



The Black Stuff

**Trial of The Black Stuff™ in
controlling Tropical Race 4 (TR4) in
cavendish bananas**

Background

Fusarium Wilt, Tropical Race 4, banana disease has spread rapidly destroying cavendish banana farms. Soils North, the producer of The Black Stuff™, co-operated with the Lao PDR Department of Agriculture, to conduct field trials on cavendish bananas under scientific control.

Rainfall Average annual rainfall 3,300 mm
History 50 H Cavendish banana farm Verified all TR4 affected
Soil Type: Sandy loam PH: 4.4

Objective

To test whether The Black Stuff™¹ controlled TR4 and the best application rate to achieve control.

Grower: Ban Vang Mieng (Village)

Crop: Cavendish banana, Musa acuminata cv

Location: Vang Vieng, Lao PDR

Agronomist: Moukdavanh Chanthavong
Department of Agriculture

Method

The trial area was cleared of TR4 infected cavendish bananas, contoured and fenced. Disease free tissue cultured Musa Acuminate banana seedlings were planted at 2 m spacing and rows at 3 m spacing.

Trial area was divided in 4 areas. The Black Stuff™ was spread across the whole trial area at 3 tonnes/H. Additional treatments:

T1A with 400 gms NPK per plant

T1B with 400 gms The Black Stuff™ per plant

T1C with 200 gms NPK & 200 gms The Black Stuff™ per plant

T4 control lot, no The Black Stuff.

Usual local commercial practices for growing cavendish bananas were followed.

NPK 15:15:15 was applied monthly at 150 g/plant.

Data was collected by Department of Agriculture, recording pests, diseases, stem and leaf growth, and matched for typical signs of TR4.

¹ The product was called NSA Wilt Stop. The local farmers found that difficult to say and call it "Foon Dam", The Black Stuff™, so we renamed the product.

Results²

Signs of TR4 were found in lots T1A, T1B and T1C.
Black spot and yellow sigatoka disease were noted.
All plants in the control lot T4 control were dead or dying.

Conclusions

There were indications of TR4 on all lots, with yellowing leaves and some split trunks.

T1A – 30% of plants with TR4 indications, including yellowing leaves & some rotting trunks.

T1B – Some yellowing leaves.

T1C – Some yellowing leaves. Healthiest plants. Producing a crop.

T4 – All plants TR4 affected and all dead or dying.

Cavendish bananas treated with The Black Stuff™ at rates of 3 tonnes/H plus showed strong growth and resistance to TR4.

Trial shows a 4 point strategy for dealing with TR4:

- 1) Quarantine measures to restrict and control the spread of TR4;
- 2) The Black Stuff™ to build plant resilience and resistance to TR4;
- 3) TR4 resistant cultivars; &
- 4) Complementary inter-row plantings.



Lot T1C

January 2020

² The trial was prematurely concluded in March 2020 due to the nationwide Covid-19 lockdown.