compared significantly to that of control plots with chicken manure having the highest number at 74 followed by cow manure, goat manure, control treatment and inorganic amendment with 71, 69, 54 and 39 isolates respectively. The number of isolates recovered increased from 89 isolates with the addition of amendments to 122 isolates and reduced by the sixth month to 96; the addition of amendments was significant. Organic amendments are suitable for use in farms to assist in build up of beneficial microorganisms as well as add to the plants nutrition supply.

Key words: Arthrobotrys spp., Monacrosporium spp., organic amendments, inorganic amendments, bananas

6 A-Hydroxy- a-Toxicarol and (+)-Tephrodin with Antiplasmodial Activities from Tephrosia Species

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The CH2Cl2/MeOH (1:1) extract of the roots of Tephrosia villosa showed good antiplasmodial activity against the chloroquine-sensitive (D6) and chloroquine-resistant (W2) strains of Plasmodium falciparum with IC50 values of 3.1 ±0.4 and 1.3 ±0.3 ug/mL, respectively. Chromatographic separation of the extract yielded a new rotenoid, 6 a-hydroxy- a-toxicarol, along with five known rotenoids, (rotenone, deguelin,sumatrol, 12a-hydroxy- a-toxicarol and villosinol). Similar treatment of the extract of the stem of Tephrosia purpurea (IC50 = 4.1 ±0.4 and 1.9 ±0.2 ug/mL against D6 and W2 strains of P. falciparum, respectively yielded a new flavone having a unique substituent at C-7/C-8 [trivial name (+)-tephrodin], along with the known flavonoids tachrosin, obovatin methyl ether and derrone. The relative configuration and the most stable conformation in (+)-tephrodin was determined by NMR and theoretical energy calculations. The rotenoids and flavones tested showed good to moderate antiplasmodial activities (IC50 = 9 - 23 ug/ml).Whereas the cytotoxicity of rotenoids is known, the flavones (+)-tephrodin and tachrosin did not show significant cytotoxicity (IC50 > 100 ug/ml) against mammalian African monkey kidney (vero) and humanlarynx carcinoma (HEp2) cell lines.

A Novel Transgenic Fungal Biopesticide

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Bacteria of the genus Xenorhabdus are entomopathogens that produce insecticidal Xpt protein toxins against a wide range of insects and thus have potential for use in insect pest control. Bacteria were isolated from their nematode hosts, cultured, identified and incorporated into insect-specific artificial diets for feeding assays. Direct-injections assays were also carried out. Three different strains of Xenorhabdus spp. that have exhibited insecticidal activity against maize storage pests Sitophilus zeamais