SynTech Research

SUCCESS STORIES USING STIMBLUE+

LETTUCE CULTIVATION

kelp blue

STIM BLUE

ABOUT THE TRIALS

TRIAL CONDUCTED BY
SynTech Research

LOCATION OF TRIALS

São Paulo, Palmeiras de Goiás, Paraná, & Santa Eulina

BRAZIL

SEASON

JULY - AUGUST 2025

SOIL TYPES

CLAY, SANDY CLAY, AND SANDY LOAM

VARIETIES

Americana Laurel, Americana Mauren, Laurel (iceberg), Gloriosa (iceberg)

+$4,140

increased economic returns per hectare across 4 trials at 2 L/ha

+7–26%

greater yields across 4 trials at 2 L/ha

LETTUCE IN BRAZIL

- Brazil is a major producer of lettuce, which is recognized as the most produced and consumed leafy vegetable in the country. Production is heavily concentrated in the Southeast and South regions, particularly in São Paulo, Rio de Janeiro, Minas Gerais and Paraná.[1]

- Increasingly high temperatures are leading to early blooming and plant death in traditional open-field cultivation, pushing more production toward controlled environments.[2]

- Biostimulants have been explored as a solution to support the tolerance of lettuce crops against heat and drought stress.[3]

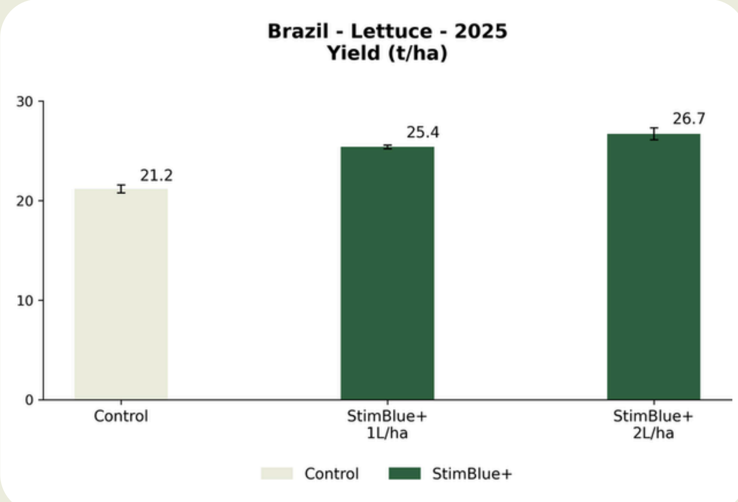
- Together with SynTech Research, we conducted four trials on lettuce in different regions, on different varieties and in different soil textures to assess the all-around efficacy of StimBlue+ on lettuce.

Trial site in São Pedro, Brazil - Americana Laurel variety.

RESULTS EXPLAINED

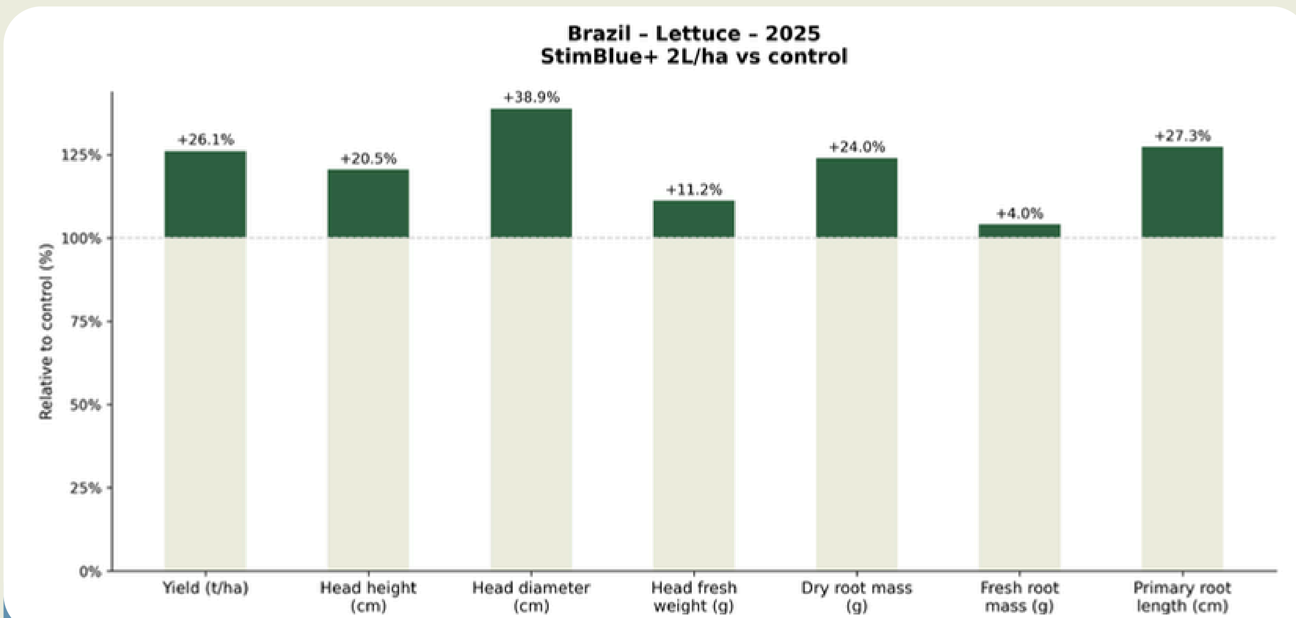
INCREASED YIELD

StimBlue+ at 2 L/ha showed a +26% increase in yield vs the control.



StimBlue+ increased yields by between +20% and +26% compared to the control, generating increased economic returns of between +$5,440 and $7,135* for the grower.

SUMMARY OF RESULTS



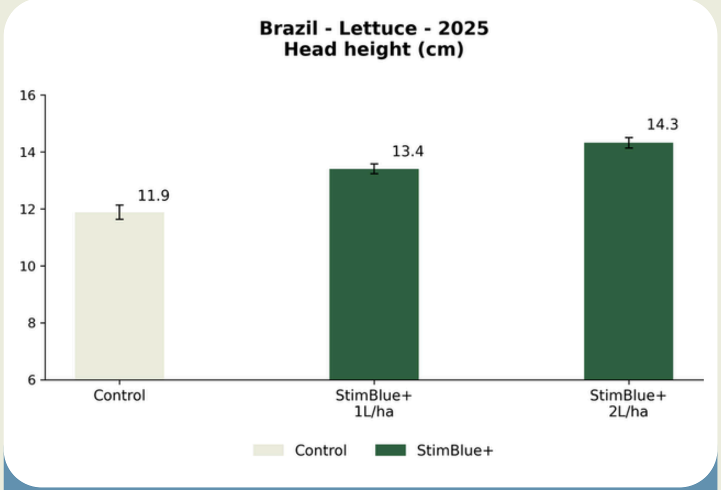
Results across various parameters in the trial in Palmeiras de Goiás, Brazil.

*Economic returns were calculated based on a typical farm-gate price in the country of $1,290 per tonne.[4]

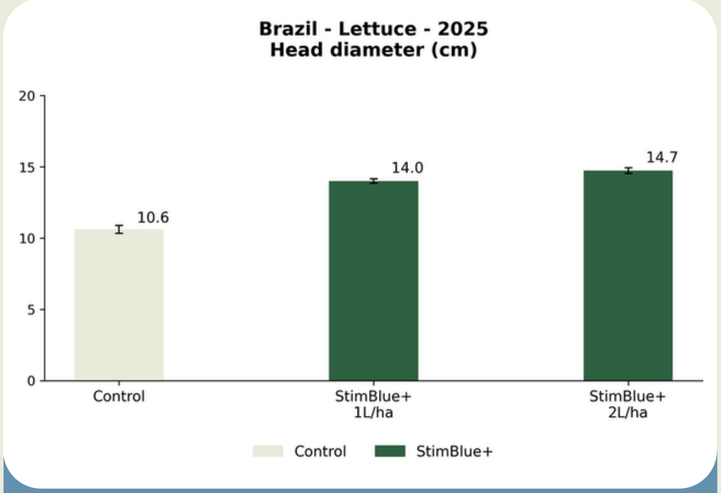
LARGER, HEAVIER LETTUCE HEADS

At harvest, lettuce treated with StimBlue+ showed significant gains in key quantity indicators. At 2 L/ha:

- Head diameter: +39%
- Head height: +21%
- Head fresh weight: +11%



Lettuce heads were between +13% and +21% taller with the application of StimBlue+.



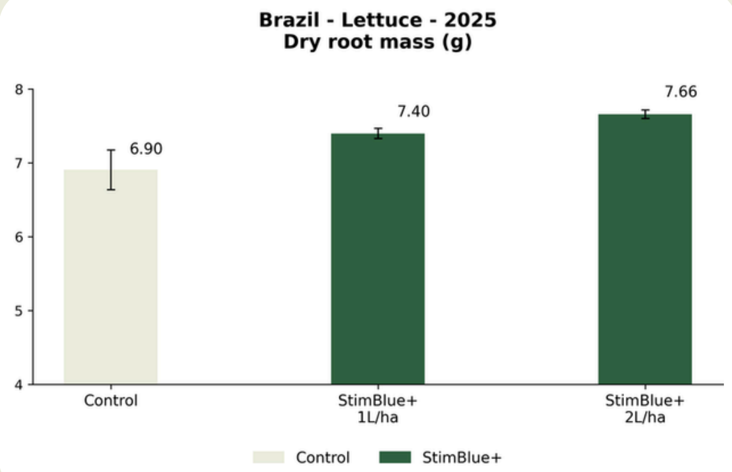
StimBlue+ increased head diameter by between +32% and +39% compared to control.

Lettuce size plays a big role in its marketability, influencing consumer appeal and commercial retail requirements. Often, specific sizes are targeted for different markets (e.g., foodservice vs. consumer retail).

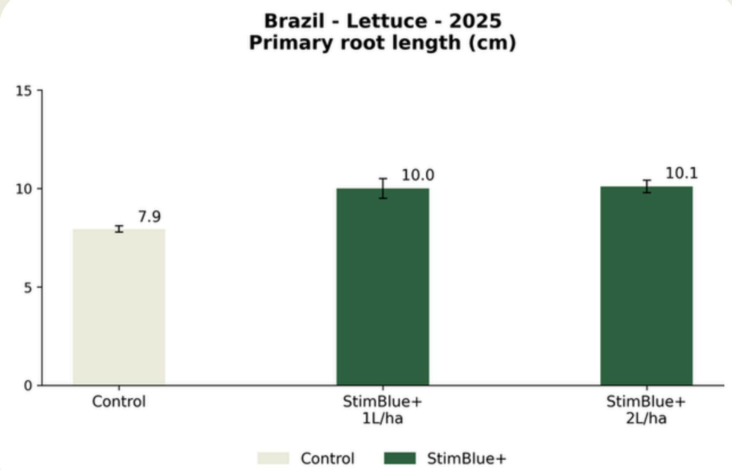
ENHANCED ROOT GROWTH

At 2 L/ha, StimBlue+ increased dry root mass by +10% and primary root length by 27% compared to standard cultivation practices.

Root development directly determines nutrient and water uptake, plant stability, overall growth rate and post-harvest shelf life. A strong root system anchors the crop, helping it handle challenges like heat stress or low oxygen levels in hydroponic systems, ultimately supporting better yields and overall market quality.



StimBlue+ increased dry root mass by between +7% and +10% relative to the control across all dosages.

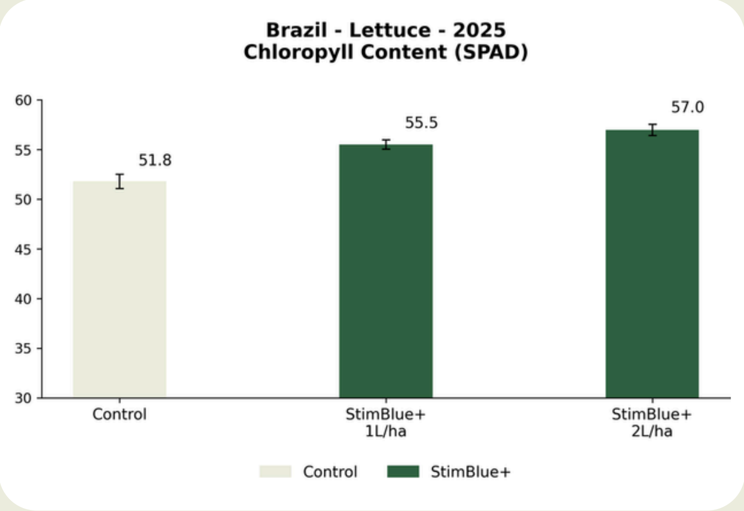


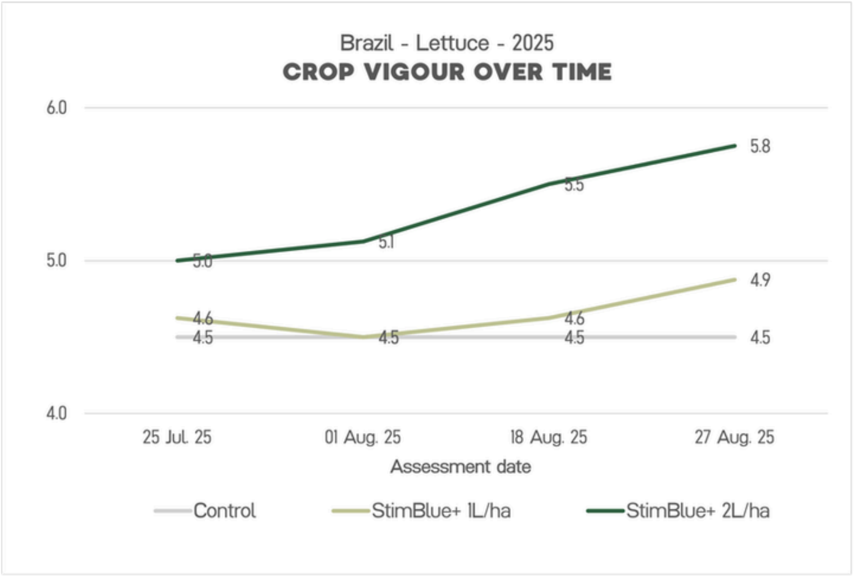
Lettuce crops treated with StimBlue+ also increased primary root length by between +26% and 27% compared to control.

HEALTHIER CROPS

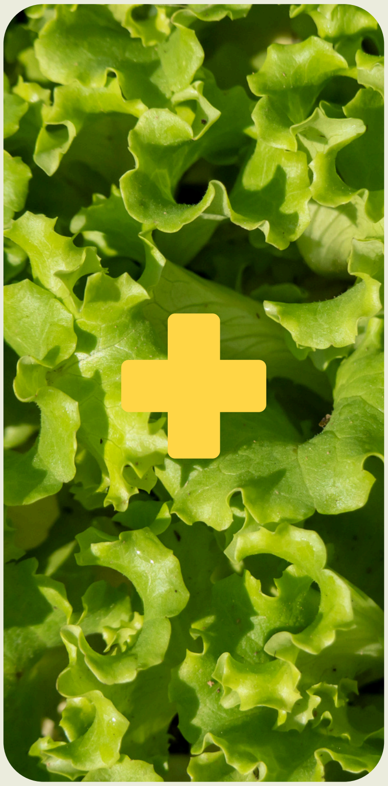
StimBlue+ showed clear differences in lettuce health, as indicated by a +29% increase in crop vigour and a +10% increase in chlorophyll content at 2 L/ha.

Chlorophyll content is a key determinant of lettuce growth, nutritional value, and overall health. Higher chlorophyll levels generally indicate better photosynthetic capacity, leading to higher biomass, a richer green colour and better resistance to environmental stresses.





All dosages of StimBlue+ exceeded control in crop vigour at each assessment date, with 2L/ha performing the best (scale: 0-6).



APPLICATIONS

- First application: dip seedlings in tray for 20 minutes (1:150) | BBCH12-14
- Second application: foliar spray when 9+ true leaves unfolded | BBCH19
- Third application: foliar spray at beginning of head development | BBCH40

*This approach ensures the plants receive support at critical growth stages.
The results are based on StimBlue+ suggested application rates and calendars

REFERENCES

1. Lettuce is the most consumed leafy vegetable in Brazil - Revista Cultivar. (2015, March 12).
2. Heat to render open-field lettuce cultivation unviable in Brazil by the end of the century. (n.d.). Portal Embrapa.
3. Deolu-Ajayi, A. O., Van Der Meer, I. M., Van Der Werf, A., & Karlova, R. (2022). The power of seaweeds as plant biostimulants to boost crop production under abiotic stress. Plant Cell & Environment, 45(9), 2537–2553. https://doi.org/10.1111/pce.14391
4. TRIDGE. (n.d.). Fresh lettuce leaf price in Brazil | Tridge. Tridge.

ABOUT
STIMBLUE+

StimBlue+ is a biostimulant made from 100% cultivated Giant Kelp (Macrocystis Pyrifera), and has shown to be a great solution for lettuce cultivation. The trial data suggest that it offers measurable, significant economic benefits, with greater yield and more marketable heads.

We plant kelp forests around the globe to boost the health and biodiversity of the oceans while locking away CO2 and producing products to offer sustainable alternatives to help transition agriculture to more sustainable practices.

FIND MORE INFORMATION

https://www.kelp.blue/us/field-trial/leafyvegetables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