THE BLACK STUFF

Natural Organic Humate | Trial Report

EAST PALMERSTON TR1 PLANTAIN TRIAL

Panama TR1 Disease Resistance | East Palmerston, Queensland 2021–2026

January 2021 – Ongoing (October 2026 Update) | TBS-TR-QLD-TR1-2021

1. TRIAL OVERVIEW

Trial Reference	TBS-TR-QLD-TR1-2021
Location	East Palmerston, Far North Queensland, Australia
Grower	Matt Dunne
Crops	Pacific Plantain (Musa spp.) and Ducasse Banana
Disease Pressure	Panama TR1 (Race 1) — Fusarium oxysporum f.sp. cubense — confirmed "dirty" soil
Soil Type	Red volcanic basalt soil
Annual Rainfall	Approx. 3,300 mm (tropical wet season climate)
Application Date	January 2021
TBS Volume Applied	Approximately 2 m^3 applied to 2 rows × ~150 plants by belt spreader
Approx. Rate	~3 m^3/ha equivalent (applying to rows, not inter-row)
Control	Syngenta TR pathogen product — applied per label recommendation
Trial Status	Ongoing — October 2026 site inspection included

2. BACKGROUND & CONTEXT

The East Palmerston trial is the first Australian field trial evaluating TBS performance against Panama TR1 disease in a commercial plantation setting. The trial is significant for several reasons:

(a) The trial site soil had been independently verified as TR1 "dirty" — meaning TR1 pathogen was confirmed present at commercially destructive levels.

(b) A concurrent control using a proprietary Syngenta TR pathogen suppression product was maintained on the same property under identical growing conditions, providing a direct commercial benchmark for comparison.

(c) The trial has been maintained continuously since January 2021 and has now accumulated more than five and a half years of field observation data — a longitudinal timeframe rarely achieved in commercial farm trials.

(d) The October 2026 site inspection confirms that TBS-treated rows remain TR1-free at 69 months, with no further TBS application since January 2021.

3. TRIAL ESTABLISHMENT — JANUARY 2021

TBS was applied in January 2021 using a belt spreader. Approximately 2 m^3 of dry TBS was applied across two rows containing approximately 150 plants per row. Application was concentrated in the plant rows; inter-row areas did not receive TBS application. The Syngenta control treatment was applied to adjacent rows according to the manufacturer's recommended protocol.

4.5 NOVEMBER 2024 — 46 MONTHS POST-APPLICATION

Critical milestone: Grower removed all control rows in November 2024 after 100% TR1 infection rendered them commercially non-viable. The Syngenta TR control had completely failed. TBS rows remained in full commercial production with no TR1 symptoms, now approaching four years post-application.

> **NOVEMBER 2024:** Control rows (Syngenta TR product) removed by grower — 100% TR1 affected and commercially dead. TBS rows flourishing with no TR1. Four years post a single TBS application.

4.6 2025 UPDATE — 48+ MONTHS POST-APPLICATION

As of early 2025, TBS-treated rows at East Palmerston remain unaffected by TR1, with no further TBS application since January 2021. The grower has confirmed sustained commercial productivity across all treated rows.

Note: The trial design concentrated TBS application in plant rows only. Inter-row areas did not receive TBS. The supervising agronomist has noted that this may allow some inter-row TR1 pathogen survival and potential re-introduction via soil movement. A full-coverage application (including inter-row) is recommended for maximum long-term suppression.

4.7 OCTOBER 2026 — 69 MONTHS POST-APPLICATION

Site inspection on 21 October 2026, 69 months (five years and nine months) after the single January 2021 application. No signs of TR1 were observed in the TBS-treated rows. The plantains were flourishing, with vigorous growth and a healthy canopy across both the Ducasse and Pacific Plantain plantings. No further TBS has been applied since January 2021. The inspection validates the persistency of the original application and the continued health of the treated plants in confirmed TR1 "dirty" soil.



October 2026 — Ducasse at 69 months post-TBS application: healthy plants, no signs of TR1



October 2026 — TBS-treated plantain rows: healthy canopy, no TR1 symptoms



October 2026 — TBS-treated plantain rows: flourishing, no TR1 at 69 months

OCTOBER 2026: Site inspection — no signs of TR1 in TBS-treated rows; plantains flourishing. Persistency and plant health validated at 69 months from a single January 2021 application.

5. SUMMARY TIMELINE

Date	Months Post-Application	TBS Rows	Control Rows (Syngenta)	Key Event
Jan 2021	0	TBS applied	Syngenta applied	Trial established
Nov 2022	22	Healthy — no TR1	Healthy — no TR1	First inspection: both treatments comparable
Jul 2023	30	Full bunches — no TR1	Not documented	TBS: commercial production at 2.5 years
Apr 2024	39	Full bunches — no TR1	10% TR1, 90% expected within 6 months	Divergence confirmed: TBS holding, control failing
Nov 2024	46	Flourishing — no TR1	100% TR1 — ALL REMOVED	Control eliminated; TBS rows only survivor
2025	48+	TR1-free, productive	Removed — commercially dead	TBS 4-year persistency confirmed
Oct 2026	69	Flourishing — no TR1	Removed (Nov 2024)	Site inspection: persistency and plant health validated

OVERALL RESULT: TBS achieved 69 months (to October 2026) of continuous TR1 suppression on confirmed "dirty" soil from a single January 2021 application, while the commercially available Syngenta TR control product failed completely by 46 months.

6. GROWER STATEMENT — MATT DUNNE, EAST PALMERSTON

> *"The TBS rows have been clean since day one. I've watched the control rows get worse and worse — we pulled them all out in November 2024. The TBS rows are still going strong. Four years from one application. I've never seen anything like it."*

— Matt Dunne, East Palmerston, Queensland, 2025

7. CONCLUSIONS

The East Palmerston trial is the most significant long-term TBS field trial dataset available and delivers several conclusions of exceptional commercial and scientific importance:

(a) A single application of TBS (approximately 2 m^3 applied to plantation rows, approx. 3 m^3/ha) achieved complete TR1 suppression on confirmed "dirty" soil for more than five and a half years (69 months to October 2026).

(b) TBS outperformed the commercially available Syngenta TR control product, which failed completely at 46 months with 100% infection.

(c) No further TBS was required during the 69-month observation period, demonstrating the persistency of TBS in tropical volcanic soil under high-rainfall conditions.

(d) Commercial production (full bunches) was maintained across both Ducasse and Pacific Plantain varieties throughout the trial.

(e) Inter-row application is recommended as an enhancement to the current protocol to eliminate potential re-introduction vectors.

8. CONTACT & FURTHER INFORMATION

Company	The Black Stuff Pty Ltd
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Product	TBS Natural Organic Humate — Dry Granular, available in 1m^3 bags
Related	2024 Plantain Trial Report & 2025 Update on file; October 2026 site inspection photographs on file; Alex Report on TR1 (Matt Dunne) available on request