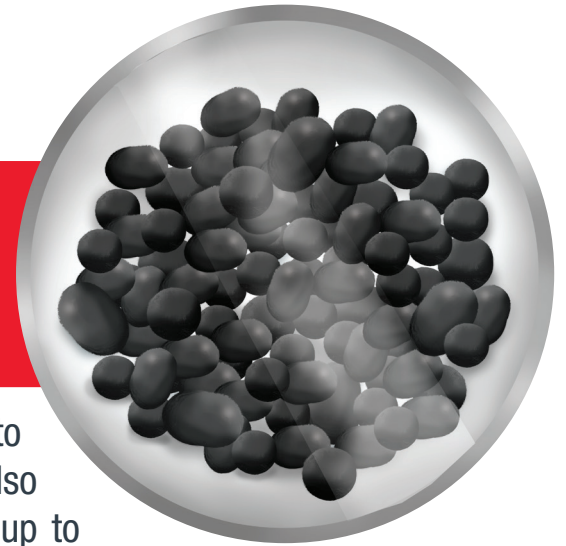


# LALFIX<sup>®</sup> SPHERICAL

## BEST MANAGEMENT PRACTICES FOR LALFIX<sup>®</sup> SPHERICAL AND LALFIX<sup>®</sup> START SPHERICAL GRANULES

At Lallemand Plant Care, we're proud of our commitment to producing high quality and easy to use inoculants. We are also dedicated to keeping our valued customers informed and up to date to assure that they have the best experiences with our products.



### BMP #1 Storage

Due to temperature fluctuations during storage and transportation, condensation may appear inside the bags of LALFIX SPHERICAL and LALFIX START SPHERICAL products. This generally doesn't cause a problem due to the custom engineered carrier of this product.

We recommend with the following storage conditions to minimize condensation and to preserve product efficacy during storage:

- Store bags and totes in a cool (5-20°C / 40-70°F), dry location and out of direct sunlight.
- Do not store near direct heat sources (radiant heaters) or expose product to freezing temperatures.
- Avoid direct storage of bags and totes on the floor (use a pallet or shelving), bags should be stored flat and should avoid prolonged direct contact with cold damp surfaces.
- Once open, use the entire package. Do not store opened bags.
- Product can be stacked to a maximum of two pallets high, when space permits, unstacked is preferred.
- Our granule pallets are narrower than standard pallets. Be mindful that forklift forks may stick out beyond granule pallet to avoid damage to other products.
- If repalletizing, use net wrap with a minimum 3 cm diameter of pores, avoid shrink wrap.

### BMP#2 Air Seeder Maintenance

- Our granule has a dark colour. In order to visualize the amount of granule left in the bottom of the tank you may wish to add fluorescent paint or tape that can be picked up by the cameras.
- Check tank seals on each compartment along with all metering components, for signs of cracks and wear. Replace cracked or worn parts. Fertilizer tends to have a detrimental effect on the longevity of these parts.
- Test for leaks while equipment is pressured; mist a solution of soap and water and check for bubbles or follow up with your dealer to conduct an air seal tank test with a meter. A loss of air pressure during seeding may result in poor product flow.

## BMP#3 Filling your air seeder tank

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- Ensure that tank walls are dry prior to the start of filling. Run fans at the beginning of each day as a precaution to dry any condensation that may have accumulated overnight.
- Place inoculant in designated inoculant tank or place in the smallest tank on the cart.
- When filling via tote or bag, the use of a belt conveyor is preferred. **If an auger is needed, run it at slowest speed and keep it full.**
- Fill with a maximum of 32 bags or 1 tote pending the size of the inoculant tank. In humid condition or at the start of each day we recommend reducing the volume.
- Minimize the transferring of granules down to one event.
- Check metering system regularly to ensure product flow. Check more often when seeding under high-humidity conditions or when seeding at night.
- Leave inoculant tank empty overnight. Crack the empty tank to have gas exchange. Do not freeze the product in tank.
- Keep extra bags cool, dry and out of direct sunlight.

## BMP#4 Correct Product Calibration

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- Check bulk density of granules on the bag so that you can properly follow the designated rate charts for your equipment. Note: LALFIX SPHERICAL and LALFIX START SPHERICAL granules are 31.5 lbs./cubic ft.
- When doing calibrations please test for the equivalent of one acre, this will help ensure accurate calibration.
- Use the metering settings on the rate charts only as a starting reference point. Assure that the proper rollers and cartridges are installed in your equipment. Conduct your fine-tune calibration 3 times for most accurate placement.
- If there is a big swing in calibration number, something isn't correct and should be redone.

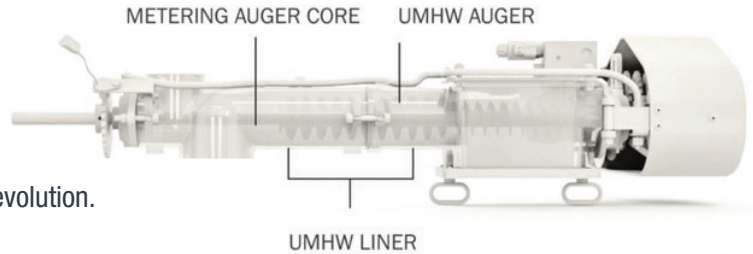
## BMP #5 Seeding and in Season

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- Ensure that the weigh scale is calibrated prior to use in spring.
- Before starting calibration ensure that the product has a calibration factor assigned.
- Prior to the beginning of seeding confirm that you have run a hydraulic meter flush to ensure that your equipment will accurately calibrate.
- Prior to calibration of product be sure to run the fans to clear out any moisture in the tank as this can cause issues with placement of any product.
- Confirm meter is primed prior to calibration.
- Take meter rolls out every few days and use a leaf blower or air compressor to blow the gates clean.

Below are metering guidelines for LALFIX SPHERICAL and LALFIX START SPHERICAL granule inoculants from leading air seeder manufacturers. For more details, contact your manufacturer or retailer.

## Bourgault 7000, 8000 and 9000 series



Source: Bourgault

- The calibration number for the low output auger for LALFIX SPHERICAL and LALFIX START SPHERICAL is 0.040 lb. per revolution.
- These units have the Positive Displacement.
- Metering PRO (PDM PRO) augers that have a UMHW flighting and UMHW lined housing. An ultra-low rate auger will be available in this configuration, allowing for low rates to be easily obtained.
- Note that the Pulse Width Modulation (PWM) should be set at a minimum value of 15% and maximum value of 95%, the slower the PWM the slower the meter runs.
- If you try to calibrate PWM and it cannot achieve the target calibration rate, it will alarm you to make an adjustment (typically change range sprockets) and then calibrate again (see operations manual for more information).
- The equipment will store the calibration and if you aren't out by more than 10% on your second calibration then you can proceed with seeding.

## Case

- Use the orange roller for optimal inoculant placement.
- Use the Narrow extra fine cartridge to ensure that you are getting best placement of product.

### CONFIGURATIONS TO UNLOCK THE POTENTIAL OF ALMOST ANY CROP.

CARTRIDGE	NARROW (WHITE)		HALF WIDTH (RED)		FULL WIDTH (BLACK)
METER ROLLER	COARSE (BLACK)	FINE (ORANGE)	MEDIUM (PINK)	COARSE (BLACK)	COARSE (BLACK)
CARTRIDGE RATE RANGE <sup>(1)</sup>	2.3–13 Kg/Ha (2–12 Lb./Ac)	2.8–11 Kg/Ha (2.5–10 Lb./Ac)	17–90 Kg/Ha (15–80 Lb./Ac)	56–224 Kg/Ha (50–200 Lb./Ac)	135–448 Kg/Ha (120–400 Lb./Ac)
Fertilizer	Not Recommended	Not Recommended	Recommended	Recommended <sup>(2)</sup>	Recommended <sup>(2)</sup>
Alfalfa	Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Barley	Not Recommended	Not Recommended	Not Recommended	Optional	Recommended
Canaryseed	Not Recommended	Not Recommended	Optional	Recommended	Not Recommended
Canola	Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Durum	Not Recommended	Not Recommended	Not Recommended	Optional	Recommended
Flax	Not Recommended	Not Recommended	Optional	Recommended	Not Recommended
Inoculant	Optional	Recommended	Not Recommended	Not Recommended	Not Recommended
Large Beans	Not Recommended	Not Recommended	Not Recommended	Optional	Recommended <sup>(2)(3)</sup>
Lentils	Not Recommended	Not Recommended	Not Recommended	Recommended	Not Recommended
Mustard	Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Oats	Not Recommended	Not Recommended	Not Recommended	Optional	Recommended <sup>(2)</sup>
Peas	Not Recommended	Not Recommended	Not Recommended	Recommended <sup>(2)(3)</sup>	Optional
Rye	Not Recommended	Not Recommended	Not Recommended	Recommended	Optional
Sorghum (Milo)	Recommended	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Soybeans	Not Recommended	Not Recommended	Not Recommended	Recommended	Not Recommended
Wheat	Not Recommended	Not Recommended	Not Recommended	Recommended	Optional

<sup>1</sup> Cartridge rates listed apply for ground speeds from 4 mph to 5.5 mph. Actual application rates may vary depending on several factors, including but not limited to: product bulk density, particle size, seed treatment, moisture content, humidity, air pack configuration, row spacing and ground speed.

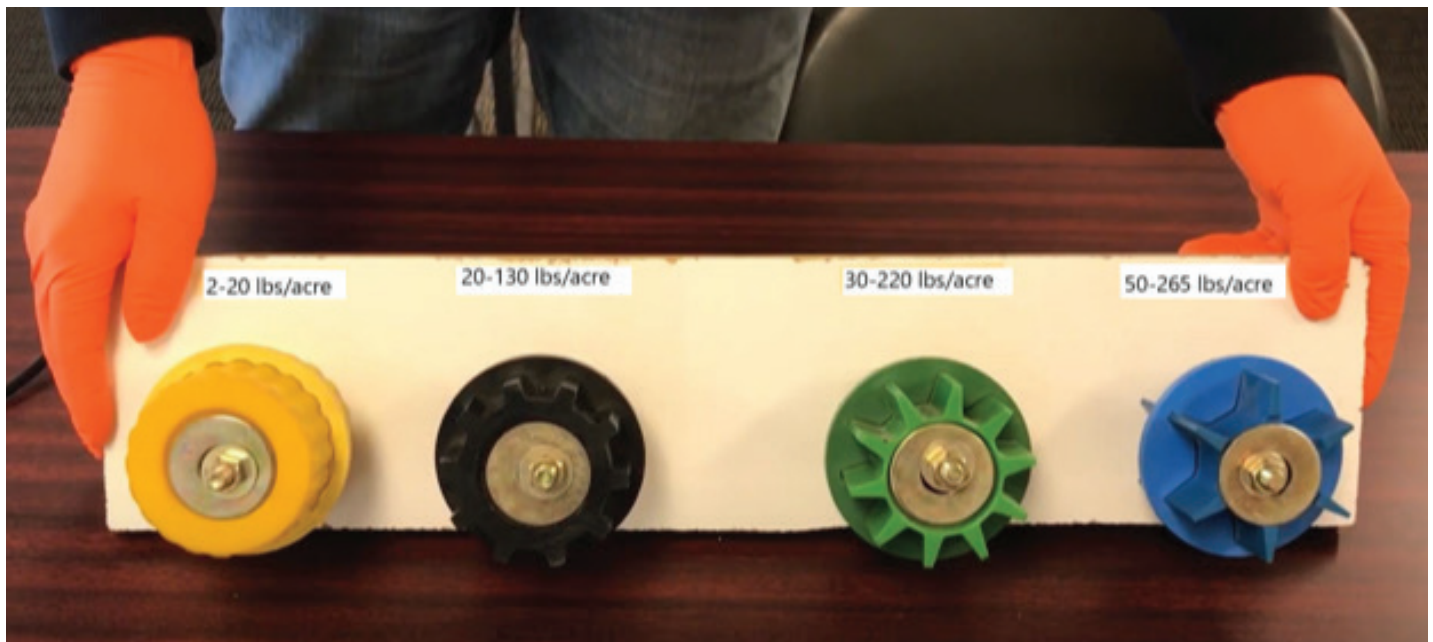
<sup>2</sup> A full-width cartridge is recommended for products having a larger particle size or those prone to bridging or seed flow issues.

<sup>3</sup> For products with kernel diameter larger than 10 mm (3/8"), meter rollers may need to be adapted according to the meter roller trimming procedure for large products.

Source: Case

## John Deere

- Prior to the beginning of seeding confirm that you have run a hydraulic meter flush to ensure that your equipment will accurately calibrate (for more information see your John Deere Manual).
- Meter rollers should be taken apart every year to confirm that everything is in working order prior to seeding.
- The low-rate yellow meter roller rotates more continuously, minimizing pulsing effects for better metering at low rates. Use this roller for LALFIX SPHERICAL and LALFIX START SPHERICAL granules.
- Install calibration bag and confirm that you charge the meter prior to calibration.
- Take meter rolls out every few days and use a leaf blower or air compressor to blow the gates clean.



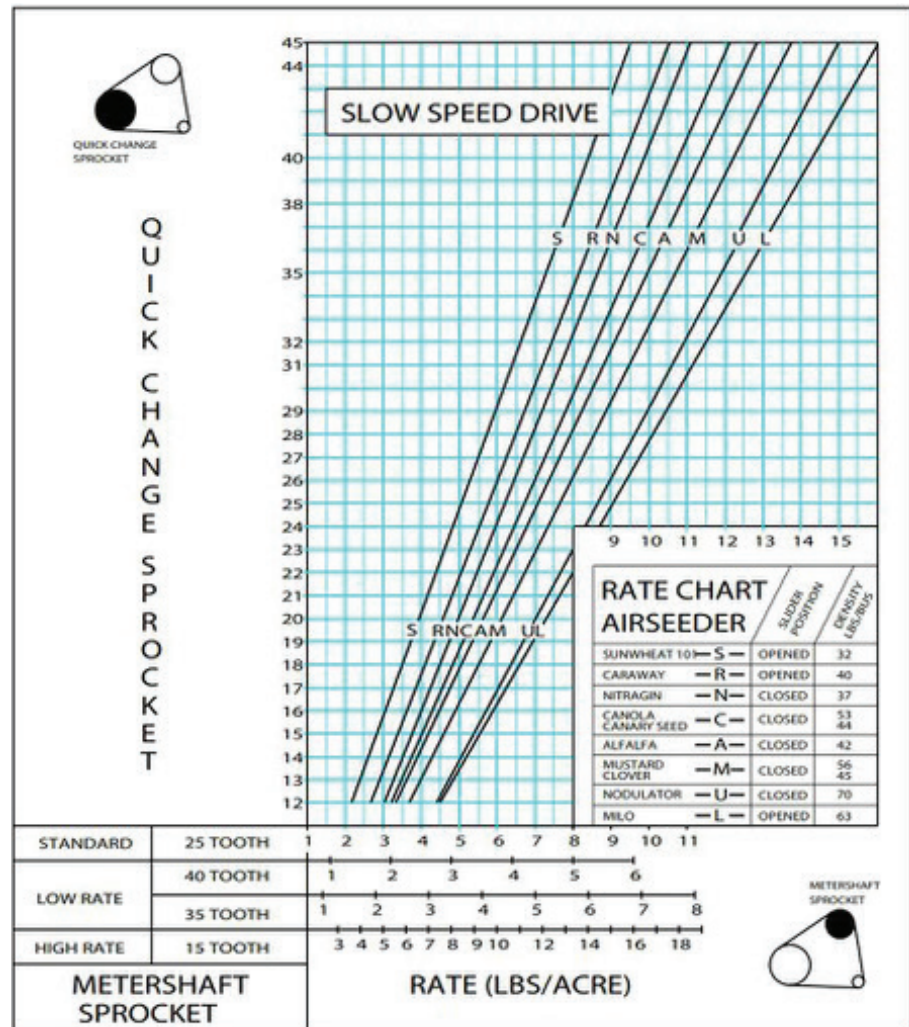
Source: Gooseneck Implements

## New Holland

- Use the fine roller for LALFIX SPHERICAL and LALFIX START SPHERICAL granules (granular inoculant roller with more surface area allowing for accurate placement in the field).
- Prior to calibration of product be sure to run the fans to clear out any moisture in the tank as this can cause issues with placement of any product.
- The use of the auger or conveyor on the cart is permitted for the use of LALFIX SPHERICAL and LALFIX START SPHERICAL when loading the cart.

## Morris

- Morris equipment utilizes a seed plate system that changes the clearance distance between the seed plate and the metering wheel. We currently recommend a medium seed plate or setting to prevent grinding damage to the inoculant pearls. After the seed plate setting is complete, Morris customers go through a stationary calibration process to arrive at a stable repeatable rate.
- Assure you have the proper seed plate and sprocket.
- Adjust the transmissions by moving the locking pin from direct drive to slow speed drive make sure the tractor is not running while removing pins.
- Slide sample tray into place before calibrating (due to the fact we are similar to caraway use this setting instead of inoculant and leave the gate open).
- Before starting calibration ensure that the product has a cal factor assigned.



Morris 9 Series Calibration Chart

## SeedMaster

- Consult the SeedMaster app regarding calibration numbers – select the desired product as well as width of drill to better help with finding the suitable rate per revolution.
- When using the UPII – consider your inoculant like canola specifications for better start up success.
- When using a Nova Cart use the smallest center tank to get the most accurate placement; to reduce the possibility of causing a popcorn effect in the tank.

## Väderstad - Seed Hawk

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- Follow safe handling and storage and only fill the tank with a maximum of a half days product.
- Prior to calibration you can pull out each one of your motors to check motors are working.
- Check cartridges and make sure proper ones are selected (light blue cartridge for low rate / low use products like inoculant).
- Seedhawk iCon drill does two types of calibration: on the fly or static. Static calibration should be done for high value and low application rate products i.e canola and inoculant.
- You can hit lock motors button on your iPad so that you don't have to hold the motors on during calibration.
- Consult product lookaheads. These are the difference between the engage and disengage times of the equipment. They help make sure that there is not too much overlap in the headlands.
- The iCon system allows the user to customize lookahead values. User may set unique lookahead values for the openers and each of the product tanks.
- Once calibration is complete, make sure to add LALFIX SPHERICAL and LALFIX START SPHERICAL properly into the iCon interface.

There are many good resources at your local dealer and manufacturer, also YouTube can be a good place to gain more calibration information.

If you have additional questions, please contact your local Lallemand Plant Care representative or call our customer service center at 1-888-236-7378.