

IMPROVE PLANT DEVELOPMENT AND RECOVERY TIME UNDER STRESS

B Sure® is an innovative liquid nutrient **biostimulant** made from shrimp protein hydrolysate that helps mitigate abiotic stresses from:

- Drought
- Fungicides
- Herbicides
- Pesticides
- Insecticides

PROVEN AT A GENE LEVEL

A recent trial set out to find insights into the cellular functions and processes occurring under different conditions like disease states, developmental stages and environmental stresses.

In the trial, 68 individual plants were sampled under varying conditions at 5 different intervals.

Variables:

- Drought stressed plants + B Sure
- Drought stressed plants, untreated
- Optimal conditions + B Sure
- Optimal conditions, untreated

Sampling Intervals:

- 2 weeks after seeding before water was withheld
- 3 days after application of B Sure when no visible stress was seen
- 6 days after application mild wilting was observed
- 7 days after application severe wilting was observed
- 8 days after application when plants were rewatered

The trial showed that the gene expression of plants treated with B Sure more closely resembled plants under optimal conditions than those under drought pressure.

Plants treated with B Sure saw:

- Reduced recovery time
- Improved plant vigor
- Improved plant development

Genetic Expression Under Drought Conditions Principal component Analysis

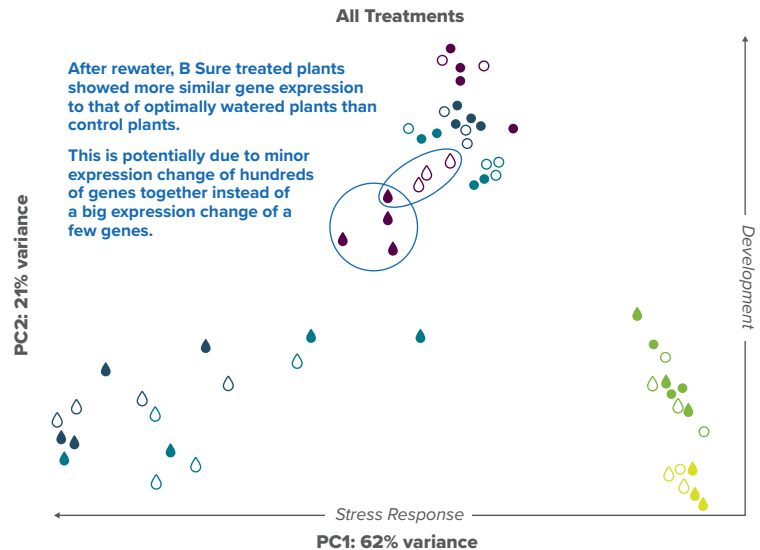


Figure 1

KEY:	
○	Day 1
◐	Day 3
◑	Day 6
◒	Day 7
◓	Day 8
●	Day 1
◐	Day 3
◑	Day 6
◒	Day 7
◓	Day 8

KeyGene Study — 68 Samples | 2024

Learn More About B Sure
amvac.com/products/b-sure

PROVEN AT A GENE LEVEL

(Continued)

Figure 2 shows the expression of individual genes in relation to time, showcasing the 5 intervals when plants were sampled. After rewater on day 8, the B Sure® treated plants that were under drought conditions demonstrated a more similar gene expression to the plants under optimal water conditions.

This reinforces that plants were able to recover from drought stress much quicker when B Sure was applied.

Temporal Expression of 5 of the 10 Most Relevant Genes

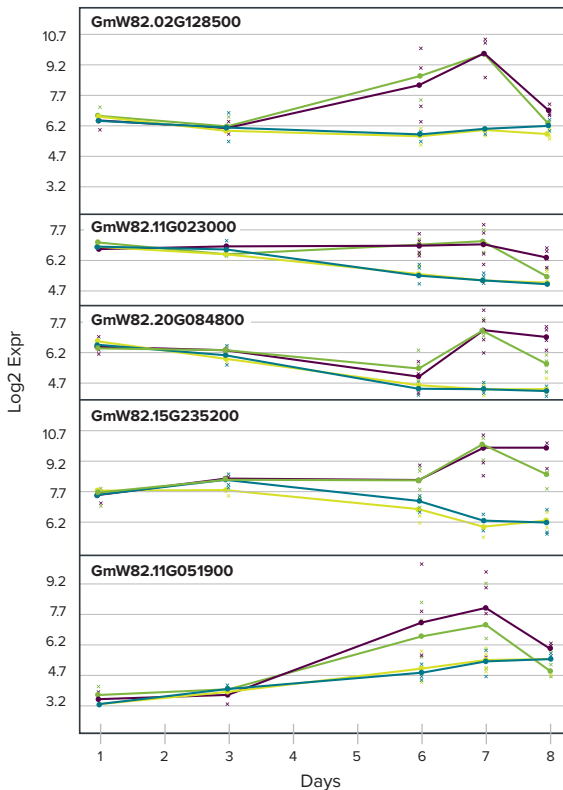


Figure 2: Example temporal trajectories from gene set. Individual samples are marked with crosses, colored lines denote average gene expression over replicates for all experimental groups.



KeyGene Study

PROMOTES PHOTOSYNTHESIS

B Sure provides essential nutrients that support cell membrane integrity, helping to reduce water loss during stress. Maintaining sufficient cell water content promotes turgor pressure and supports stomatal function.

In a study measuring net photosynthesis in tomato leaves during stressful growing conditions, B Sure significantly improved net photosynthesis by up to 17% compared to the control. This measurement coincides with the leaf sucrose and glucose levels, which were 12 and 68% higher than the control, respectively.

This study demonstrates that when applied in stressful conditions, instead of the plant shutting down, B Sure relieves enough stress that photosynthesis can continue, meaning carbon continues to be fixed and the plant can continue to grow.

Foliar Application of B Sure Shows Improved Crop Improved Crop Photosynthesis

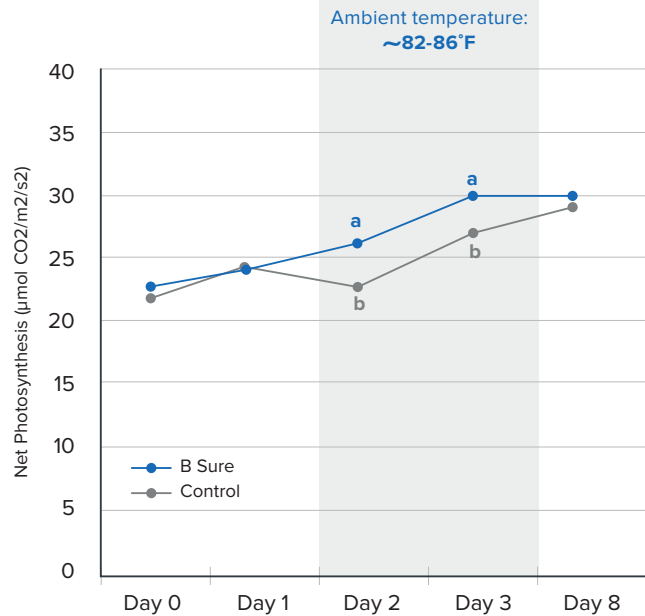


Figure 3: B Sure significantly improved net photosynthesis measured in tomato leaves by 17% and 10% relative to the control on two and three days after application, respectively. This improvement coincided with the highest ambient temperature and most stressful growing conditions.

AMVAC PD Trials

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