HALOGEN GREENS

AGRIVITALITY



RESEARCH REPORT 2026

Magtasium™ Preliminary Trial Results: Apples

Reviewed by

Prof. Wayne F. Truter | AgriVitality CC
PhD, MSc.Agric, BSc.Agric
MGSSA, IAEA, LRS, Pri. Sci. Nat
Agricultural and Environmental Science Specialist
SACNASP registration: 000148
wayne.truter@fplri.org | +27 83 470 3964

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Magtasium™ apple pot trial

Magtasium™ is a liquid, Group-3, Bio-Stimulant. This apple pot trial helps growers choose an application programme for leaf condition, tree growth and fruit development alongside fertiliser.

1. What was tested

The aim was to test **Magtasium™ as a Bio-Stimulant** by checking leaf greenness, tree growth and fruit development. Apple trees were grown in greenhouse pots in 2026. All three programmes received Magtasium™ and fertiliser, with a **feeding-water EC of 0.87**. EC describes the level of dissolved salts in the feeding water.

2. What the trials showed

Programme	Average leaf reading (SPAD)	Height gained	Main finding
T1 - leaf spray	37.51	6.25 cm	Greatest height gain
T2 - leaf spray and drench	36.07	3.50 cm	Combined leaf spray and drench programme
T3 - leaf spray and drench	**38.30**	3.25 cm	Highest average leaf reading; selected trees also fruited

These are comparisons between Magtasium™ application programmes. All trees received Magtasium™ and fertiliser; the trial did not include an untreated or fertiliser-only group.

SPAD is a meter reading linked to chlorophyll, the green material leaves use to capture sunlight. T3 had the highest average reading. Trees differed in starting size, so growth is shown as height gained. Selected T3 trees produced fruit on four harvest dates between 28 August and 21 September.

3. What this means for your farm

Choose the programme to suit your goal: start with T3 when leaf condition and fruit development are the focus, and use T1 when extra tree height is the priority.

For apple growers, these results provide a practical starting point for using Magtasium™ within a measured orchard trial. Keep fertiliser the same, apply the chosen programme to one group and keep a matching group without Magtasium™. Compare leaf readings, height gained and fruit development to measure the benefit on your own trees.

The fruit observations relate to selected trees, rather than complete treatment averages. Confirm application timing from the original trial records before adopting a schedule. The full treatment details, charts and photographs follow.

Trial context

The apple programme assessed leaf greenness and tree height, together with fruit number, harvest mass and circumference. The crop inventory identifies 2026 Trials 1 and 2; the cultivar is not recorded. Treatment codes T1 to T3 identify application programmes. In the fruit panels, R identifies the recorded tree replicate: for example, T3R3 is treatment T3, replicate 3.

2026 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

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; it is not a direct measurement of leaf nitrogen or photosynthetic rate.

Application rates are product volumes per litre of application water. A hectare rate requires spray or drench volume, planting density and application-frequency records. All three programmes received NPK plus trace nutrients.

The source presents descriptive comparisons. Fruit records retain their treatment-replicate codes and represent selected fruiting trees rather than complete treatment means. Statistical significance could not be independently assessed from the available report material.

Source labels

The methodology table lists T2 every 2 weeks and T3 every 4 weeks. The graph legends label T2 weekly and T3 every 2 weeks. Figure captions refer to Trial 1, while some accompanying paragraphs refer to Trial 2. The original captions, legends and findings are retained without combining these records into additional independent trials.

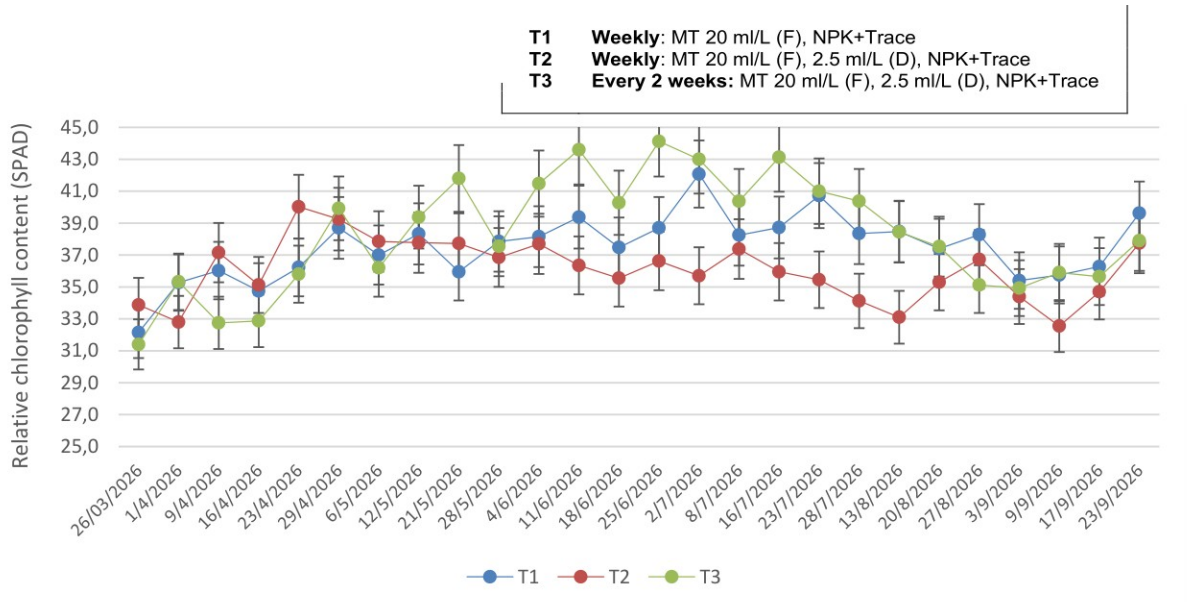

Figure 3.61: Relative chlorophyll content (SPAD) of apples (Trial 1)

Trial 2 T3 had the highest descriptive mean SPAD at 38.30 and the highest peak at 44.12. T1 and T2 averaged 37.51 and 36.07. The favourable T3 greenness profile supports its programme as a candidate for further evaluation.

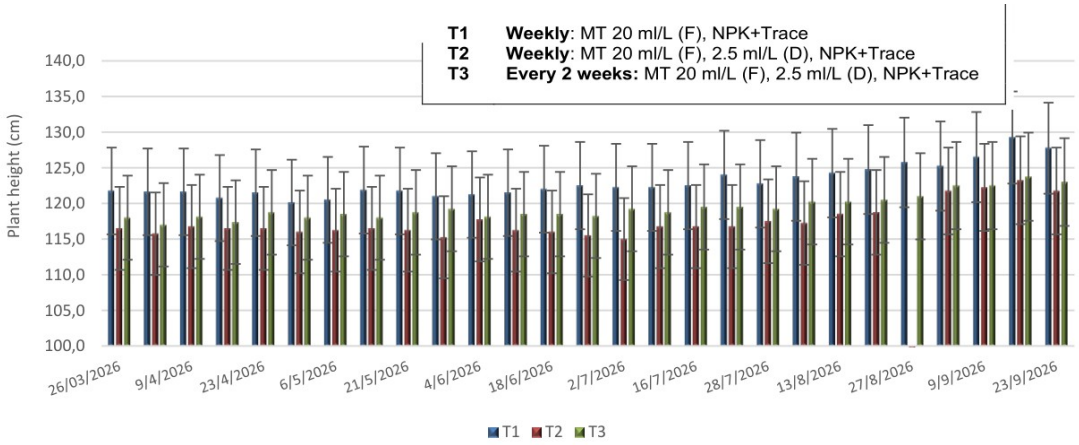

Figure 3.6.2: Plant height (cm) for apples (Trial 1)

Trial 2 T1 increased from 114.5 to 120.75 cm; T2 from 130.25 to 133.75 cm; and T3 from 118.0 to 121.25 cm. T2 remained tallest because it began tallest, while T1 had the largest absolute increment. Tree-size balance is important when interpreting vegetative treatment responses.

2026 apple trial results

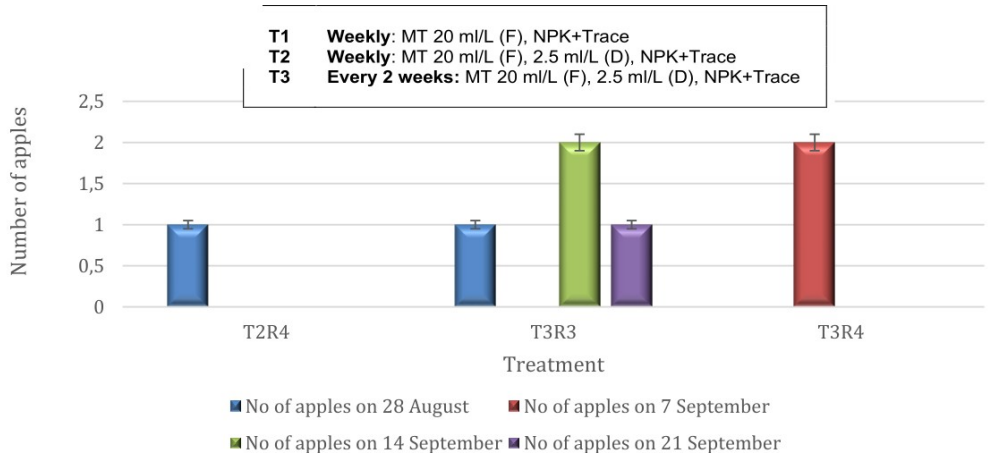

Figure 3.6.3: Number of apples at harvest of apples (Trial 1)

Trial 1 fruit counts were one each in T2R4 and T3R3 on 28 August, two in T3R4 on 7 September, two in T3R3 on 14 September and one in T3R3 on 21 September. The repeated T3 records support sustained fruiting in particular replicates. They are not pooled as independent treatment-level yield observations.

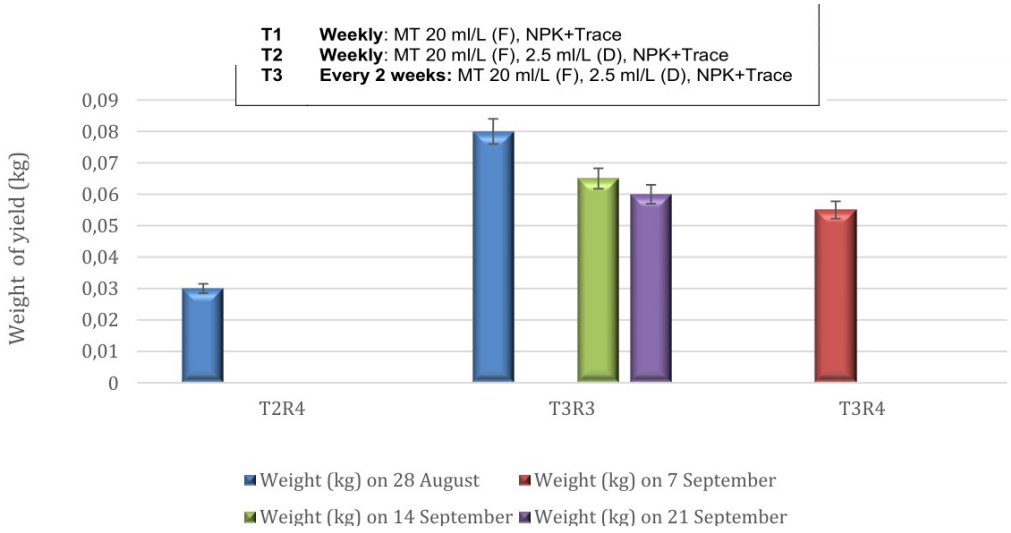

Figure 3.6.4: Weight (kg) of apple at harvest of apples (Trial 1)

Trial 1 mass values ranged from 0.030 kg in T2R4 to 0.080 kg in T3R3 on 28 August. Later T3 records were 0.055-0.065 kg. The observations confirm fruit-mass development in the combined programmes. Unequal fruiting records and the harvest-mass definition limit treatment-level comparisons.

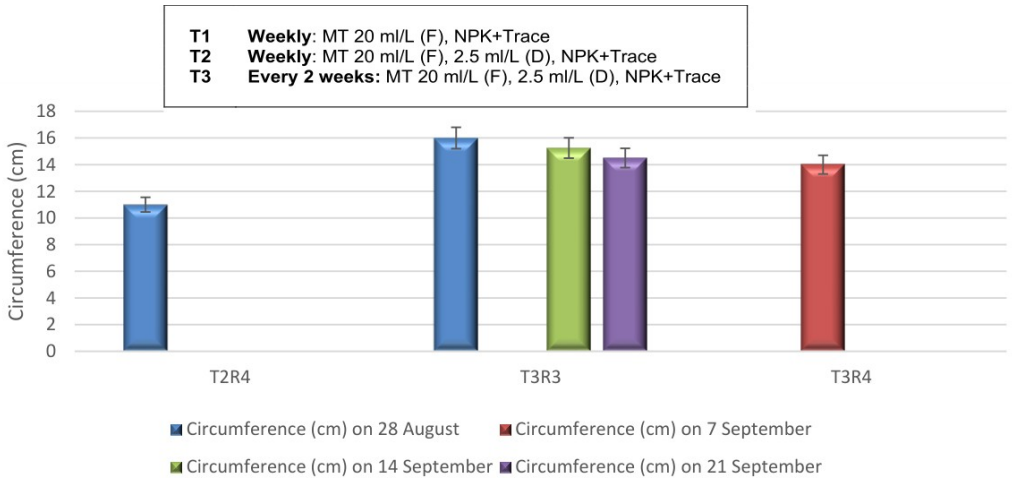

Figure 3.6.5: Circumference (cm) of apples at harvest of apples (Trial1)

Trial 2 circumference was 11.0 cm in T2R4 and 16.0 cm in T3R3 on 28 August; later T3 records were 14.0-15.25 cm. The fruit dimensions complement the reproductive observations in T3. The panel supports descriptive fruit development rather than an estimate of average orchard fruit size.

Apple trial photographs



Figure A: Randomised block design of apple trial



Figure B: Common visual effects of different treatments

CORPORATE IDENTITY

HALOGEN GREENS
ELEVATING CROP PROTECTION, NATURALLY

SPECIALIZATION

Group 3 Bio Stimulant
(Trials Underway for Registration)

STATUS

- Pending Worldwide Patent
- Conducting Trials

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CONTACT INFORMATION

+ (27) 87 474 6149

www.halogengreens.com

info@halogengreens.com

- Roodepoort, Gauteng, South Africa (H/O)
- Tarlton, Gauteng, South Africa
- Somerset-West, Western Cape, South Africa
- Fredericton, New Brunswick, Canada

