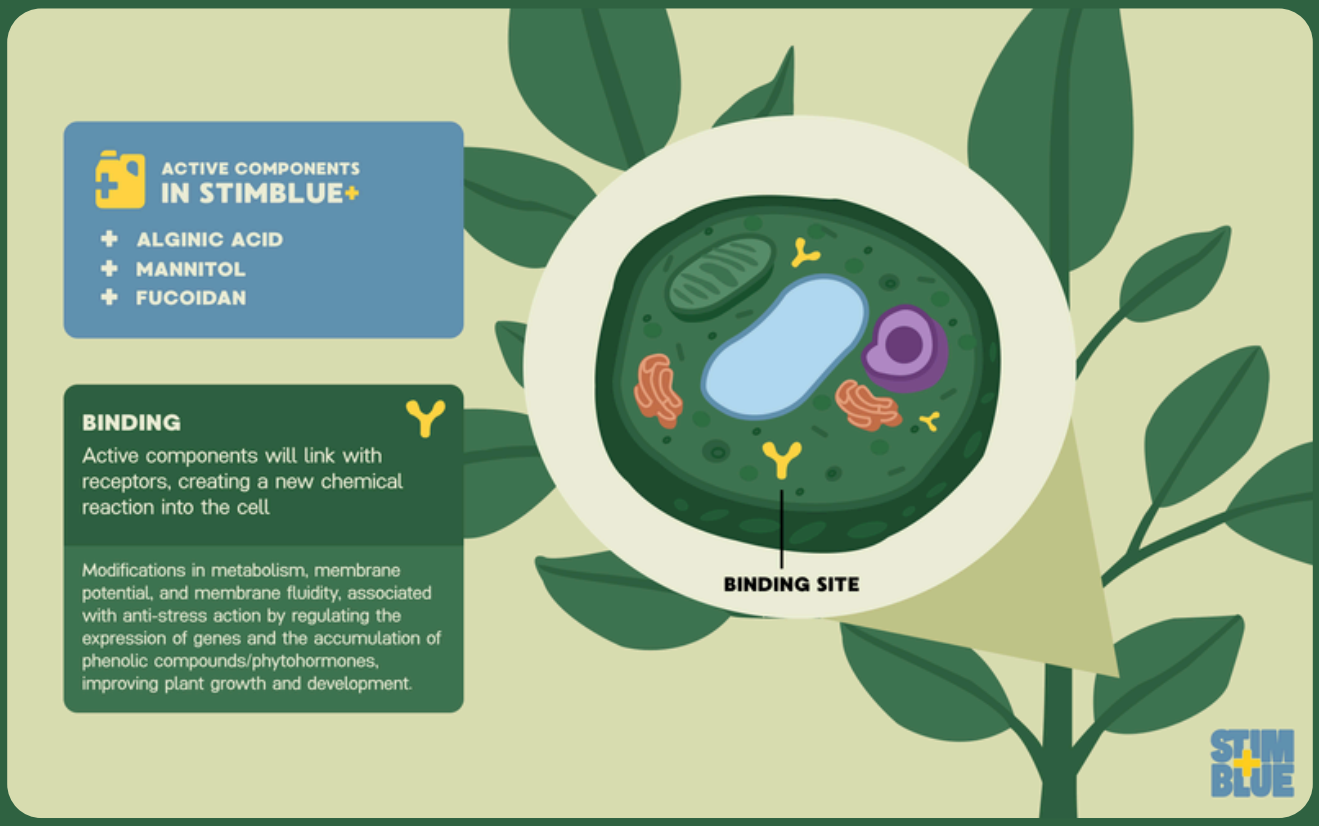

BOOSTING
ALMOND
PERFORMANCE WITH
STIMBLUE+

STIMBLUE+

StimBlue+ is a biostimulant made from 100% cultivated Giant Kelp (*Macrocystis pyrifera*).

Giant Kelp is known for its possession of high quantities of compounds with bioactive properties, fast growth, and CO2 absorption and retention capacity.[1] Seaweed and its extracts are valuable sustainable inputs in agriculture farming, promoting seed germination, plant growth, root development, and stress tolerance in plants.[2]



StimBlue+ is suitable for use in Organic Agriculture conforming to the annexes of the European regulation EU 2018/848 and American Regulation NOP (National Organic Program) and is registered as per FPR 2019/1009, PFC 6(B) non-microbial plant biostimulant.

STIM BLUE

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ALMOND CULTIVATION IN EUROPE

The United States leads global almond production at 76%, followed by the EU and Australia at 10% and Turkey at 2%.[3] Almonds have been part of European, particularly Mediterranean, agriculture for centuries, likely arriving from the Middle East and Persia via trade routes more than 2,000 years ago. Today, Spain is the largest producer in the EU, responsible for about 70–80% of the EU's almond output. Spain is followed by Italy, Portugal, Greece and France.[4]

Most almond orchards are grown on dry, rocky soils, often on hillsides. These conditions are ideal for rain-fed cultivation (traditional to the Mediterranean), which relies almost entirely on rainfall.[4] Across Spain, around 80% of almond orchards remain rain-fed.[5] However, irrigated almond orchards are increasing, having tripled between 2015 and 2020.[6] Climate change and reduced water availability increasingly threaten orchard productivity, especially in this region facing recurrent drought and irrigation restrictions.[7] For example, a study on almond trees from southern Spain demonstrated that previously irrigated trees submitted to severe water deprivation during the season experienced a 92% tree mortality. These conditions put growers under pressure to implement water-management strategies.

STIMBLUE+ ON ALMONDS

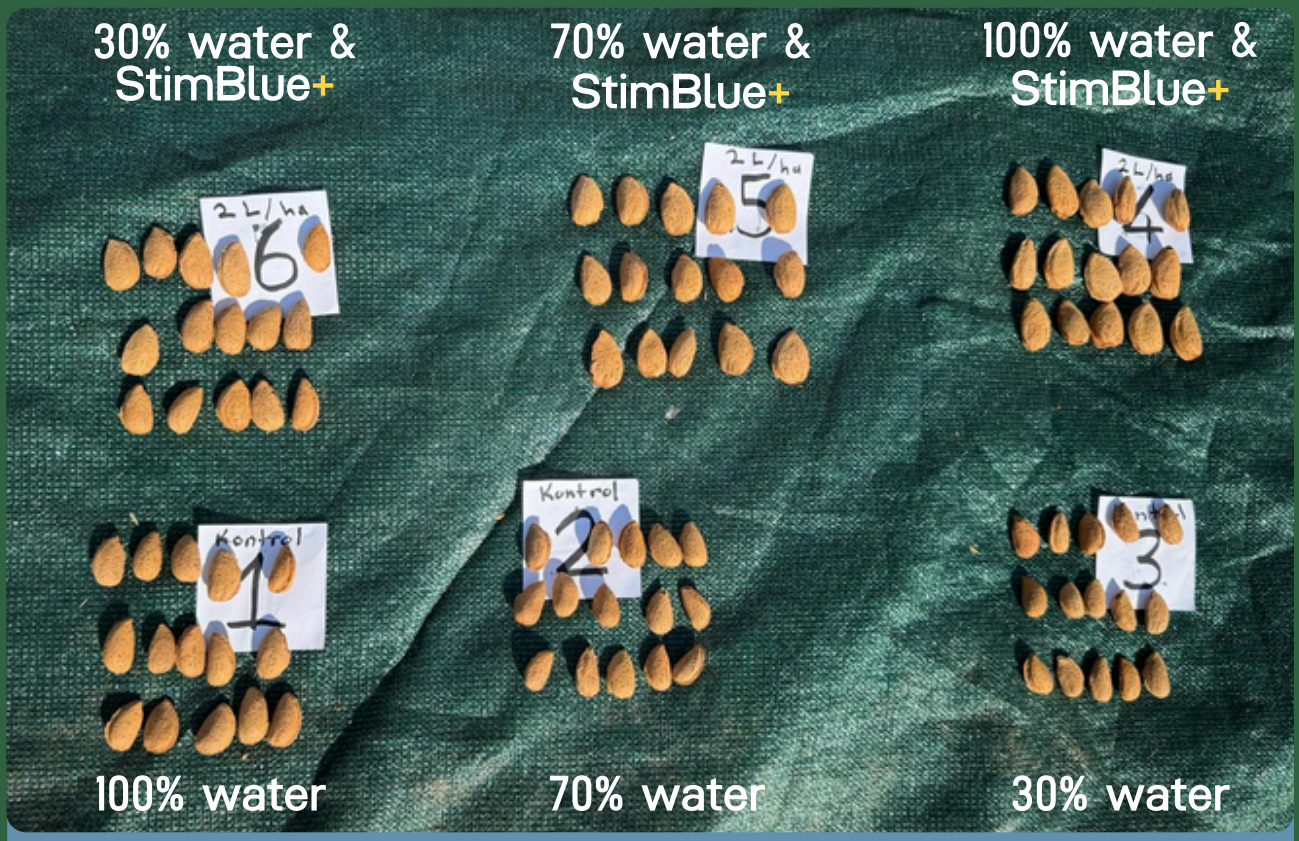
Across trials in Europe, StimBlue+ showed great benefits on the quantity and quality of almonds at harvest, especially in drought conditions. Continue reading to learn how StimBlue+ can support almond cultivation.

FIELD TRIAL SUMMARY

As of 2025, StimBlue+ has been trialed 6 times on almonds in Spain and Türkiye, two top-producers of almonds globally. Various types of trials have been conducted assessing StimBlue+ in standard cultivation conditions, as well as in irrigation deficits and during young development.

COUNTRY	AREA HARVESTED (HA)	PRODUCTION (TONNES)
SPAIN	766,070	369,700
TÜRKIYE	77,237	200,000

Source: FAO STAT (2024)



Irrigation deficit trial in Türkiye (2024)

LA JUNQUERA

ALFONSO CHICO DE GUZMÁN

Ambassador farmer since 2024

La Junquera is a pioneering regenerative farm located in the Altiplano region of Murcia, southeastern Spain - operating in one of the most desertified areas of the Iberian Peninsula. La Junquera transitioned to organic farming in 2010 and adopted regenerative practices in 2015. The farm's methods focus on restoring soil health, enhancing water retention, and boosting biodiversity

CROPS USING STIMBLUE+

ALMONDS, PISTACHIO

FARM TYPE

Regenerative farm

FARM SIZE

1,100 hectares

SPAIN

Murcia

> “We tested different fertilisers on our 2-hectare almond plots and saw a clear difference. Without any fertiliser, we harvested 260 kg. With fish fertiliser, the yield went up slightly to 280 kg. But with the kelp-based StimBlue+, we reached 350 kg.”

SUGGESTED APPLICATION

For optimal results: apply 3 applications of StimBlue+ at 2 L/ha.

+ FIRST APPLICATION
Apply as a foliar spray during bloom | BBCH56

+ SECOND APPLICATION
Apply as a foliar spray at petal/sepal fall | BBCH71

+ THIRD APPLICATION
Apply as a foliar spray at fruit set | BBCH73

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

RESULTS EXPLAINED

kelp blue

STIM+BLUE

ABOUT THE TRIAL

TRIAL CONDUCTED BY
RHIZOME
Solutions Provider

LOCATION OF TRIALS

TÜRKIYE

Aegean region

SEASON

MAR - OCT 2024

SOIL TYPE

Sandy clay loam

VARIETY

Ferragnes

CLIMATE

Temperate – dry summer, hot

TRIAL TYPE

Standard

+$600

increased economic returns per hectare

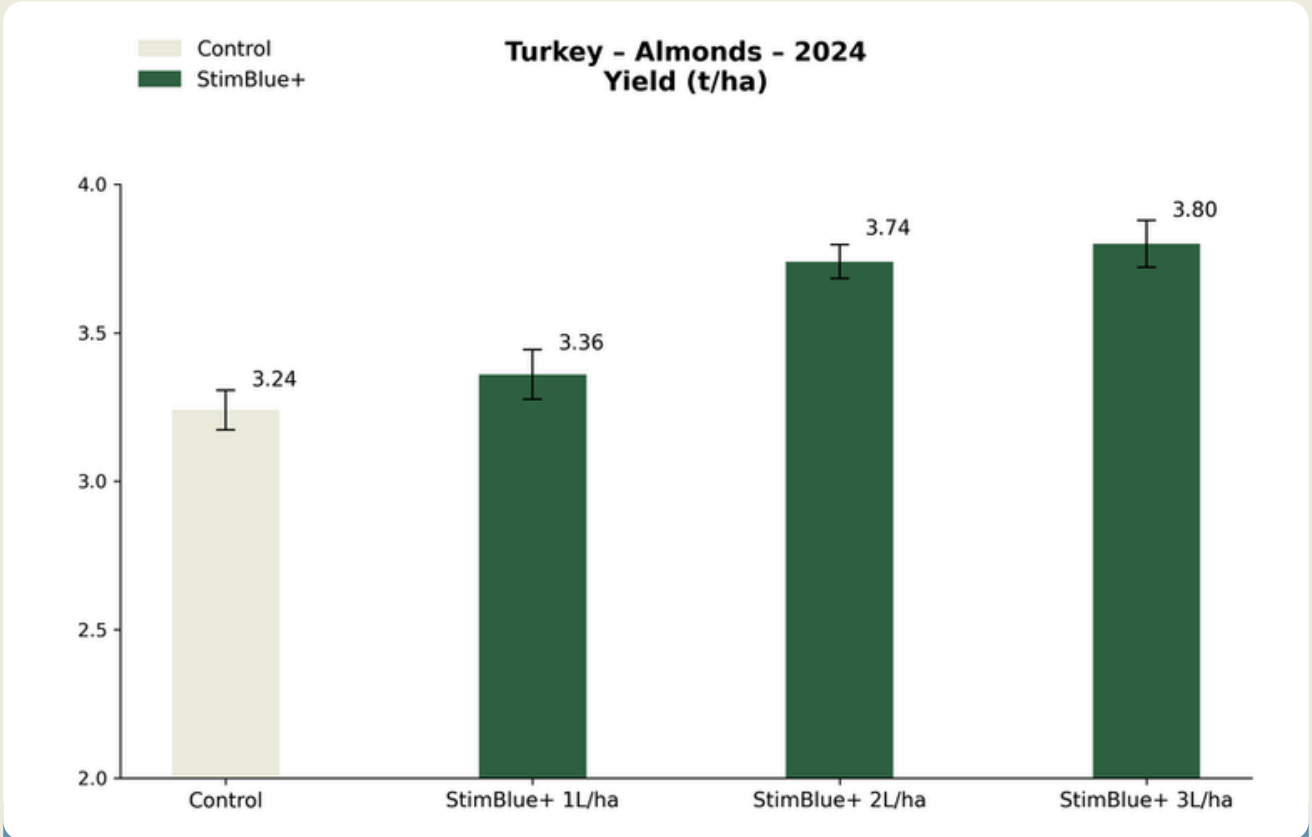
+4-17%

greater yields

HIGHER YIELDS

- Under standard conditions, the application of StimBlue+ at 2 and 3 L/ha resulted in both heavier almonds and more almonds per tree, key factors contributing to higher yields at harvest.

- Overall, plots treated with StimBlue+ showed between **4-17% higher yields** compared to control. StimBlue+ at 2 L/ha generated increased economic returns of **$600 per hectare based on farm gate prices.***



Under standard conditions, crops treated with StimBlue+ at 1, 2, and 4 L/ha resulted in between 4% and 17% greater yields compared to control.

*Economic returns were calculated based on the 2023 average farm gate price in Türkiye of $3,745 tonnes/hectare.[4]

GREATER SEED VIGOUR

Seed vigor is a critical component of seed quality that enhances rate of germination, growth, resistance to stress and post storage performance.[5] Enhancing seed vigour is one way that almond growers can boost crop productivity and yields.

- Among all three trials, the seeds treated with StimBlue+ showed greater vigour compared to the control and competitor.

TREATMENT	SEED VIGOUR
CONTROL	5
ECKLONIA 2 L/HA	7.1
STIMBLUE+ 2 L/HA	7.8
STIMBLUE+ 3 L/HA	7.8

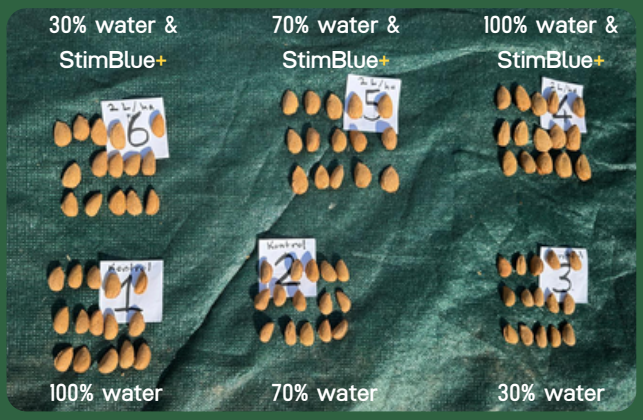
ABOUT THE TRIAL

TRIAL CONDUCTED BY
RHIZME
Solutions Provider

LOCATION OF TRIALS

TÜRKIYE

Aegean region



SEASON

MAR - OCT 2024

SOIL TYPE

Sandy clay loam

VARIETIES

Ferragnes & Yerli badem

CLIMATE

Temperate – dry summer, hot

TRIAL TYPE

Irrigation deficit (2)

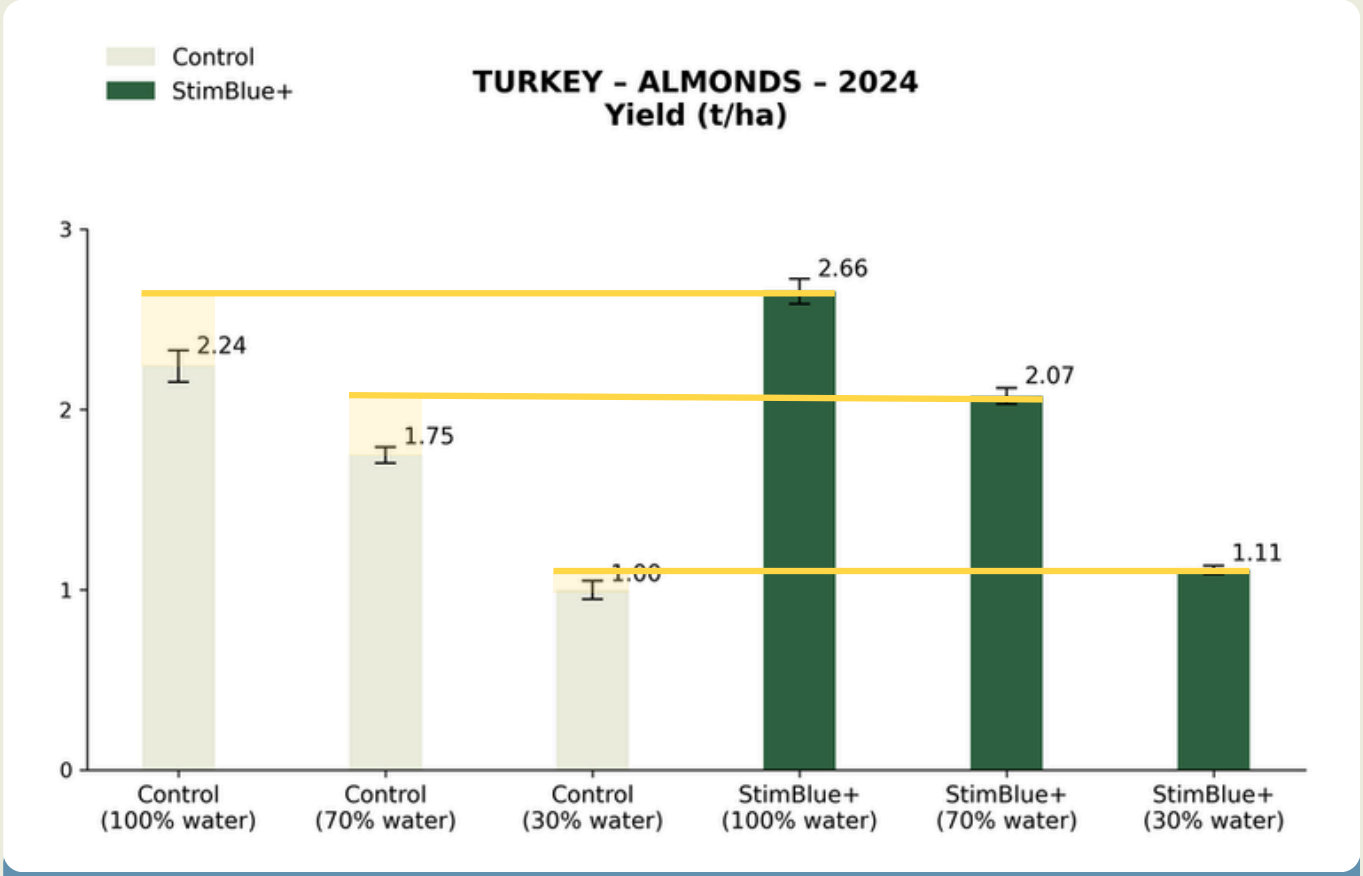
+$80-490

increased economic returns per ha at full and reduced irrigation

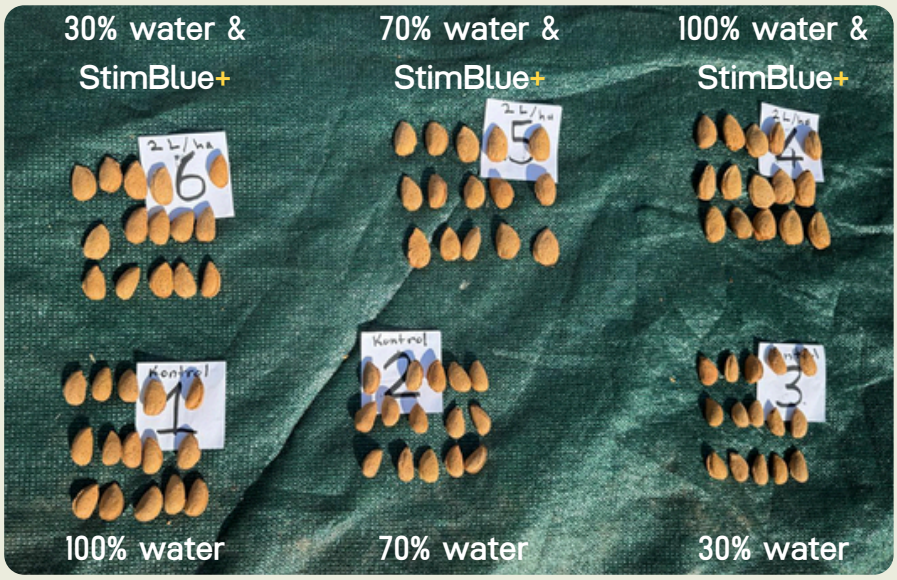
+18%

increase in yield at 100% and 70% irrigation

HIGHER YIELDS AT REDUCED IRRIGATION



StimBlue+ boosted yields by 18% relative to control at 70% and 100% irrigation. At full irrigation, these gains translate into an additional $490 in economic benefits for the grower.*

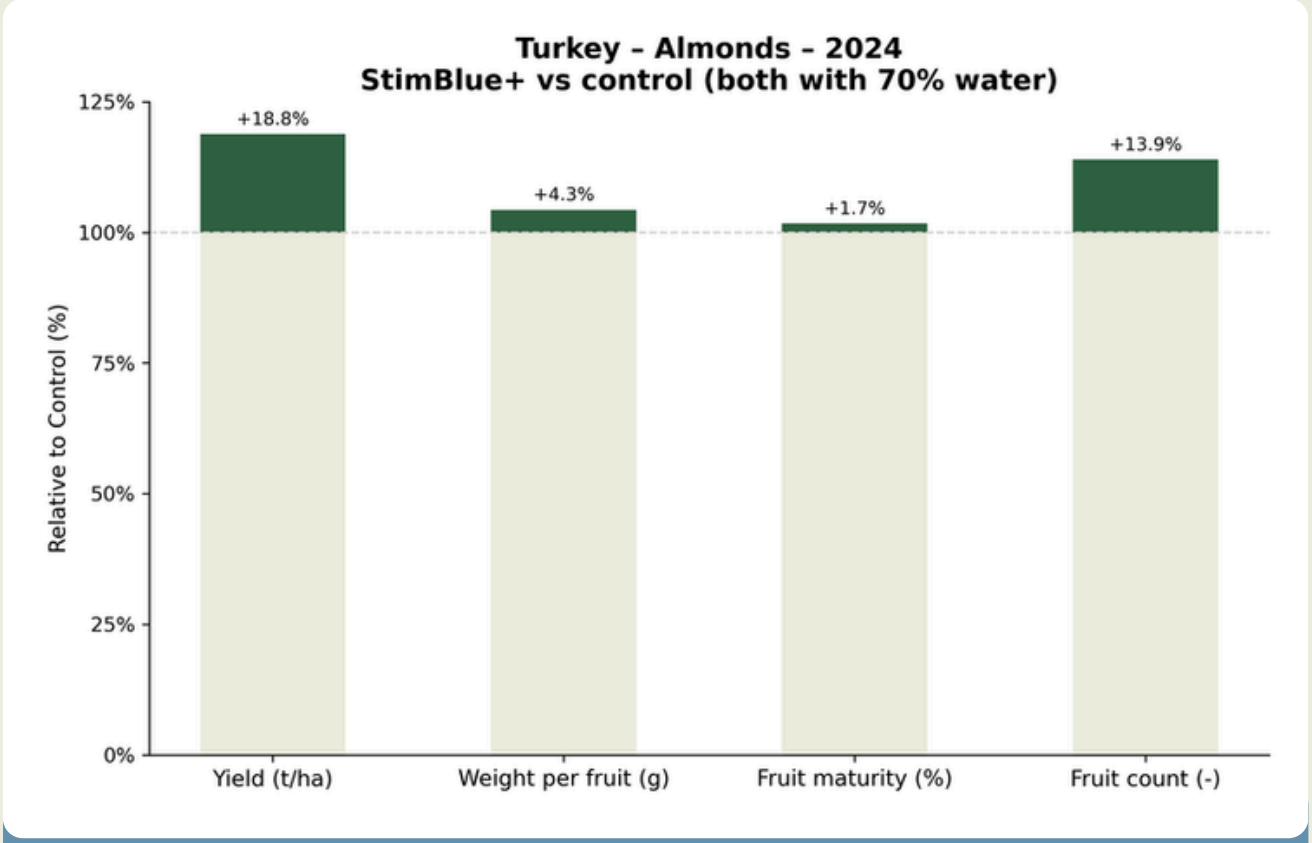


*Economic returns were calculated based on a typical farm-gate price per tonne in the region (2024) of $1,345.[8]

WATER STRESS TOLERANCE

- In addition to higher yields, trees treated with StimBlue+ showed greater tolerance to drought stress, with greater fruit count and weight (nuts and kernels) at harvest relative to the control group at reduced irrigation.

- The application of StimBlue+ also increased the maturation rates of almonds, with a higher proportion reaching maturity at harvest. These results indicate how StimBlue+ supports orchard productivity, even in conditions with significant water stress.



Graph displays the difference between StimBlue+ treatment at 70% irrigation and the control group at 100% irrigation across several parameters.

ABOUT THE TRIAL

TRIAL CONDUCTED BY SynTech Research

LOCATION OF TRIALS

SPAIN

Alicante

SEASON

MAR - MAY 2025

SOIL TYPE

Sandy clay loam

VARIETY

Guara

CLIMATE

Temperate – dry summer, hot

TRIAL TYPE

Young development

+52%

greater shoot length increase vs control

+3%

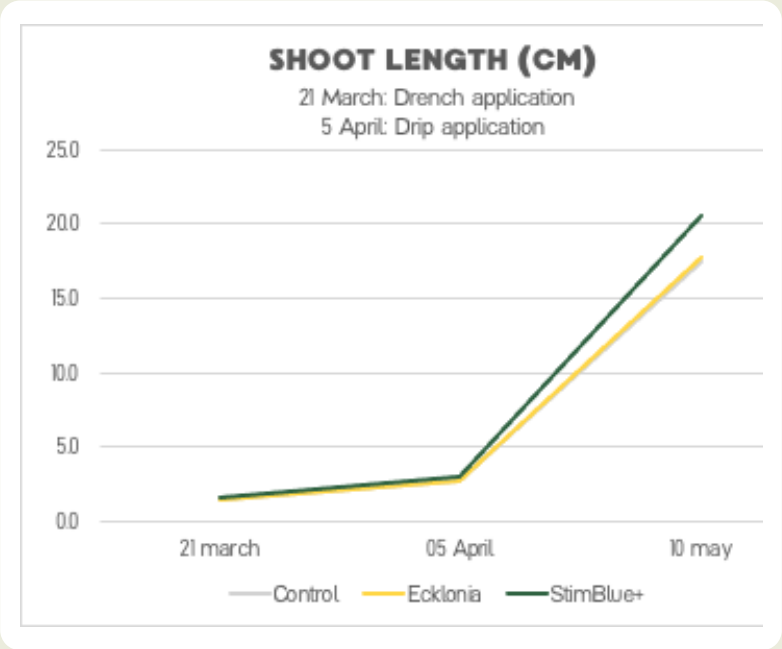
greater tree height increase vs control

INCREASED SHOOT LENGTH

A trial on potted almond trees assessed the improvement in young development resulting from StimBlue+ compared to a reference Ecklonia-based competitor. The first application occurred on the 21st of March by soaking the roots in a 4% biostimulant solution for 8 hours, followed by a second application (foliar) on the 5th of April, at a rate of 2 L/ha.

Trial conditions - May 10th, 2025

✚ During the early years of orchard establishment, long shoot growth is the main component of vegetative development on almond. Shoot growth contributes to the development of vegetative buds, making way for spurs, which support approximately 80% of total almond yield in a given year.



✚

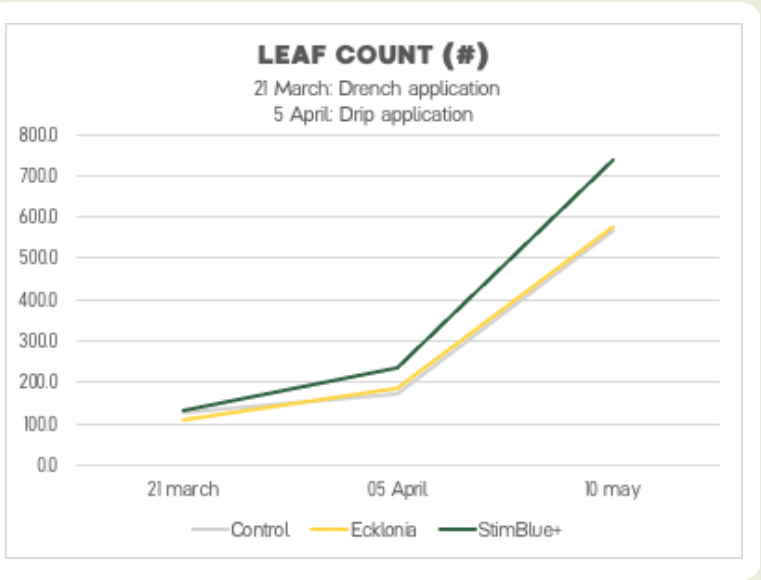
Trees treated with StimBlue+ showed an additional increase of 52% in shoot length relative to the control group and 93% relative to the Ecklonia-based competitor 35 days after the 2nd application.

MORE LEAVES & TALLER TREES

- Trees treated with StimBlue+ showed +3% taller trees and 108% more leaves compared to the control group. Early almond orchard yields are dependent on the rapid establishment of large canopies (leaves) to intercept light for photosynthesis.[9]

Competitor: Trees treated with Ecklonia were generally shorter and with fewer leaves.

StimBlue+: Trees treated with StimBlue+ were consistently taller and with more leaves.



Robust canopies need to be balanced against the need to establish a strong tree framework that can bear large crops and be efficiently managed for the life of the orchard.[9]

HIGHER YIELD, MORE $

COUNTRY	YIELD*	ECONOMIC RETURNS/HA*
TÜRKIYE	+14%	+$415

*Yield: Average % yield increase per hectare across all trials at a dosage of 2 L/ha.
*Economic returns/ha: Average increase in economic returns per hectare in USD across all trials at a dosage of 2 L/ha (standard conditions or 100% water).

STIM BLUE

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ABOUT
STIMBLUE+

StimBlue+ is a biostimulant made from 100% cultivated Giant Kelp (Macrocystis pyrifera), has shown to be a great solution for almond cultivation. The trial data suggests that it offers measurable, significant economic benefits, with greater crop viogur and improved yields., even under water-restricted conditions.

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/almonds


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