showed that there is a positive linear relationship between caffeine dose levels and percentage survival of plants, when the plants are treated with caffeine by soil drenches. It was also found that the caffeine treatments are more effective when applied to the plants before disease symptoms become evident.

Unfortunately no conclusive results could be obtained from the field trial due to some limitations encountered. Further work is clearly needed to determine the full capabilities of coffee hull extracts for Moko disease control.