



SAGEA

# SUCCESS STORIES USING STIMBLUE+

**BARLEY CULTIVATION**



kelp blue

**STIM  
BLUE**

# ABOUT THE TRIAL

TRIAL CONDUCTED BY



## LOCATION OF TRIALS



## SEASON

**APRIL – JULY 2024**

**MARCH – JULY 2025**

Together with SAGEA, an independent research organisation, two consecutive years of trials on barley were conducted in Serbia, an area known as the “breadbasket of the EU.” Over two growing seasons, we observed that the application of StimBlue+ positively affected barley cultivation, resulting in higher economic returns for farmers.



## MACROCYSTIS VS ECKLONIA

	YIELD	ECONOMIC RETURNS
<b>2024</b>	<b>+13-14%</b>	<b>+\$120</b>
<b>2025</b>	<b>+7-9%</b>	<b>+\$55</b>

\*Yield: StimBlue+ at 1 L/ha - 2L/ha vs. control.

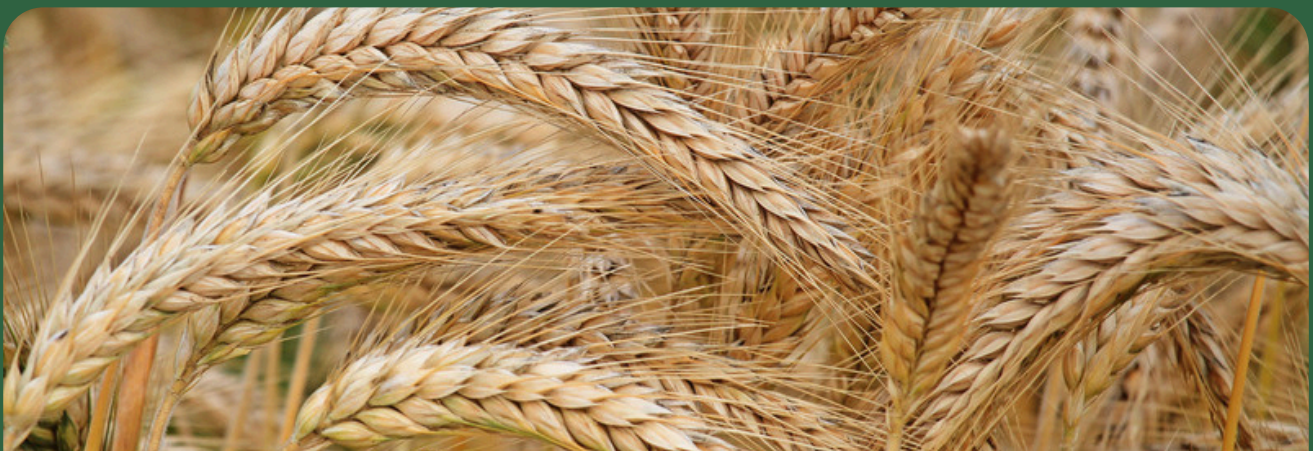
\*Economic returns per hectare: StimBlue+ at 1L/ha vs. control.


# BARLEY IN SERBIA

Within the Balkans region, Serbia makes up for more than half of the regional output of wheat, corn, barley, sugar beet and soybeans.<sup>1</sup> According to the most recent data, in 2023, 538,215 tonnes of barley were produced, harvested over 108,839 hectares.<sup>2</sup> Around 44% of Serbia's barley is cultivated in the Vojvodina region, where one of our trials were conducted.<sup>3</sup> We conducted trials one year apart in Mišljenovac, located in eastern Serbia, which cultivates roughly 19% of the country's barley.

✚ In 2024, Serbian barley production benefited from stable yields, with national averages around 4.8 tonnes per hectare.<sup>3</sup> However, Mišljenovac and the wider Braničevo region, where most cultivation is rain-fed on mixed topography, faced greater variability due to extreme summer heatwaves and limited irrigation infrastructure.<sup>4</sup> These local challenges meant valley fields performed closer to the national benchmark, while sloped and less fertile parcels often produced below-average yields. Rising input costs and irregular pest and disease pressures further compounded risks for farmers.<sup>5</sup>

✚ Looking into 2025, conditions have been marked by prolonged drought and heat across parts of central and southeastern Serbia, with reports of severe water shortages and crop stress.<sup>6</sup> While official projections still use the 4.8 t/ha national yield as a benchmark, local outcomes in Mišljenovac are likely to diverge due to water scarcity, soil moisture deficits and uneven harvest quality.<sup>7</sup> Farmers and distributors are focused on securing better on-farm drying and storage, considering drought-tolerant varieties and closely monitoring local conditions that differ significantly from national averages.





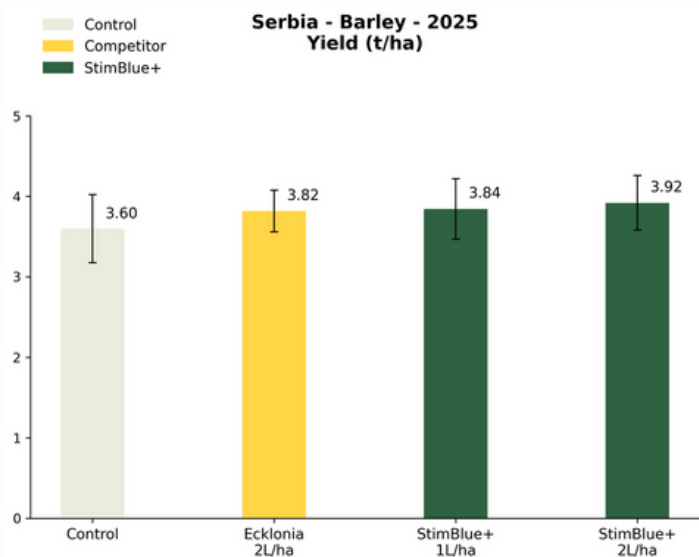
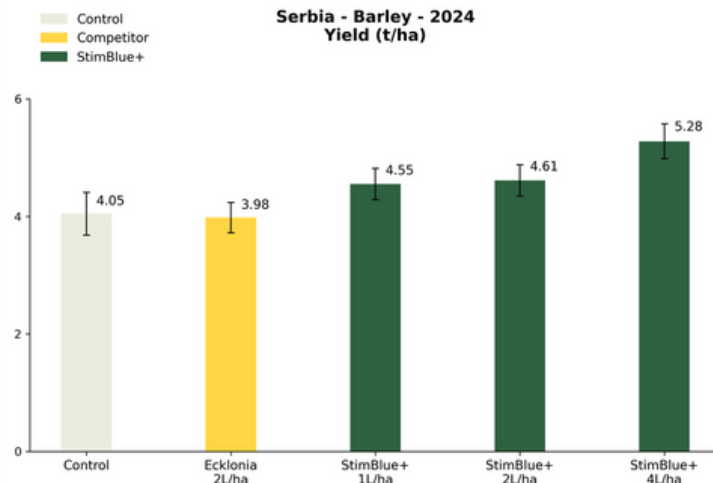
# **RESULTS EXPLAINED**

# YIELD



In 2024 and 2025, plots treated with StimBlue+ at 1 L/ha showed 13% and 7% greater yields compared to standard cultivation practices, generating +\$50-\$120\* increased economic returns for the farmer.

In 2024, just 1L/ha of StimBlue+ generated 14% higher yields compared to the competitor at 2L/ha, leading to a higher ROI.

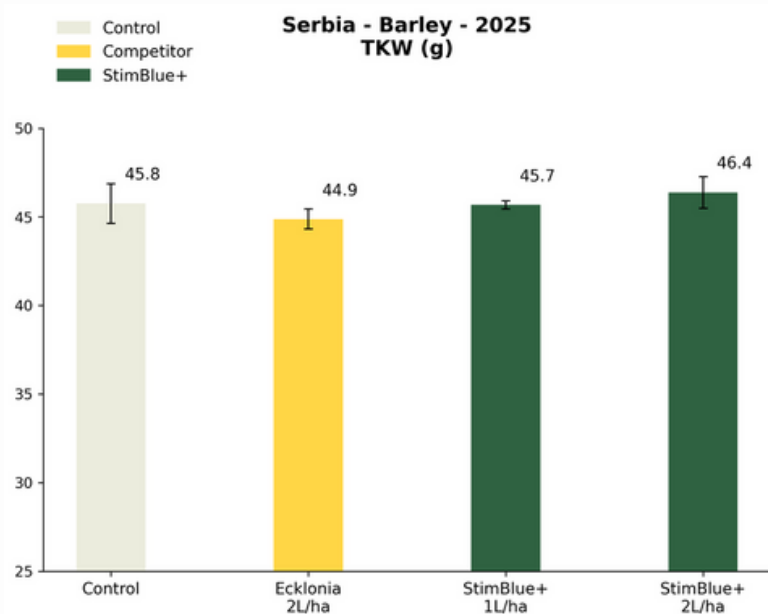
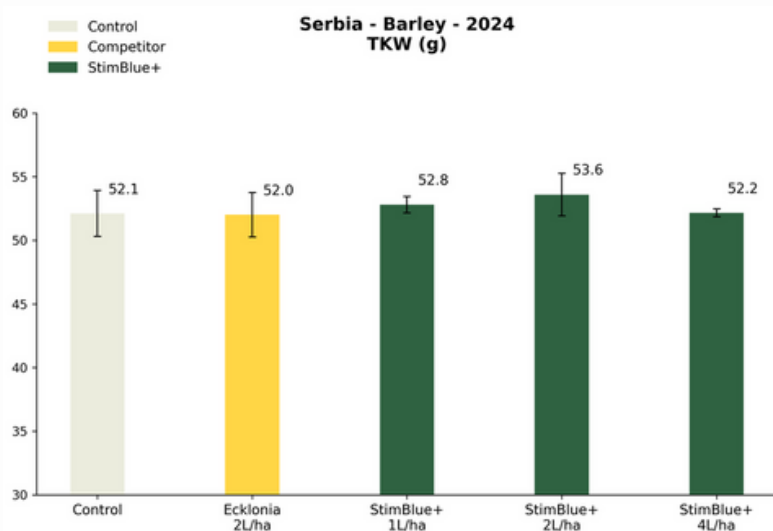


For the 2024/2025 year, average barley yield in Serbia was reported at 4.84 tonnes per hectare.<sup>5</sup> Differences in yield can be attributed to environmental factors, posing severe threats for the agricultural community in the region. Still, the application of StimBlue+ at 1L/ha showed greater results compared to control and competitor at 2L/ha.

\*Economic returns were calculated based on a 5-year average farm gate price of \$260 per tonne.<sup>8</sup>

# HEAVIER GRAINS

- At harvest, plots treated with StimBlue+ consistently showed a higher thousand kernel weight for the different trials, leading to better yield outcomes, more robust plants and avoidance of over-planting (cost-saving).



Across both years, StimBlue+ at just 1L/ha outperformed the competitor at 2L/ha by about 2% for the thousand kernel weight, expressed in grams.

\*Thousand Kernel Weight (TKW) measures the weight of 1,000 seeds, which is valuable in seed science as it helps determine seedling rates, calibrate drills, and estimate yield.



# APPLICATIONS

For optimal results: apply 2 applications of StimBlue+ at 1 L/ha.

- + First application: foliar spray at BBCH21 (beginning of tillering)
- + Second application: foliar spray at the BBCH55 (pre-flowering)

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



## REFERENCES

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2. FAOSTAT.
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5. Ministerie van Landbouw, Visserij, Voedselzekerheid en Natuur. Serbia: Climate change is taking its toll on the environment and on agriculture. Nieuwsbericht | Agroberichten Buitenland. Published July 12, 2024.
6. Ministerie van Landbouw, Visserij, Voedselzekerheid en Natuur. Serbia: The dangers of the severe water shortage that looms over the Western Balkans' rivers. Nieuwsbericht | Agroberichten Buitenland. Published August 26, 2025.
7. Ministerie van Landbouw, Visserij, Voedselzekerheid en Natuur. Serbia: Climate change makes a dent in harvest yields. Nieuwsbericht | Agroberichten Buitenland. Published September 20, 2024.
8. TRIDGE. Serbia Barley market overview 2024. Tridge.





# ABOUT STIMBLUE+

StimBlue+ is a biostimulant made from 100% cultivated Giant Kelp (*Macrocystis pyrifera*), has shown to be a great solution for barley cultivation. The trial data suggests that it offers measurable, significant economic benefits, with greater yield and bigger 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.



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