



Enhancing Crop Growth with TWC Soil Pellets

A field report on the application of 12-gram The Water Cleanser pellets for agricultural improvement

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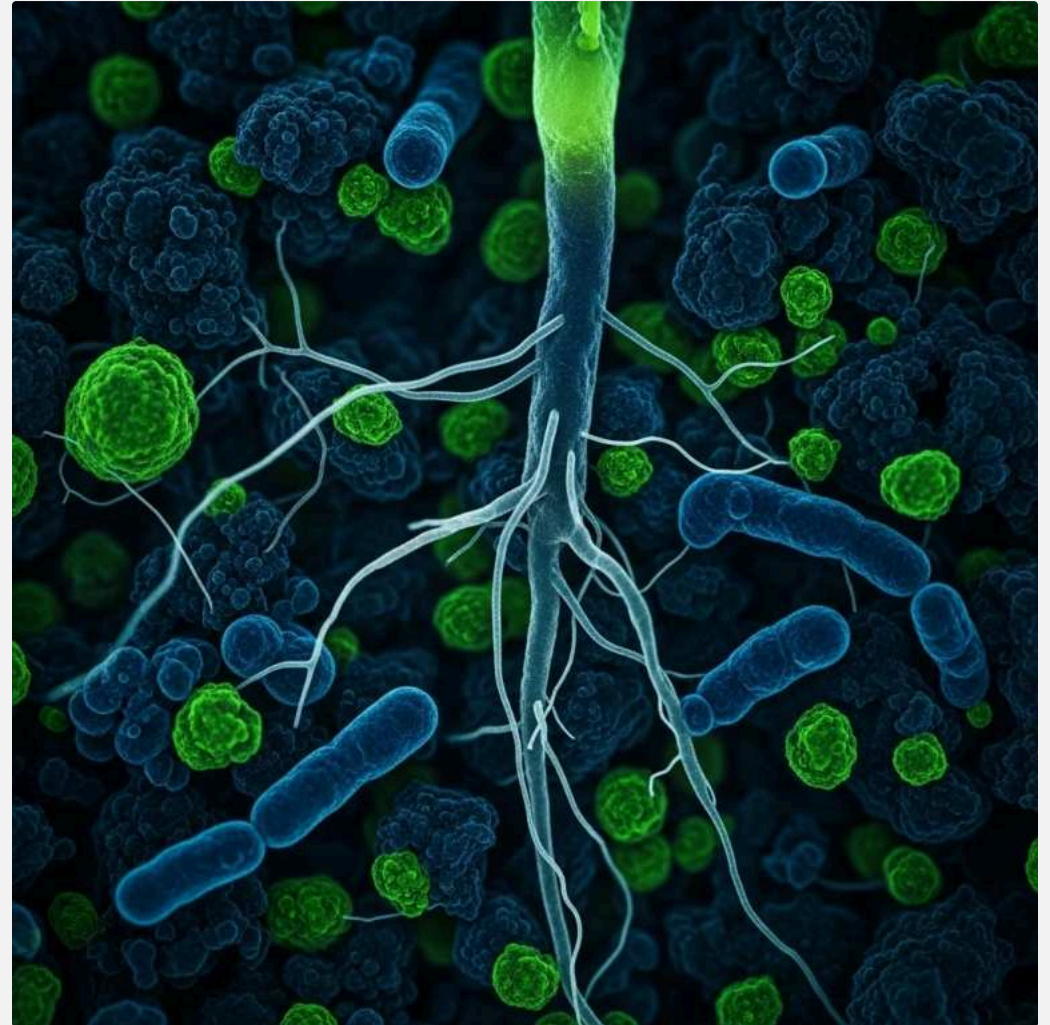
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Introduction: The Science Behind TWC Pellets

The Water Cleanser (TWC) 12-gram soil pellets are designed to stimulate and enhance naturally occurring beneficial *Bacillus* bacteria within the soil. These specialised blocks create an optimal environment for beneficial microorganisms to thrive.

By boosting *Bacillus* populations, the soil ecosystem benefits from:

- Improved nutrient cycling
- Suppression of soil-borne pathogens
- Increased plant resilience to environmental stressors



The TWC pellets work by creating microbial hotspots in the soil, radiating beneficial effects throughout the root zone.

Project 1: Geraldton, Western Australia

Cucumber and Tomato Cultivation

Method: 12-gram TWC pellets placed every 30 centimetres in the soil along two rows of the plantation, buried to root-zone depth.

Growth

Plants in the treated rows exhibited an average increase in height of over 30 cm compared to control rows.

Health

No visible signs of disease or fruit defects were recorded in the treated area, in contrast to control plants which showed normal seasonal disease incidence.

Observation

Enhanced vigour and uniformity in foliage, indicating better nutrient uptake and reduced stress.



Project 2: Indonesia

Purple-leaf Lettuce Cultivation

Method: Application method different to Project 1, with TWC placed in the hydroponic troughs.

2x

Yield Increase

Treated crop achieved over double the harvest volume compared to untreated control areas.

A+

Quality Grade

Produce from treated sections displayed improved size and market grade.

Observation: Roots in treated troughs had improved growth and bigger, healthier leaf structure, suggesting enhanced microbial activity in the growing medium.



Project 3: Large Tree Cultivation

Jacaranda with Fish Offal Integration

Method: Two trees planted under identical conditions, each incorporating fish offal into the planting hole. One tree's planting hole included a 12-gram TWC pellet; the other did not.

Growth Rate

The TWC-treated tree achieved five times greater size than the untreated tree over the same growth period.

Health

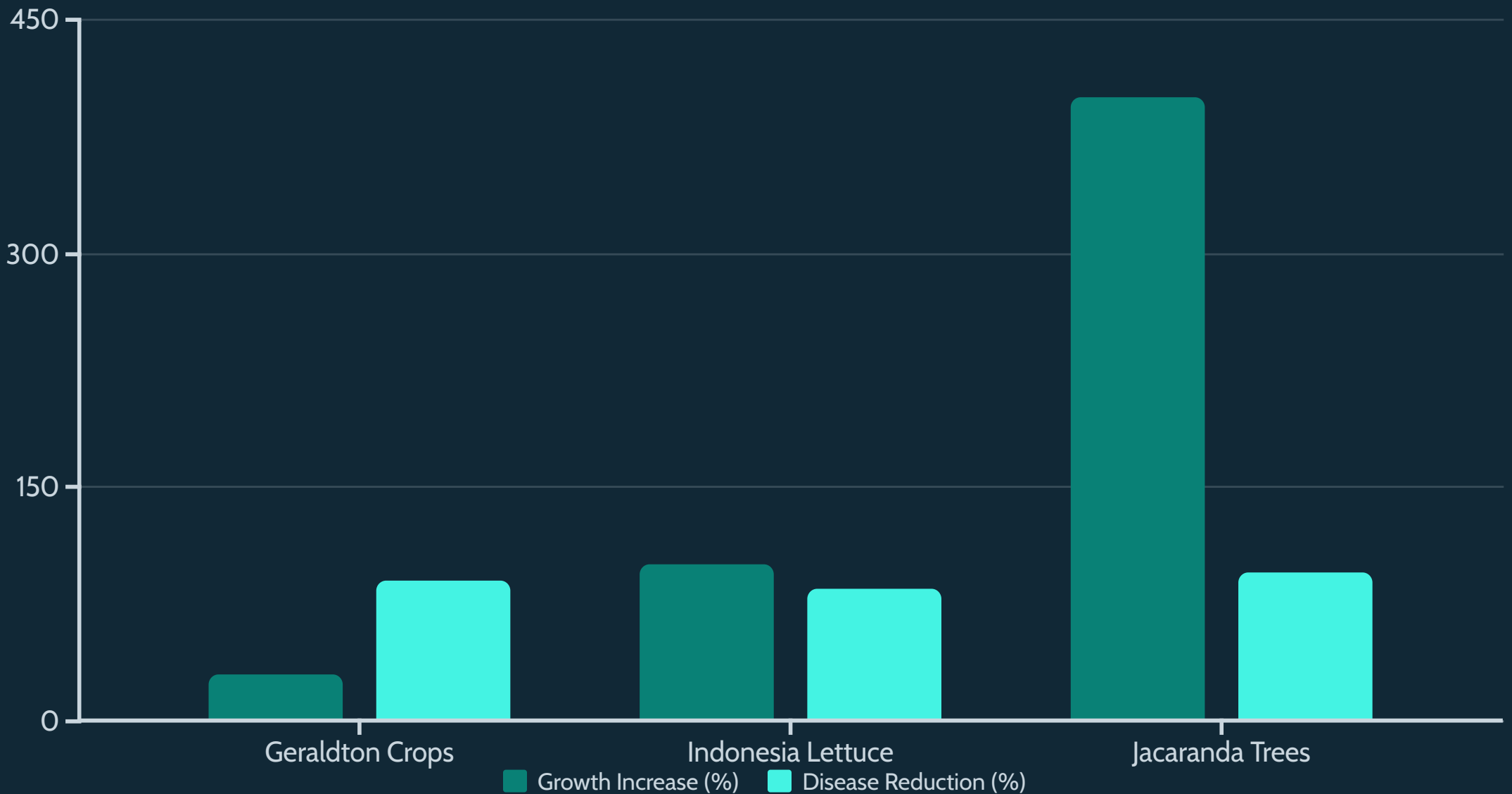
Treated tree showed no signs of nutrient deficiency or root stress.

Synergistic Effect

The combination of TWC with organic matter (fish offal) likely accelerated nutrient mineralisation and root development.



Comparative Results Across Projects



The chart illustrates the consistent positive impact of TWC pellets across different plant types and growing conditions. The most dramatic results were observed in the Jacaranda tree project, where growth increased by 400% when TWC blocks were combined with organic matter.

How TWC Pellets Work: The *Bacillus* Effect

Stimulate *Bacillus*

TWC blocks create ideal conditions for beneficial *Bacillus* bacteria to multiply rapidly in the soil.

Improve Root Health

Increase soil enzymatic activity, enhancing root development and nutrient absorption capacity.



Suppress Pathogens

Bacillus compete with and suppress pathogenic microbes through competitive exclusion and antibiotic compounds.

Enhance Nutrient Cycling

Break down organic matter more efficiently, releasing essential nutrients for plant uptake.

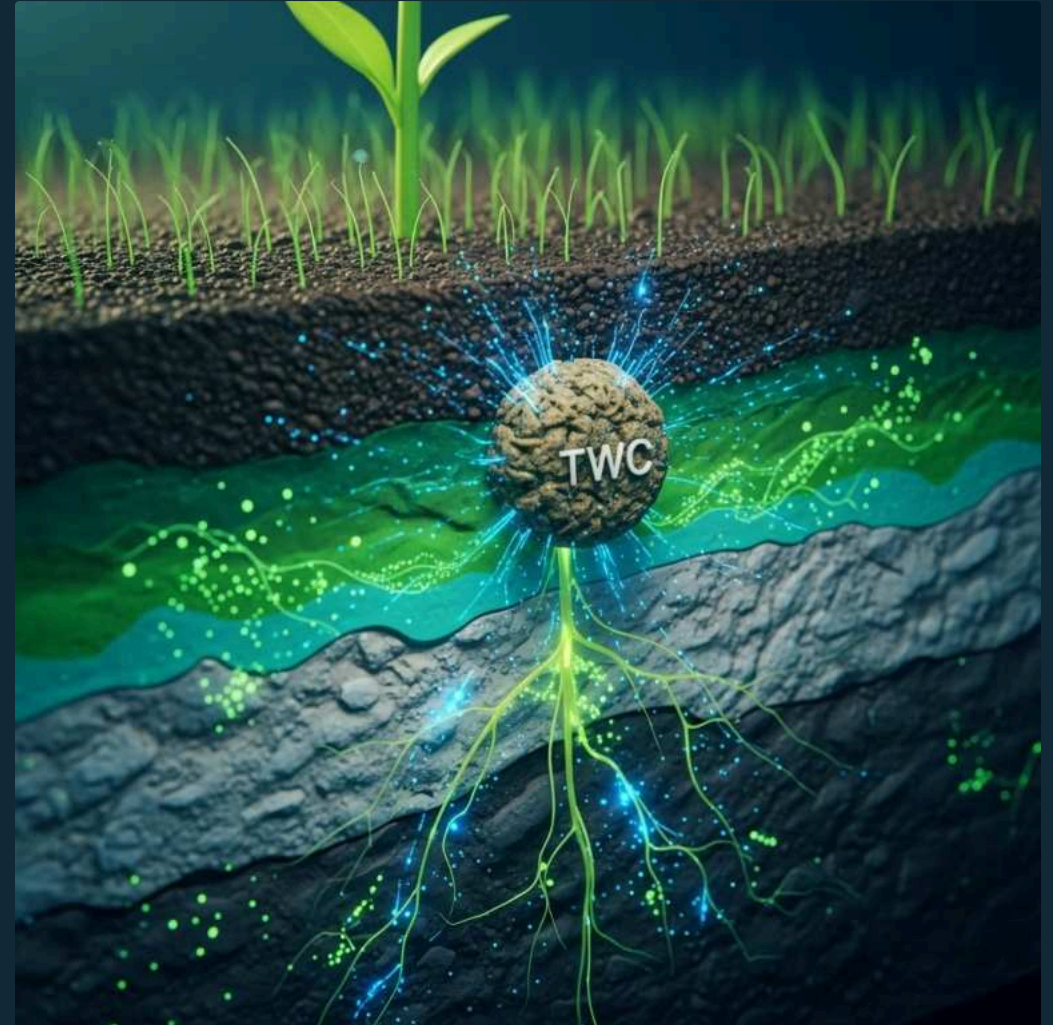
The cycle creates a self-reinforcing system where improved plant health leads to better root exudates, which further feeds beneficial bacteria populations.

Synergistic Effects with Organic Matter

The Project 3 results highlight a particularly important finding: TWC pellets work exceptionally well when paired with organic inputs such as fish offal.

This synergistic relationship occurs because:

- Bacillus bacteria thrive on available carbon sources in organic matter
- The bacteria rapidly multiply when both TWC and organic matter are present
- Accelerated decomposition releases nutrients faster
- Plant roots develop more extensively in this enriched environment



The combination of TWC pellets with organic matter creates an ideal environment for both microbial proliferation and plant growth.

Key Benefits of TWC Pellets

Increased Yield

Significant improvements in harvest volume across all tested crops, with increases ranging from 30% to 400%.

Disease Resistance

Reduced incidence of common crop diseases and pathogens through competitive exclusion by beneficial *Bacillus*.

Improved Quality

Enhanced produce quality with better size, appearance, and nutritional value due to optimised nutrient uptake.

Soil Health

Long-term improvements in soil structure, microbial diversity, and nutrient cycling for sustained agricultural benefits.

The 12-gram TWC pellets demonstrate high potential for both small-scale horticulture and large-scale agriculture, as well as tree cultivation.

Conclusion & Recommendations

The field projects clearly demonstrate that 12-gram TWC pellets significantly enhance plant growth, health, and yield across diverse agricultural applications.

Based on these promising results, we recommend:

- Expanded implementation in commercial agriculture
- Further studies with larger sample sizes
- Soil microbiology testing to quantify *Bacillus* population changes
- Seasonal replication to strengthen the data set
- Testing in additional crop varieties and growing conditions

✔ Contact for Implementation

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