# LALSTIM OSMO

WETTABLE POWDER

OMRI LISTED For Organic Use

REGISTERED cdfa ORGANIC INPUT MATERIAL

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

For use on vegetables, herbs, grapes, fruit and nut trees, ornamentals, turfgrass, small fruit, hemp, hops, roots, tubers and bulbs, potatoes, field crops, and tropical crops

**CONTAINS NON-PLANT FOOD INGREDIENT**

**Soil-Amending Guaranteed Analysis**

97%.....Active Ingredient: Glycine betaine
3%..... Total Inert Ingredient (Water)

**Guaranteed by:**
Danstar Ferment AG /
LALLEMAND PLANT CARE
Poststrasse 30
CH6300 ZUG
Switzerland

**Marketed and distributed by:**
Lallemand Specialties Inc. /
LALLEMAND PLANT CARE
6120 West Douglas Avenue
Milwaukee, WI 53218 USA
1-844-590-7781

PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE ON THE BACK

**NET WEIGHT: 5 lb (2.3 kg)**

9LF14PGTS-11/23



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# LALSTIM OSMO

Naturally occurring osmoprotectant
Protects plant cells against negative effects of environmental stresses
Soluble powder for foliar application

## READ ALL DIRECTIONS BEFORE USING THIS PRODUCT

**CONTAINS NON-PLANT FOOD INGREDIENT**

**Soil-Amending Guaranteed Analysis**

97%..... Active Ingredient: Glycine betaine
3%..... Total Inert Ingredient (Water)

## 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, field crops, 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.

**Batch No.:** see printing on the bag | **Expiration date:** see printing on the bag

## 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 AND HANDLING RECOMMENDATIONS

Store in a cool, dry location in the original, unopened packaging. Use before expiration date stated on the package. The expiration date is valid only for unopened bags stored under cool, dry conditions. 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 only that this product conforms to the product description on this label and is reasonably fit for the purposes set forth in the Directions for Use when used in accordance with them. However, ineffectiveness or other unintended consequences may result because of such factors as the use, storage or handling of the product contrary to the label instructions, all of which are beyond the control of Danstar. To the extent consistent with applicable law, Danstar shall not be liable for indirect or consequential damages resulting from the use, storage or handling of this product. DANSTAR MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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**NET WEIGHT:**
5 lb (2.3 kg)

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Peel back
for instructions.
PRESS TO RESEAL.

## APPLICATION TIMING AND RATES

| Crop | Application Rate (lb/ac.) | Application Volume (US gal/ac.) | Target and Timing of Application(s) |
|---|---|---|---|
| Leafy vegetables (e.g., lettuce, spinach) | 0.25–4 | 20–100 | **Frost, drought, heat and salt stress:** Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods.<br>**Calcium imbalance from abiotic stress:** Spray at 3–4 leaf stage and repeat 3 weeks later. |
| Fruiting vegetables and cucurbits (e.g., tomato, bell pepper, eggplant, cucumber, squash, melons, watermelon) | 0.25–6 | 20–100 | **Frost, drought, heat and salt stress:** Spray every 1–3 weeks after transplant or appearance of first true leaves through stress periods.<br>**Abiotic stress during flowering:** Begin spraying at appearance of first flower buds and repeat every 1–3 weeks through flowering.<br>**Calcium imbalance from abiotic stress:** Spray at least 24 hours before stress occurs (e.g., heat stress) and repeat 3 weeks later.<br>**Anti-cracking:** Begin spraying at start of color development in fruit and repeat every 1–4 weeks through ripening. |
| Herbs, spices, and mints (e.g., basil, oregano, cilantro, sage, dill) | 0.25–4 | 20–100 | **Frost, drought, heat and salt stress:** Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods. |
| Grapevines | 0.25–2 | 20–100 | **Frost, drought, heat and salt stress:** Spray every 1–4 weeks from planting or at bud break through stress periods.<br>**Abiotic stress during flowering:** Spray at start of flowering and repeat every 1–3 weeks through petal fall.<br>**Anti-cracking:** Spray at bunch closure (BBCH 77) and reapply at beginning of ripening (BBCH 81). |
| Fruit and nut trees (e.g., apple, pear, apricot, peach, almond, citrus | 0.25–6 | 20–150 | **Frost, drought, heat and salt stress:** Spray every 1–3 weeks from transplant or at bud break through stress periods.<br>**Abiotic stress during flowering:** 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.<br>**Calcium imbalance from abiotic stress:** Spray at early fruit set and repeat every 1–4 weeks.<br>**Anti-cracking and improvement of post-harvest quality:** Begin spraying at early color development of the fruits and repeat 4 weeks before harvest. |
| 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) | 0.25–6 | 20–150 | **Frost, drought and heat stress:** Spray every 1–3 weeks beginning at start of expected stress period through end of stress conditions. |
| Woody ornamentals (nursery) | 0.25–4 | 40–100 | **Frost, drought and heat stress:** Spray every 2–3 weeks beginning at start of expected stress period through end of stress conditions.<br>**Abiotic stress during flowering:** 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.<br>**Post-harvest cold, heat and drought stress (transport, handling and retail environments):** Spray 1 month before expected harvest, 2 weeks before harvest and 1 day before shipping. |



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**APPLICATION TIMING AND RATES (CONTINUED)**

| Crop | Application Rate (lb/ac.) | Application Volume (US gal/ac.) | Target and Timing of Application(s) |
|---|---|---|---|
| Herbaceous ornamentals (e.g., poinsettia, chrysanthemum, bedding plants, foliage plants, cut flowers) and vegetable transplants | 0.25–6 | 20–150 | **Frost, drought, heat and salt stress:** Spray every 1–3 weeks before start of stress period through end of stress conditions.<br>**Post-harvest cold, heat and drought stress (transport, handling and retail environments):** Spray 1 month before harvest, 2 weeks before harvest and 1 day before shipping. |
| Transplant propagation (e.g., seedlings, cuttings, sweet potato slips, tissue culture explants) | 0.25–6 | 40–100 | **Frost, drought, heat and salt stress:** Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods or harvest. |
| Cherry | 0.25–6 | 50–150 | **Frost during flowering:** Spray at start of flowering and repeat every 1-3 weeks through petal fall. |
| | 0.25–6 | 25–150 | **Anti-cracking:** Spray at color change from green to yellow and repeat 7–10 days later. |
| Small fruit (e.g., strawberry, raspberry, blueberry, elderberry, currant) | 0.25–6 | 20–150 | **Frost during flowering:** 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.<br>**Anti-cracking and improvement of post-harvest quality:** Begin spraying at early color development of the fruits and repeat 4 weeks before harvest.<br>**Heat and drought stress:** Apply every 1-3 weeks during hot months. |
| Hemp and hops | 0.25–4 | 20–100 | **Drought, heat and salt stress:** Spray every 2–3 weeks from transplant or appearance of first true leaves through stress periods or up to harvest.<br>**Abiotic stress at propagation and vegetative stages:** Spray stock plants 3-7 days before taking cuttings. Apply at transplant. Re-apply every 3-4 weeks. |
| Root, bulb and tuber crops (e.g., sugar beet, ginseng, carrot, cassava, sweet potato, garlic, onion) | 0.25–6 | 40–150 | **Heat and drought stress:** Apply every 2–3 weeks during hot months. |
| Potato | 0.25–2 | 40–50 | **Abiotic stress tolerance:** Spray at hook stage or walnut size and repeat 15 days later. |
| Field Crops including, but not limited to: Beans (dry and snap), corn (field and sweet), forage and pulse legumes, soybeans (commercial and seed), sunflowers, rice | 0.25–6 | 20–100 | **Frost, drought, heat and salt stress:** Spray every 1–3 weeks beginning at start of expected stress period through end of stress conditions.. |
| Tropical crops (e.g., acerola, avocado, banana, coffee, guava, mango, papaya, passion fruit, plantain, starfruit) | 0.25–6 | 40–150 | **Heat and drought:** Spray every 1–3 weeks from transplant or appearance of first true leaves through stress periods.<br>**Improvement of post-harvest quality:** Spray at the start of ripening and repeat 4 weeks prior to harvest. |



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