HALOGEN GREENS

AGRIVITALITY



RESEARCH REPORT 2026

Magtasium™ Preliminary Trial Results: Grapes

Reviewed by

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HALOGEN GREENS
ELEVATING CROP PROTECTION, NATURALLY

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Magtasium™ grape pot trial

Magtasium™ is a liquid, Group-3, Bio-Stimulant. Magtasium™ produced useful leaf and vine-growth responses in these grape pot trials, including benefits against matching untreated controls.

1. What was tested

The aim was to test Magtasium™ as a Bio-Stimulant by checking leaf greenness and vine growth. The 2025 greenhouse screening used sandy-loam and clay soils, with and without added fertiliser. The 2026 trial compared application programmes. The reported feeding-water **EC was 0.87 for fertilised treatments**. EC describes the level of dissolved salts in the feeding water.

2. What the trials showed

What was measured	Magtasium™ programme	Comparison	% increase / decrease
Average leaf reading in clay without added fertiliser	25.17 SPAD under dose B	16.35 in the untreated control	+53.9%
Final vine height in clay without added fertiliser	82.6 cm under dose A	66.2 cm in the untreated control	+24.8%
Height gained in 2026	60.75 cm with leaf spray and drench	48.00 cm with leaf spray only	+26.6%

SPAD is a meter reading linked to chlorophyll, the green material leaves use to capture sunlight. The first two rows compare different Magtasium™ doses with the untreated control. Both programmes in the last row received Magtasium™ and fertiliser.

3. What this means for your farm

The response was measurable: leaf condition and vine development improved under selected programmes. This gives growers a clear reason to test Magtasium™ during vine establishment and growth.

Start with combined leaf spraying and root-area drenching. Keep nutrition the same in treated and untreated groups, and compare leaf readings and height gained from the same starting point. Match the dose to the response sought and confirm the application interval from the trial records.

Trial context and 2025 treatments

The pre-feasibility programme began in 2025, with some measurements and harvests continuing into early 2026. The experimental layout was a randomised block design with five replicates. Soil 1 was sandy loam and Soil 2 was clay. Moisture was maintained as non-limiting. Grape cultivar: not recorded.

Code	Nutrition and product programme
T1	Negative control: no product treatment; no designated fertilisation
T2	Positive control: non-nutrient-limiting fertilisation; no product treatment
T3	Positive control plus Magtasium™ dose A
T4	Negative control plus Magtasium™ dose A
T5	Positive control plus Magtasium™ dose B
T6	Negative control plus Magtasium™ dose B
Dose A	20 mL/L water foliar application weekly plus 5 mL/L drench weekly
Dose B	40 mL/L water foliar application weekly plus 10 mL/L drench weekly

The most informative product contrasts are T3 versus T2 and T5 versus T2 within the fertilised setting, and T4 versus T1 and T6 versus T1 within the unfertilised setting.

2026 Grape treatment programme

Code	Interval	Foliar mL/L	Drench mL/L	NPK plus trace
T1	Weekly	20	-	Yes
T2	Every 2 weeks	20	2.5	Yes
T3	Every 4 weeks	20	2.5	Yes

Treatment codes are used consistently within each phase; they are not interchangeable between the 2025 screening and 2026 application trial.

Source schedule discrepancy

The methodology table lists T2 every 2 weeks and T3 every 4 weeks. The grape graph legends label T2 weekly and T3 every 2 weeks. The results narrative identifies T2 as the fortnightly combined programme. Both source schedules are retained.

Measurements and interpretation

SPAD (Soil Plant Analysis Development) is a non-destructive meter-based index of relative leaf greenness. It supports comparisons of chlorophyll-related physiological status within a crop and programme; it is not a direct measurement of leaf nitrogen or photosynthetic rate.

Application rates above are formulation volumes per litre of application water. They cannot be converted to hectare rates without spray or drench volume, plant density and application-frequency records. Only treatments explicitly designated NPK plus trace received the complete nutrient programme.

The source report presents descriptive comparisons. Where numerical means are stated, percentages are calculated from the recorded values. Graphs and photographs are reproduced as complete images. The source states that statistical significance could not be independently assessed from the available report material.

Reading the results

The following pages retain the source figure numbers and scientific findings. The 2025 and 2026 programmes are presented separately, followed by the grape conclusion and visual observations.

2025 pre feasibility results

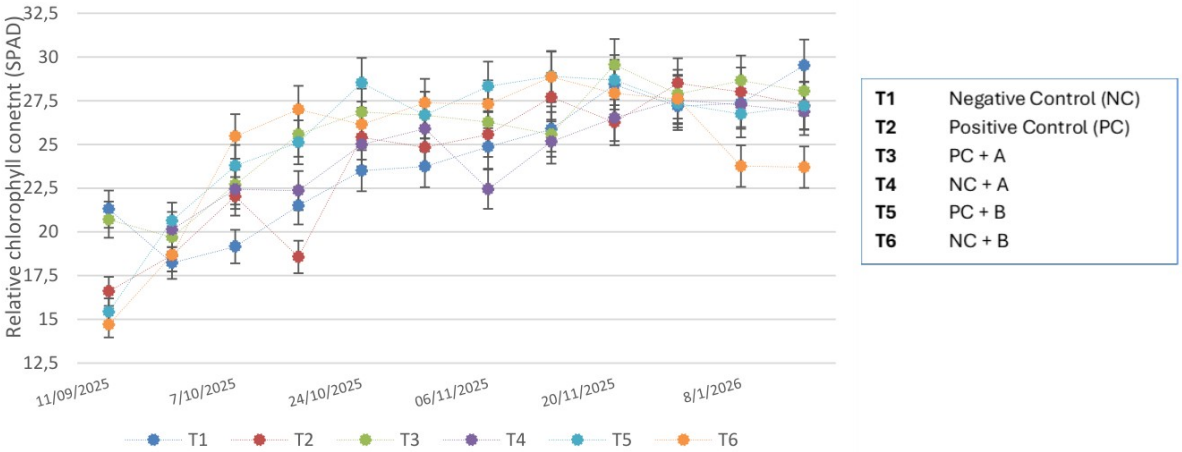

Figure 3.5.1: Relative chlorophyll content (SPAD) of grapes in soil 1 in pre-feasibility trial

Soil 1 T3 and T5 had descriptive mean SPAD values of 25.68 and 25.61, compared with 24.11 in T2. T4 has fewer recorded observations than the other series. The fertilised product programmes show modest support for leaf greenness. Baseline differences and the missing T4 observation make complete growth-cycle comparisons preferable to isolated rankings.

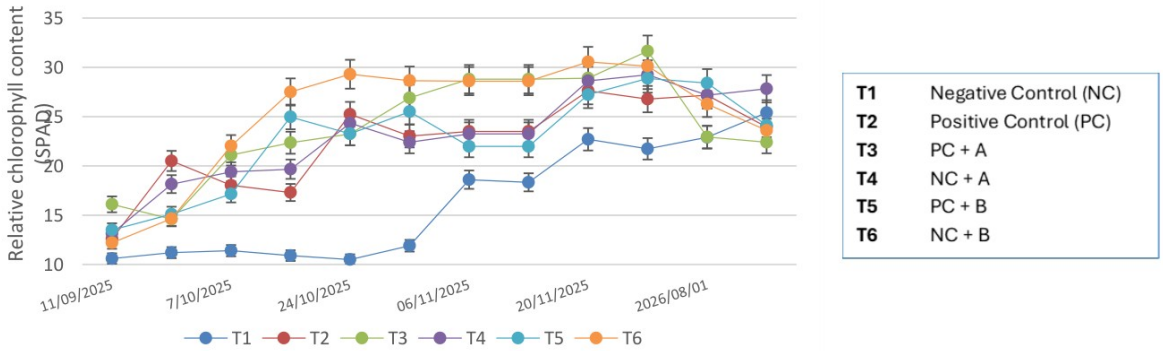

Figure 3.5.2: Relative chlorophyll content (SPAD) of grapes in soil 2 in pre-feasibility trial

Soil 2 T6 had the highest descriptive mean SPAD at 25.17, compared with 16.35 in T1. T3 averaged 23.98 compared with 22.43 in T2. The B programme without fertilisation gave a favourable physiological response in clay soil. The effect on greenness was stronger than the corresponding response in shoot height.

2025 pre feasibility results

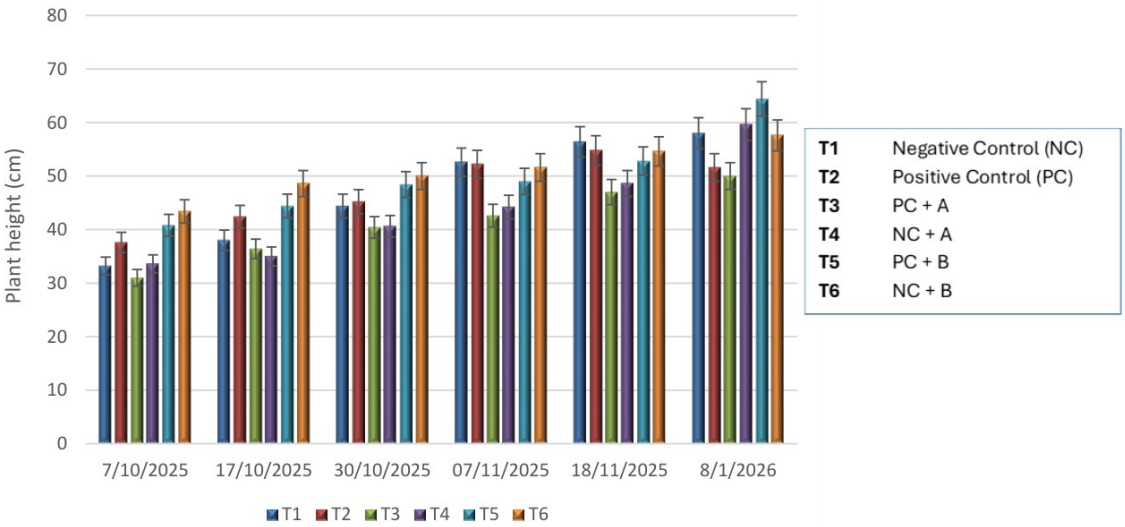

Figure 3.5.3: Plant height (cm) of grapes in soil 1 in pre-feasibility trial

T5 finished at 64.4 cm compared with 51.6 in T2; T4 finished at 59.6 compared with 58.0 in T1. T5 and T6 began taller than the controls. Selected product programmes supported final shoot stature in sandy loam. The starting-height differences mean that final height cannot be interpreted as an isolated growth-rate effect.

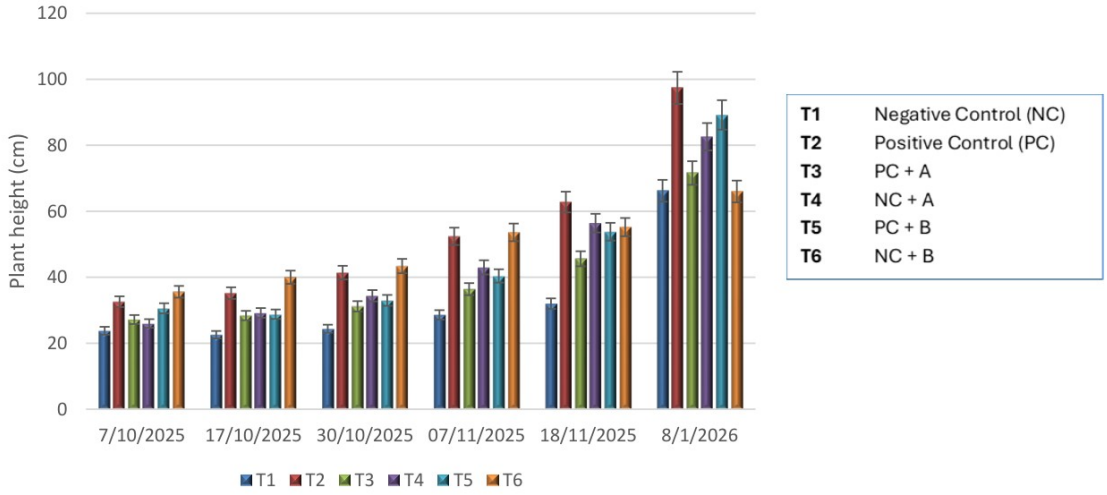

Figure 3.5.4: Plant height (cm) of grapes in soil 2 in pre-feasibility trial

T2 finished tallest at 97.4 cm; T3 and T5 reached 71.6 and 89.2 cm. T4 reached 82.6 cm compared with 66.2 in T1, while T6 reached 66.0 cm. The A programme without fertilisation supported favourable height in clay soil. Fertilised product treatments did not exceed T2, indicating a selective rather than uniform vegetative response.

2026 trial results

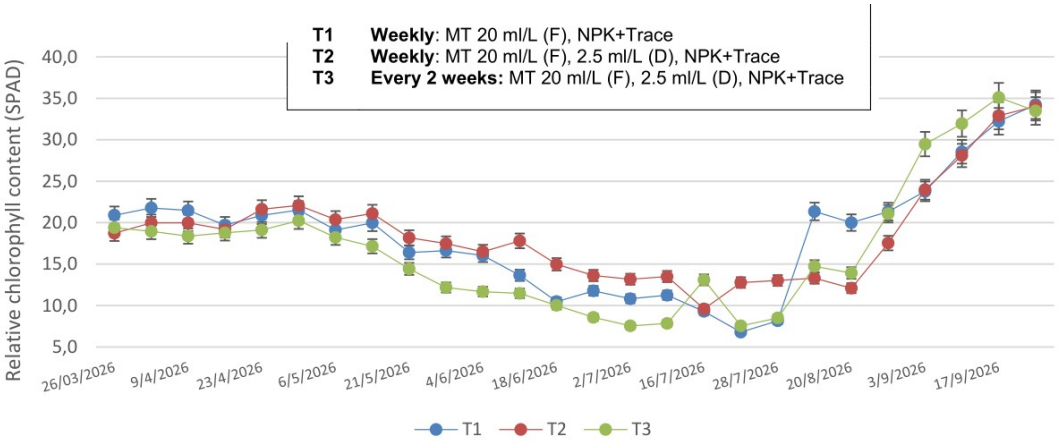

Figure 3.5.5: Relative chlorophyll content (SPAD) of grapes

The three 2026 programmes finished at 34.22, 34.02 and 33.48 SPAD for T1-T3. Descriptive means were 18.39, 18.68 and 17.03, with substantial temporal fluctuation. Application intervals produced similar final greenness. Seasonal changes should be interpreted with crop phenology; the data do not identify a specific stress event.

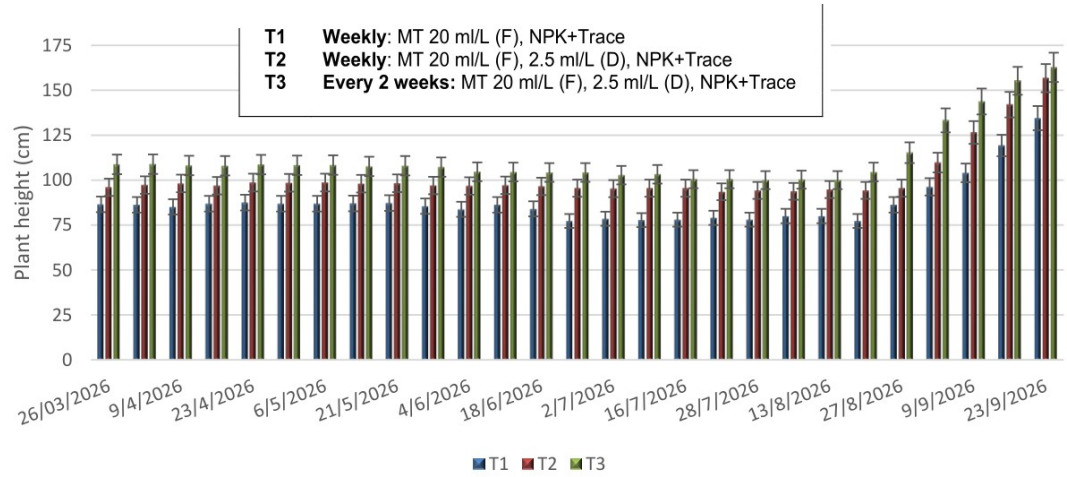

Figure 3.5.6: Plant height (cm) of grapes

Height increased from 86.5 to 134.5 cm in T1, 96.0 to 156.75 cm in T2 and 108.75 to 162.75 cm in T3. T2 had the largest increment at 60.75 cm. All programmes supported continued vine development. The fortnightly combined programme had the strongest increment, while the tallest final vines in T3 also started tallest.

Grape trial photographs



Figure A: Randomised block design of grape trial



Figure B: Common visual effects of different treatments

CORPORATE IDENTITY

HALOGEN GREENS
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SPECIALIZATION

Group 3 Bio Stimulant
(Trials Underway for Registration)

STATUS

- Pending Worldwide Patent
- Conducting Trials

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