

# LALSTIM OSMO



Enhances plant growth during environmental stresses,  
such as heat, cold, drought, and salinity

**READ ALL DIRECTIONS BEFORE USING THIS PRODUCT**

## Soil-Amending Guaranteed Analysis

### CONTAINS NON-PLANT FOOD INGREDIENT

<b>ACTIVE INGREDIENT:</b> Glycine betaine.....	97%
Total Inert Ingredient (Water): .....	3%
Total: .....	100%

**Net Contents/Net Weight:** 5 lb

**Production date and batch number:** See package

### HOW IT WORKS

Enhances plant growth during environmental stresses, such as heat, cold, drought, frost, and salinity. Adjusts the osmotic balance inside plant cells and tissues exposed to osmotic stress conditions and injury. For use in greenhouse, protected and field environments on vegetables, herbs, grapes, fruit and nut trees, ornamentals, turfgrass, small fruit, hemp, hops, root, bulb, tuber, and tropical crops. For other uses, consult your crop advisor.

### PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

Do not breathe dust.

### APPLICATION METHOD

Apply as a foliar spray to point of wetness. Use of a non-ionic adjuvant, added to the spray solution according to manufacturer's instructions, is recommended to optimize coverage and penetration of LALSTIM® OSMO into the plant. Compatible with pesticides and foliar fertilizers in a tank mix, except some formulations containing copper (Cu), where phytotoxicity may occur. It is advised to verify physical and chemical compatibility of tank mixes with LALSTIM® OSMO using a jar test before applying to any crop.

### APPLICATION TIMING AND RATES

Timing varies by crop, stress and plant condition. Apply when relative humidity is high enough (e.g., late in the evening or early in the morning) to allow tissue to remain wet long enough to ensure better uptake of LALSTIM® OSMO by the plant. Repeat every 1–4 weeks. For more detailed information, consult your crop advisor.

## STORAGE & HANDLING RECOMMENDATIONS

Store in a cool, dry place. This product expires 36 months after the production date printed on the bag if stored in a cool, dry location in the original, unopened packaging. Open packages must be resealed and kept under the same conditions for no more than six months. Unused product should be disposed of in accordance with applicable federal, provincial or state, and municipal laws and regulatory guidelines.

## LIMITED WARRANTY

Danstar Ferment AG / LALLEMAND PLANT CARE ("Danstar") warrants that this product (the "Product") conforms to the product description on this label and is reasonably fit for the purposes set forth on the label when used in accordance with it. Danstar makes no warranty as to the Product's performance since the storage, use and application of the Product are beyond the control of Danstar.

To the extent permitted by applicable law, Danstar makes no other warranties of any kind and hereby disclaims all other warranties, whether oral or written, expressed or implied, including without limitation, the implied warranties of the merchantability and fitness for a particular purpose and the warranty of non-infringement. Buyer of the Product assumes the risk to persons and real or personal property arising from the use, application or handling of the Product.

Buyer's exclusive remedy for any and all losses, injury or damages resulting from a breach of this Limited Warranty shall be, at the election of Danstar, either the price paid by buyer for the Product purchased directly from Danstar, or the replacement of such quantity of the Product. Danstar shall not be responsible for any liabilities, damages, expenses, costs or other losses, including without limitation, loss of profits suffered in connection with the use of the Product and in no event shall Danstar be liable for any incidental, consequential, special or punitive damages to the buyer or any third party.

Buyers of the Product are deemed to have accepted the terms of this Limited Warranty upon opening the container containing the Product. The terms of this Limited Warranty may not be varied by any oral or written agreement.

Information regarding the contents and levels of metals in this product is available on the internet at <http://www.aapfco.org/metals.html>



Crop	Application Rate (lb/ac.)	Application Volume (US gal/ac.)	Target and Timing of Application(s)
Leafy Vegetables (e.g., lettuce, spinach)	0.5–4	20–100	<p><b>Frost, drought, heat and salt stress:</b> Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods.</p> <p><b>Calcium imbalance from abiotic stress:</b> Spray at 3–4 leaf stage and repeat 3 weeks later.</p>
Fruiting vegetables and cucurbits (e.g., tomato, bell pepper, eggplant, cucumber, squash, melons, watermelon)	0.5–6	20–100	<p><b>Frost, drought, heat and salt stress:</b> Spray every 1–3 weeks after transplant or appearance of first true leaves through stress periods.</p> <p><b>Abiotic stress during flowering:</b> Begin spraying at appearance of first flower buds and repeat every 1–3 weeks through flowering.</p> <p><b>Calcium imbalance from abiotic stress:</b> Spray at least 24 hours before stress occurs (e.g., heat stress) and repeat 3 weeks later.</p> <p><b>Anti-cracking:</b> Begin spraying at start of color development in fruit and repeat every 1–4 weeks through ripening.</p>
Herbs (e.g., basil, oregano, cilantro, sage, dill)	0.5–4	20–100	<p><b>Frost, drought, heat and salt stress:</b> Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods.</p>
Grapevines	0.5–2	20–100	<p><b>Frost, drought, heat and salt stress:</b> Spray every 1–4 weeks from planting or at bud break through stress periods.</p> <p><b>Abiotic stress during flowering:</b> Spray at start of flowering and repeat every 1–3 weeks through petal fall.</p> <p><b>Anti-cracking:</b> Spray at bunch closure (BBCH 77) and reapply at beginning of ripening (BBCH 81).</p>
Fruit and nut trees (e.g., apple, pear, apricot, peach, almond, citrus)	0.5–6	20–150	<p><b>Frost, drought, heat and salt stress:</b> Spray every 1–3 weeks from transplant or at bud break through stress periods.</p> <p><b>Abiotic stress during flowering:</b> Spray at start of flowering or at least 24 hours before expected frost and repeat every 1–3 weeks through petal fall or end of expected frost period.</p> <p><b>Calcium imbalance from abiotic stress:</b> Spray at early fruit set and repeat every 1–4 weeks.</p> <p><b>Anti-cracking and improvement of post-harvest quality:</b> Begin spraying at early color development of the fruits and repeat 4 weeks before harvest.</p>
Landscape ornamentals and turf (e.g., street, residential and park trees, established landscape turf, sport turf, sod and sod farms, perennial and annual ornamentals plantings)	0.5–6	20–150	<p><b>Frost, drought and heat stress:</b> Spray every 1–3 weeks beginning at start of expected stress period through end of stress conditions.</p>

Crop	Application Rate (lb/ac.)	Application Volume (US gal/ac.)	Target and Timing of Application(s)
Woody ornamentals (nursery)	1–4	40–100	<p><b>Frost, drought and heat stress:</b> Spray every 2–3 weeks beginning at start of expected stress period through end of stress conditions.</p> <p><b>Abiotic stress during flowering:</b> Begin spraying at start of flowering or at least 24 hours before expected frost and repeat every 1–3 weeks, through petal fall or end of expected frost period.</p> <p><b>Post-harvest cold, heat and drought stress (transport, handling and retail environments):</b> Spray 1 month before expected harvest, 2 weeks before harvest and 1 day before shipping.</p>
Herbaceous ornamentals (e.g., poinsettia, chrysanthemum, bedding plants, foliage plants, cut flowers) and vegetable transplants	0.5–6	20–150	<p><b>Frost, drought, heat and salt stress:</b> Spray every 1–3 weeks before start of stress period through end of stress conditions.</p> <p><b>Post-harvest cold, heat and drought stress (transport, handling and retail environments):</b> Spray 1 month before harvest, 2 weeks before harvest and 1 day before shipping.</p>
Transplant propagation (e.g., seedlings, cuttings, sweet potato slips, tissue culture explants)	0.5–6	40–100	<p><b>Frost, drought, heat and salt stress:</b> Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods or harvest.</p>
Cherry	2–6	50–150	<p><b>Frost during flowering:</b> Spray at start of flowering and repeat every 1–3 weeks through petal fall.</p>
	2–6	25–150	<p><b>Anti-cracking:</b> Spray at color change from green to yellow and repeat 7–10 days later.</p>
Small fruit (e.g., strawberry, raspberry, blueberry, elderberry, currant)	1–6	20–150	<p><b>Frost during flowering:</b> Spray at start of flowering or at latest 24 hours before expected frost and repeat every 1–3 weeks through petal fall or end of expected frost period.</p> <p><b>Anti-cracking and improvement of post-harvest quality:</b> Begin spraying at early color development of the fruits and repeat 4 weeks before harvest.</p> <p><b>Heat and drought stress:</b> Apply every 1–3 weeks during hot months.</p>
Hemp and hops	1–4	20–100	<p><b>Drought, heat and salt stress:</b> Spray every 2–3 weeks from transplant or appearance of first true leaves through stress periods or up to harvest.</p>
Root, bulb and tuber crops (e.g., sugar beet, ginseng, carrot, cassava, sweet potato, garlic, onion)	1–6	40–150	<p><b>Heat and drought stress:</b> Apply every 2–3 weeks during hot months.</p>

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Potato	1–2	40–50	<b>Abiotic stress tolerance:</b> Spray at hook stage or walnut size and repeat 15 days later.
Tropical crops (e.g., acerola, avocado, banana, coffee, guava, mango, papaya, passion fruit, plantain, starfruit)	1–6	40–150	<b>Heat and drought:</b> Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods.  <b>Improvement of post-harvest quality:</b> Spray at the start of ripening and repeat 4 weeks prior to harvest.

**Guaranteed by:**

Danstar Ferment AG / LALLEMAND PLANT CARE  
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CH-6300 Zug, Switzerland

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