

SUCCESS STORIES USING STIMBLUE+

WHEAT CULTIVATION

ABOUT THE TRIAL

TRIAL CONDUCTED BY



LOCATION OF TRIAL



SOUTH AFRICA

Northern Cape



SEASON

JUN 2025 – FEB 2026



**MACROCYSTIS VS
ECKLONIA**

CLIMATE

**ARID DESERT
– COLD**

+\$370

increase in economic returns
per hectare (StimBlue+ 1L/ha)

+29%

greater yield vs control
(StimBlue+ 1 L/ha)

WHEAT CULTIVATION IN SOUTH AFRICA

- ✚ South Africa is the dominant wheat producer in sub-Saharan Africa, producing roughly 1.9-2.1 million tonnes of wheat per year, harvested across roughly 530,000 hectares. South Africa's wheat is produced either in dryland or irrigated conditions. Dryland wheat accounts for ~75% of the country's wheat production and is primarily grown in the Western Cape. Meanwhile, irrigated wheat represents ~25% of production and is concentrated in the Northern Cape, particularly along the Orange River.¹
- ✚ Dryland wheat is completely dependent on rainfall, making the crop vulnerable to climate variability and extreme weather.² Irrigated wheat systems, benefiting from the irrigation infrastructure along the major river systems, tend to show consistently higher yields per hectare. However, irrigated systems are under growing pressure from water scarcity and allocation conflicts.³
- ✚ There is growing evidence demonstrating the efficacy of seaweed-based biostimulants in supporting wheat's tolerance to drought stress, while also boosting quality aspects.⁴
- ✚ Together with Apeiro Ag, we assessed the efficacy of StimBlue+ on spring wheat in irrigated conditions. StimBlue+ at three different application rates (0.5, 1, and 2 L/ha) was compared to a control and a leading biostimulant competitor derived from *Ecklonia maxima* at 2 L/ha. Standard rates of fertilisation and maintenance products were applied throughout the trial, including in the control plot.



The background image shows a person in a blue shirt and cap harvesting seaweed from a boat. The seaweed is long and yellowish-brown. The scene is set against a bright, sunny sky with some lens flare. The text 'RESULTS EXPLAINED' is overlaid on a white rounded rectangle in the center.

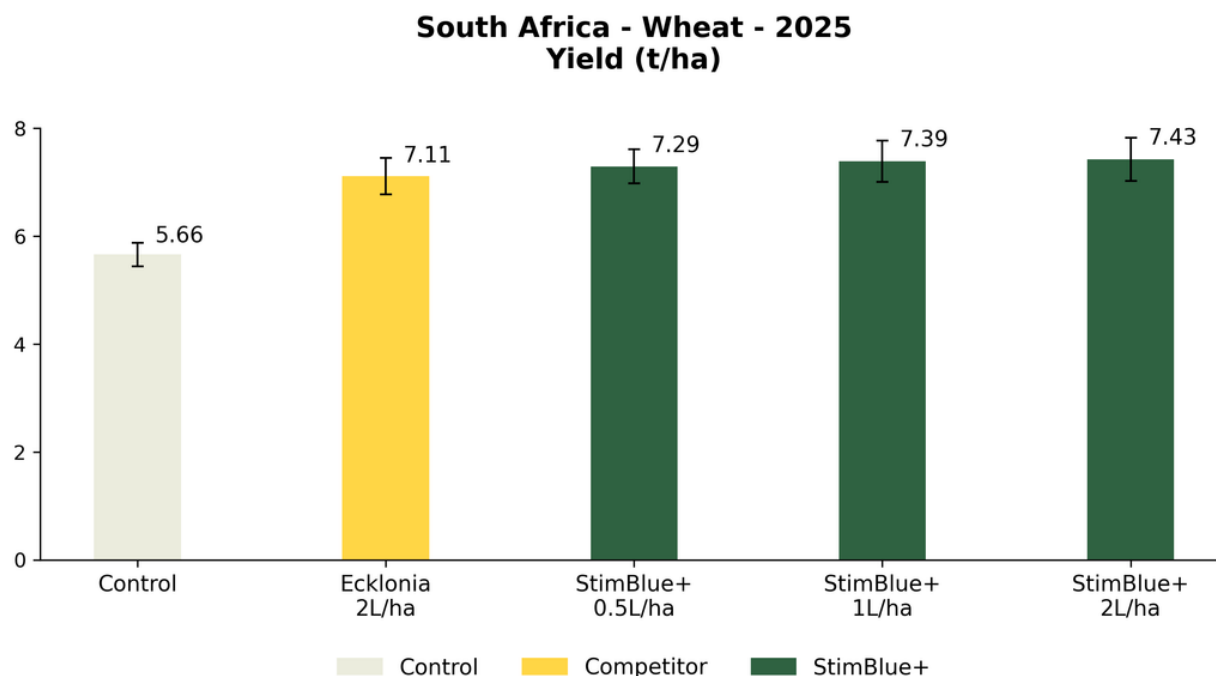
RESULTS EXPLAINED

GREATER YIELDS



StimBlue+ showed between +29% and +31% higher yields compared to the control. At matched application rates (2 L/ha), StimBlue+ showed +4% greater yield compared to the reference competitor.

The gains translate into increased economic returns of +\$370 per hectare for growers based on current World Bank commodity prices (2026).



Yield (t/ha) results of StimBlue+ at 3 application rates (0.5, 1, and 2 L/ha) compared to a control and a leading biostimulant competitor derived from *Ecklonia maxima* at their recommended application rate for wheat in South Africa. All treatments, including the control, were treated with standard rates of fertiliser for the region.

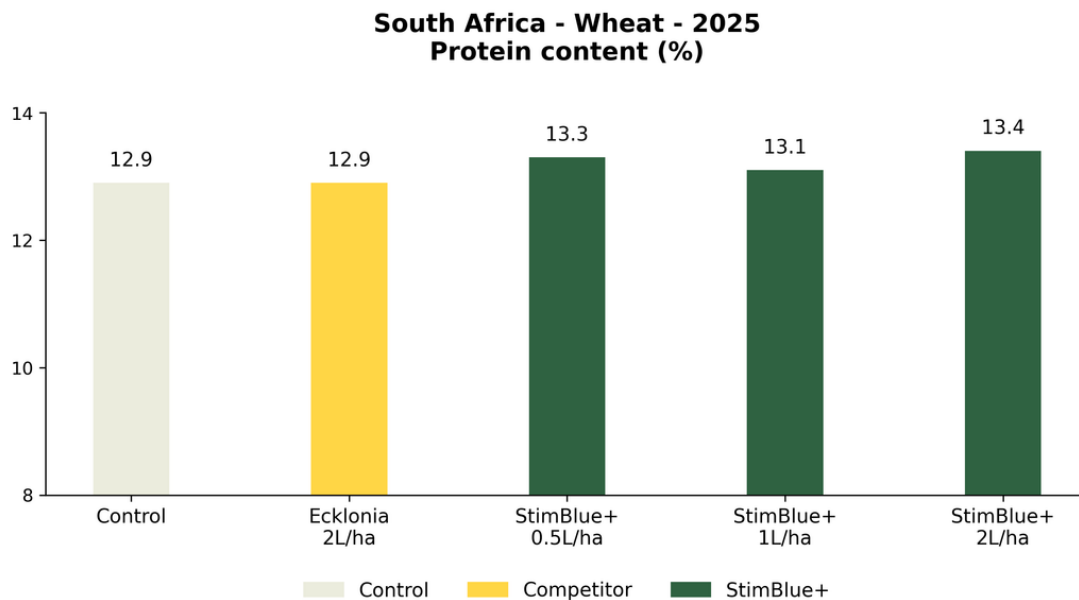
In irrigated fields of the Northern Cape, an average yield of around 8.2 tonnes per hectare is considered exceptional. Irrigated fields, commonly in the Northern Cape, reach higher yields on average relative to the dryland regions, like in the Western Cape.

INCREASE IN PROTEIN CONTENT



Plots treated with StimBlue+ increased the protein content at harvest between +2% and +4% relative to the control and competitor.

Wheat is a source of gluten-rich proteins, carbohydrates, vitamins, minerals and essential amino acids necessary for human health. Protein content also gives wheat special properties, such as water absorption, dough elasticity, gas retention capacity and gluten networking/webbing. These factors influence a product's baking characteristics, such as loaf volume, crust colour, crumb structure and shelf life.



StimBlue+ treatments consistently increased the protein content of wheat at harvest. The control and competitor plots showed a protein content of 12.9%, while StimBlue+ plots showed between 13.1% and 13.4%.

The protein content of wheat is strongly influenced by nutrient availability in the soil, particularly nitrogen (N). Because increasing grain protein generally requires higher nutrient availability, these results may suggest that StimBlue+ enhances the plant's ability to absorb and utilise nutrients, thereby contributing to improved grain nutrient content.

APPLICATION

For optimal results, apply 2-3 applications of StimBlue+ at 1L/ha.

- + First application: When sowing: in-furrow *optional
- + Second application: foliar spray at the beginning of tillering ~ BBCH21 (Feekes 2)
- + Third application: foliar spray at the beginning of heading ~ BBCH50 (Feekes 10.1)

This approach ensures the plants receive support at critical growth stages. The results are based on StimBlue+ suggested application rates and calendars. For foliar applications, it is recommended to spray in the morning or late in the day during non-sunny or humid weather.



REFERENCES

1. U.S. Department of Agriculture (USDA)/International Production Assessment Division (IPAD). Wheat. South Africa. 2025.
2. Dube, B., Mabhunu, N., Lungwana, M., Molepo, S., Kau, J., & Moswane, L. (2026). Structural, climatic, and cost drivers of wheat production in South Africa: an ARDL analysis (1990–2022). *Frontiers in Sustainable Food Systems*, 10. <https://doi.org/10.3389/fsufs.2026.1762581>
3. GSA Grain. 2015. Irrigated wheat production – an intensive system requires intensive management
4. 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.



ABOUT STIMBLUE+

StimBlue+, a biostimulant made from 100% cultivated Giant Kelp (*Macrocystis pyrifera*), has shown to be a great solution for wheat cultivation. The trial data suggests that it offers significant, positive effects on seedling establishment, leading to greater yields and heavier grains.

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.



**SEAWEED
DONE RIGHT**

FIND MORE INFORMATION

<https://www.kelp.blue/us/field-trial/wheat>



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**STIM
BLUE**