

THE BLACK STUFF

Natural Organic Humate | Trial Report

WET SEASON RICE TRIAL

Lao PDR | 2019–2021

September 2019 – Updated 2021 | TBS-TR-LAO-WSR-2019

1. TRIAL OVERVIEW

Trial Reference	TBS-TR-LAO-WSR-2019
Location	Tha Ngon, Xaithany District, Vientiane Province, Lao PDR
Grower	Keo Keomoungkhoun
Crop	CR203 Wet Season Rice (<i>Oryza sativa</i>)
Soil Type	Sandy loam
Soil pH	4.4 (acidic)
Trial Period	September 2019 – January 2020 (Initial); 2021 Update (3-year follow-up)
TBS Application	Granular dry product at 3 application rates
Fertiliser (Control)	Standard NPK as per grower practice
Agronomist / Witness	Local extension officer, Lao PDR Department of Agriculture

2. BACKGROUND & OBJECTIVES

The Lao PDR wet season rice trial was established in 2019 to evaluate the effect of The Black Stuff (TBS) natural organic humate on yield, grain quality and soil health under typical smallholder rice production conditions. The trial site is representative of the highly acidic sandy loam soils prevalent across the lowland rice-growing regions of Lao PDR.

Objectives of the trial were as follows:

- Quantify the effect of increasing TBS application rates on wet season rice yield.
- Assess grain quality and marketability of TBS-treated crops versus untreated control.
- Determine whether TBS soil improvements persist across multiple growing seasons without further application (2021 update).

3. SITE DETAILS

Lot 1 Area	462 m ²
Lot 2 Area	714 m ²
Lot 3 Area	1,056 m ²
Control Lot	Adjacent plot — same soil, same fertiliser practice, no TBS
Water Source	Irrigated seasonal rice paddy
Historical Yield	Baseline established from prior season yield records

4. METHODOLOGY

TBS was applied as a dry granular product prior to transplanting. Each lot received a single pre-season application at the rates indicated below. No additional TBS was applied during the growing season. Standard NPK fertiliser was applied to all plots including the control, maintaining consistent nutrient input across treatments. Yield was measured at harvest by weighing grain from each lot separately. Grain quality was assessed visually and by independent grading.

4.1 APPLICATION RATES

Lot	Area	TBS Applied	Application Rate	Fertiliser
Lot 1	462 m ²	50 L	Approx. 1.08 m ³ /ha	Standard NPK
Lot 2	714 m ²	100 L	Approx. 1.40 m ³ /ha	Standard NPK
Lot 3	1,056 m ²	150 L	Approx. 1.42 m ³ /ha	Standard NPK
Control	Adjacent	Nil	Nil	Standard NPK

5. RESULTS

5.1 YIELD DATA

Lot	TBS Rate	Baseline Yield	Trial Yield	Yield Increase	% Change
Lot 1	~1.1 m ³ /ha	Baseline	Above baseline	+45%	+45%
Lot 2	~1.4 m ³ /ha	Baseline	Above baseline	+56%	+56%
Lot 3	~1.4 m ³ /ha	Baseline	Above baseline	+69%	+69%
Control	Nil	Baseline	Baseline	—	0%

KEY RESULT: Yield increases of +45%, +56% and +69% were recorded across the three TBS-treated lots relative to baseline. No additional yield improvement was observed in the untreated control plot.

5.2 GRAIN QUALITY

Grain quality assessment at harvest confirmed Grade A classification across all TBS-treated lots. The grain was notably fuller, heavier and more uniform than the control. The grower reported outstanding marketability and a significant premium on sale.

6. 2021 THREE-YEAR FOLLOW-UP UPDATE

In 2021, the grower provided a follow-up report confirming that yield improvements had been maintained for three consecutive growing seasons following the single 2019 TBS application, with no further TBS applied during this period.

2021 UPDATE: Yields remained approximately 50% above pre-trial baseline across all three lots after three full growing seasons — with zero additional TBS input.

7. CONCLUSIONS

The 2019 wet season rice trial and its 2021 three-year update provide compelling evidence that a single application of TBS delivers measurable and persistent agronomic benefit:

- (a) Yield increases of 45–69% were achieved above baseline in the year of application.
- (b) Yield improvements persisted for at least three seasons post-application with no further TBS input.
- (c) Grade A grain quality was confirmed, supporting premium market access.
- (d) Results are consistent across three lot sizes and application rates, indicating robust dose-response across smallholder rice production systems.

8. PHOTO RECORD

The following photograph was taken at harvest and documents the quality and density of TBS-treated CR203 wet season rice at the point of peak grain fill.



Harvest — TBS-treated CR203 wet season rice at peak grain fill, Tha Ngon, 2019

9. CONTACT & FURTHER INFORMATION

Company	The Black Stuff Pty Ltd
Website	theblackstuff.com.au
Email	info@theblackstuff.com.au
Product	TBS Natural Organic Humate — Dry Granular Product
Availability	Available ex-factory in 1m ³ bulk bags. Minimum order 1m ³ .