

LALFIX START

SPHERICAL PULSES

Multi-Crop Premium Spherical Granule for Pulses

For in-furrow application

This product has relatively high moisture content, which is necessary for bacterial survival.

READ ALL DIRECTIONS BEFORE USING THIS PRODUCT

Minimum Guaranteed Analysis

Active Ingredients:<1%w/w

7.5x10⁷ CFU/g *Rhizobium leguminosarum* biovar *viciae*

7.5x10⁷ CFU/g *Mesorhizobium ciceri*

5.0x10⁷ CFU/g *Bacillus velezensis*

Total Inert (Other) Ingredients: Carrier.....>99% w/w

How it works

The active ingredients in LALFIX® START Spherical Pulses are *Rhizobium leguminosarum* biovar *viciae*, *Mesorhizobium ciceri* and *Bacillus velezensis*. *Rhizobium leguminosarum* biovar *viciae* and *Mesorhizobium ciceri* are known to nodulate roots and fix atmospheric nitrogen in a symbiotic relationship with pulses including pea, lentil, faba bean and chickpea plants. LALFIX® START Spherical Pulses contains multiple selected strains of *Rhizobium leguminosarum* biovar *viciae* and *Mesorhizobium ciceri* for balanced performance in different environments. *Bacillus velezensis* is a plant growth-promoting rhizobacteria that stimulates root growth, enhances abiotic stress tolerance, and increases nutrient solubilization and water uptake, resulting in a better crop establishment and plant growth

Application Directions

- Follow equipment manufacturer's calibration methods.
- Calibrate in field at time of product use.
- Reference the chart below for specific row width and suggested application rates.
- Environmental conditions may affect calibration set points and overall granular flow ability. Check calibration regularly.
- Product bulk density: 31.5 lb per cu. ft. (0.505 kg per L).
- Ensure hopper tank, metering system and delivery hoses are clean from moisture, fertilizer and pesticide residue before calibration.
- Granules should be applied directly into the seed trench furrow with the seed.

Caution:

If planting for the first time (virgin soil) or if any of the other adverse conditions exist, such as high-pH soils (above 7.3), land re-entering production after Conservation Reserve Program (CRP), long rotations or crops grown in areas with marginal rainfall or arid climates, it is recommended to double-inoculate using seed-applied liquid or powder peat inoculants.

Row Width		Recommended Rate			Area Treated – acres (ha)	
in	cm	lb/ac	kg/ac	kg/ha	Bag	Tote
6	15	4.4	2.0	5.0	6.1 (2.5)	98 (39.65)
7	18	3.8	1.7	4.3	7.1 (2.9)	113.5 (45.9)
8	20	3.3	1.5	3.7	8.2 (3.3)	131 (53)
9	23	3.0	1.3	3.3	9.0 (3.6)	144 (58.25)
10	25	2.7	1.2	3.0	10.0 (4.0)	160 (64.75)
12	30	2.2	1.0	2.5	12.3 (5.0)	196.5 (79.5)

User Tips

- Fill granular compartment in field, just before use.
- Always use seeder tank filling screens to remove any granular clumps that may have formed during storage and transport.
- Do not place granules in the same compartment as seeds, pesticides or fertilizer.
- Check/clean metering mechanisms regularly for optimal product flow ability, especially under humid seeding conditions.
- Remove unused granules from the tank and metering system at end of each day's planting. Do not leave granular inoculant in seeder tank overnight.
- Applying granules at less-than-recommended rate may result in suboptimal particle distribution in the soil, resulting in decreased nodulation performance.
- Product performance may be reduced in soil with high nitrogen levels or when applied with high levels of nitrogen fertilizer.

Precautions

The active ingredients in LALFIX® START Spherical Pulses are naturally occurring *Rhizobium leguminosarum* biovar *viciae*, *Mesorhizobium ciceri* and *Bacillus velezensis* cells. Persons allergic to bacteria and immune-deficient individuals should avoid using this product. Avoid exposure through inhalation, or to open wounds and eyes. Standard protective clothing and equipment including gloves, safety goggles and a NIOSH (The National Institute for Occupational Safety and Health) or MSHA (the Mine Safety and Health Administration) approved respirator are recommended during handling and storage. Use this product in well-ventilated areas.

In case of contact with skin or eyes, immediately flush exposed areas with a continuous gentle stream of clean water. In case of inhalation, remove person to fresh air. In case of ingestion, do not induce vomiting but rinse mouth with water. Seek medical attention if discomfort or irritation develops. Medical treatment should be based on the judgment of the physician in response to reaction of the patient.

Storage and Handling Recommendations

The active ingredient in LALFIX® START Spherical Pulses are living microorganisms and require specific storage conditions to ensure viability and product performance.

- Do not double-stack totes or pallets.
- Store bags and totes in a cool (40-70°F / 5-20°C) dry location and out of direct sunlight.
- Do not store near direct heat sources (radiant heaters). This can lead to uneven moisture distribution.
- Do not freeze/thaw.
- Store bags and totes off the floor (use a pallet or shelving) and avoid prolonged direct contact with cold damp surfaces. Bags should be stored flat.
- Use this product before the expiration date.
- Open package only when ready to use. Once open, use the entire package.
- Do not store opened bags of LALFIX® START Spherical Pulses.
- Unused product should be disposed of in accordance with applicable federal, provincial, or state, and municipal laws and regulatory guidelines.
- Net contents may vary due to changes in moisture content during storage.

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.

LALFIX® START Spherical Pulses a registered trademark of Danstar Ferment AG / LALLEMAND PLANT CARE.

Rhizobium leguminosarum biovar *viciae* strains are selected from a collaboration between Danstar Ferment AG / Lallemand Plant Care and the Institut National de Recherche pour L'Agriculture, L'Alimentation et L'Environnement (INRAE).

Not a plant food product.

Not recommended for use as a fertilizer substitute.

Net Contents may vary due to changes in moisture content during storage.

Lot No.: see printing on bag

Production Date: see printing on bag

Guaranteed by:

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

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