

LALFIX START

SPHERICAL CHICKPEA

Three-Strain Premium Spherical Granule for Chickpea

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

1 x 10⁸ CFU/g *Mesorhizobium ciceri*

5 x 10⁷ CFU/g *Bacillus velezensis*

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

How It Works

The active ingredients in LALFIX[®] START Spherical Chickpea are *Mesorhizobium ciceri* and *Bacillus velezensis*. *Mesorhizobium* is known to nodulate chickpea roots and fix atmospheric nitrogen in a symbiotic relationship with plants. LALFIX[®] START Spherical Chickpea contains two selected strains of *Mesorhizobium ciceri* for balanced performance in different environments. *Bacillus velezensis* is a plant growth-promoting rhizobacteria that stimulates root growth, enhances 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. Application rate is 0.81 oz. (23 g) per 1,000 ft. (305 m) of row.
- 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.
- Application rates greater than recommended are not detrimental and increased application rates may be beneficial.

Caution:

If planting chickpea 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 increase the application rate per acre of the granules or double inoculate using seed applied liquid or powder peat inoculants.

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.

Row Width		Recommended Rate			Area Treated	
in	cm	lbs/ac	kg/ac	kg/ha	ac	ha
6	15	4.4	2	5	6.1	2.5
7	18	3.8	1.7	4.3	7.1	2.9
8	20	3.3	1.5	3.7	8.2	3.3
9	23	3.0	1.3	3.3	9.0	3.6
10	25	2.7	1.2	3.0	10.0	4.0
12	30	2.2	1.0	2.5	12.3	5.0

Area Treated for 27 lb bag

Precautions

The active ingredients in LALFIX[®] START Spherical Chickpea are naturally occurring *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 the reaction of the patient.

Storage and Handling Recommendations

The active ingredient in LALFIX[®] START Spherical Chickpea 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 Chickpea.
- 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 that this inoculant (the "Product") will contain the minimum number of live cells per millilitre/gram as specified on the Product label at the time the Product is first sold by Danstar. Danstar makes no warranty as to the Product's viability or performance since the storage, use and application of the Product and growing condition 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, express 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 or seeds treated with 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, requesting the Product to be applied to the seed, or use of seed to which the Product has been applied, whichever is earlier. The terms of this Limited Warranty may not be varied by any oral or written agreement. LALFIX[®] START Spherical Chickpea is a registered trademark of Danstar Ferment AG / LALLEMAND PLANT CARE.

Not a plant food product.
Not recommended for use as a fertilizer substitute.
Net contents: 27 lb (12.2 kg) OR 432 lb (195.95 kg)
Guaranteed by:
 Danstar Ferment AG / LALLEMAND PLANT CARE
 Poststrasse 30
 CH-6300 Zug, Switzerland

Marketed by and distributed by:
 Lallemand Inc. / LALLEMAND PLANT CARE
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LALLEMAND PLANT CARE