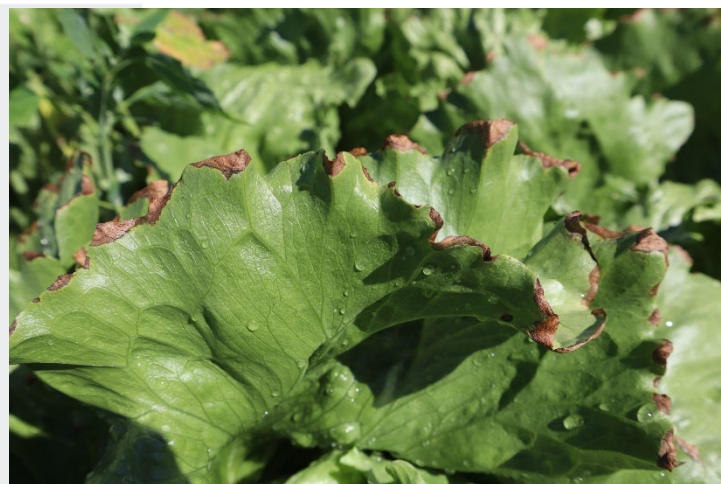


The biostimulant LALSTIM® OSMO reduces tipburn symptoms and increases the yield of open field lettuces during summer heat stress. LALSTIM® OSMO increases the flexibility of harvesting timing and reduces the amount of wastage.



## CONTEXT

During the growing season, open-field lettuce is exposed to various stress factors, such as high temperatures and uneven humidity. In lettuce, environmental stress causes tipburn, slowed growth and a lower yield. LALSTIM OSMO contains glycine betaine, which is a natural osmolyte that improves stress resistance in plants. Glycine betaine sprayed to foliage is quickly absorbed and maintains the water balance and normal functioning of plant cells under stressful conditions. In addition, it promotes the circulation of nutrients in the plant. LALSTIM OSMO is suitable for organic agriculture.

## OBJECTIVE

To study the effect of LALSTIM OSMO spraying application on tipburn and yield of open field lettuce in commercial growing conditions during summer heat stress.

## MATERIALS AND METHODS



### LOCATION AND DATE

Open field production, Finland  
June–July/2022



### CULTIVARS

Iceberg lettuce 'Ice Wave' and 'Ice Music' and Cosmopolitan and Cos lettuce



### CULTIVATION

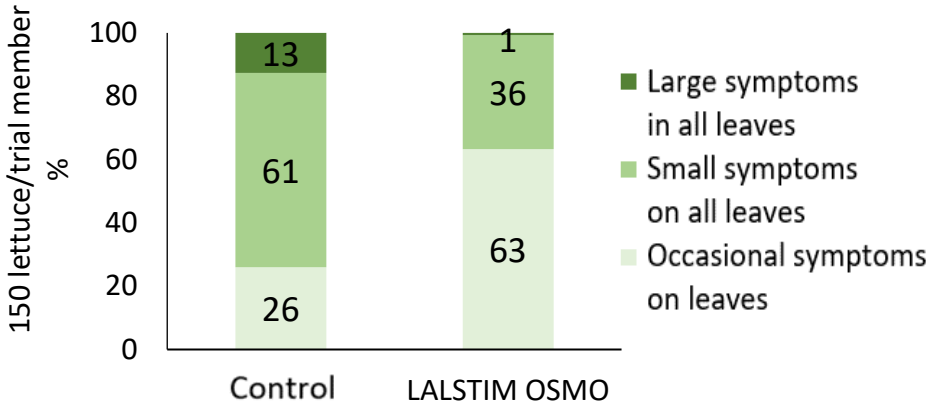
4-row soil beds covered with black bio-plastic. The crop was exposed to heat stress, the daytime temperature was at its highest above 30 °C



### TREATMENTS

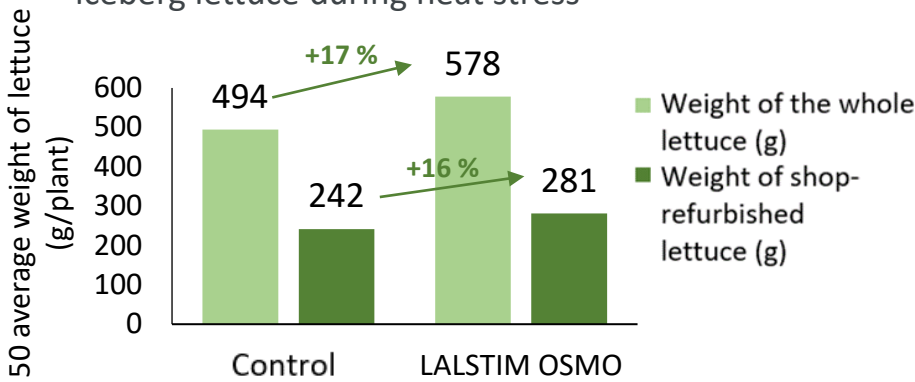
- 1) Untreated control
- 2) LALSTIM OSMO spraying (2 kg/ha, 500 l/ha) at 7-10 days intervals, starting at the end of June. Silwet Gold adjuvant (0.025%) was used to enhance the coverage and uptake.

- LALSTIM OSMO reduced tipburn symptoms of 'Ice Wave' iceberg lettuce during heat stress.



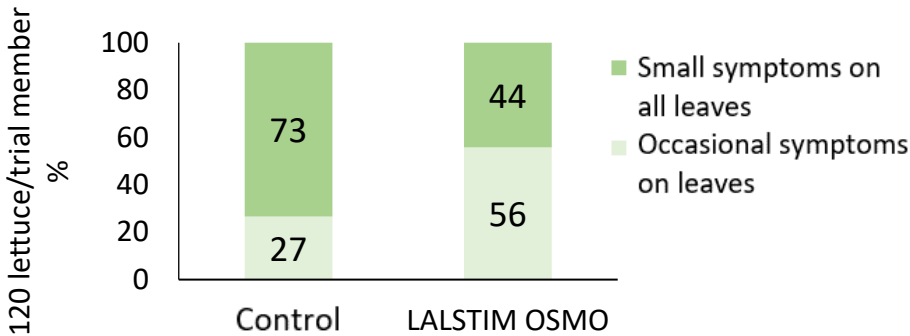
LALSTIM OSMO reduced tipburn symptoms in Iceberg lettuce.

- LALSTIM OSMO increased the yield of 'Ice Wave' iceberg lettuce during heat stress



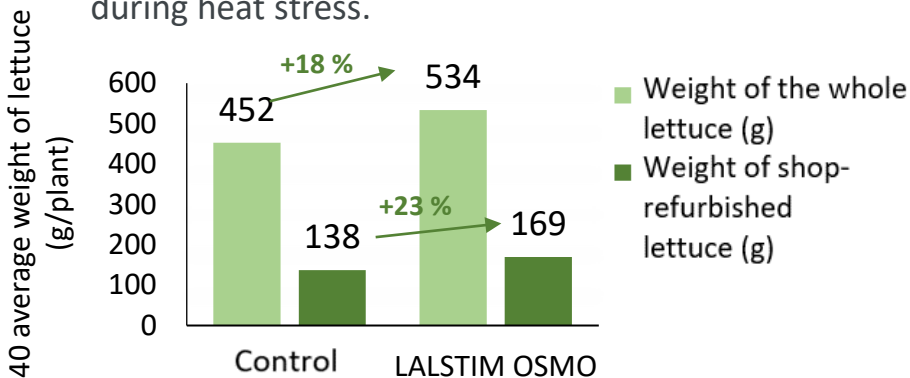
LALSTIM OSMO increased harvested yield of Iceberg lettuce

- LALSTIM OSMO alleviated tipburn symptoms of Cosmopolitan lettuce during heat stress.



LALSTIM OSMO alleviated tipburn symptoms of Cosmopolitan lettuce

- LALSTIM OSMO increased the yield of Cos lettuce during heat stress.



LALSTIM OSMO increased the head weight of Cos lettuce.