INOCULANTS

Give your crop a stronger start with quality inoculant. Applying the right inoculant to your seed or soil will improve root nodule formation, nitrogen fixation and reduce pests & disease, all leading to better yields.

Your local CAM can help you decide on the right inoculant for your seed treatment, soil condition and preferred application method.

Photo courtesy Lallemand Plant Care

SEED TREATMENT & INOCULANT COMPATIBILITY

	BASF Nodulator® DUO Solid Core Granular	BASF Nodulator® XL Liquid			BASF Nodulator® XL Peat		TagTeam® BioniQ® Granular	TagTeam® LCO Granular		TagTeam® Liquid			TagTeam® Peat			LalFix® Spherical Pea & Lentil*	LalFix® Peat Pea & Lentil*	LalFix® Liquid Pea & Lentil*
		Tank Mix[1] time on Seed	Simultaneous	Sequential	Simultaneous	Sequential				Tank Mix time on Seed	Simultaneous	Sequential	Tank Mix time on Seed	Simultaneous	Sequential			
Syngenta Vibrance® Maxx	Nodulator® DUO Solid Core Granular is compatible with all pesticide treated seed in furrow.	4 hours	2 hours	2 hours	24 hours	24 hours	TagTeam® BioniQ® Granular is compatible with all pesticide-treated seed in furrow.	TagTeam® LCO Granular is compatible with all pesticide treated seed in furrow.		Not recommended	48 hours for pea, 24 hours for lentil	48 hours for pea, 24 hours for lentil	48 hours for pea, not recommended for lentil	48 hours	48 hours	Compatible	48 Hours	Not yet tested
Bayer Trilex® EverGol®		Not recommended	2 hours	1 hour for pea, 2 hours for lentil	2 hours for pea, 4 hours for lentil	4 hours				Not recommended	Not recommended	Not recommended	48 hours	48 hours	48 hours	Compatible	48 Hours	48 Hours
Bayer Trilex® EverGol® SHIELD		Not recommended	Not recommended	Not recommended	2 hours	4 hours				Not recommended	Not recommended	Not recommended	Not recommended	24 hours for pea, 48 hours for lentil	24 hours for pea, 48 hours for lentil	Compatible	48 Hours	48 Hours
BASF Insure® Pulse		Not recommended	Not recommended	Not recommended	Not recommended	2 hours				Not recommended	Not recommended	Not recommended	Not recommended	Not recommended	Not recommended	Compatible	48 Hours	Not recommended
Syngenta Vibrance® Maxx with Intego®		4 hours	2 hours	2 hours	24 hours	24 hours				Not recommended	Not recommended	Not recommended	48 hours for pea, not recommended for lentil	48 hours	48 hours	Compatible	48 Hours	Not yet tested
Syngenta Vibrance® Maxx RFC		Not available	6 hours	4 hours	24 hours	24 hours				Not recommended	48 hours	48 hours	48 hours	48 hours	48 hours	Compatible	48 Hours	Not yet tested
Syngenta Cruiser Maxx® Vibrance® Pulses		Not recommended	Marginal	Not recommended	6 hours	6 hours				Not recommended	48 hours	48 hours				Compatible	48 Hours	24 Hours

TANK MIX
The inoculant is mixed with the seed treatment in a single tank and applied as one solution or suspension using the same applicator. The inoculant and seed treatment can be tank mixed for a period of time before application to the seed.

SIMULTANEOUS (WET SEQUENTIAL)
The inoculant and seed treatment are applied at the same time, from separate tanks. They must be applied by separate applicators to be defined as a simultaneous or wet sequential application.

DRY SEQUENTIAL
One product is applied first and allowed to dry, before the second product is applied. This can be a seed treatment followed by an inoculant or inoculant followed by a seed treatment. Drying time will vary based on formulation, relative air humidity and other factors. A minimum 30 minutes is typical, but it may take up to a day.

1 These on-seed shelf life recommendations are based on a maximum of four - hour tank-mix period. Always read and follow label directions. All trademarks are the property of their respective owners.

*Seeds were treated with chemical products at rates according to the manufacturer's recommendation as a dry sequential application and were stored at 4°C. Always read and follow label directions. All trademarks are the property of their respective owners.

LALLEMAND LALFIX START

Lallemand brings a new kind of inoculant to the table for peas and lentils. LALFIX® Start for Peas, Lentils & Faba is a high quality dual-action, in-furrow spherical inoculant with 7.5 x 10^7 viable *Rhizobium leguminosarum* biovar *viciae* cells per gram.

LALFIX® Start for Peas, Lentils & Faba brings a number of enhancements over traditional granular inoculants:

- Technologically advanced spherical granule
- Provides accurate inoculant placement while increasing granule durability and Rhizobia survival
- Low dust partition allows for even application
- Selected Rhizobium leguminosarum strains enables the plants to start fixing nitrogen earlier and more efficiently
- Better crop establishment and enhanced yields

LALFIX® START SPHERICAL PEA & LENTIL
LALFIX® SPHERICAL PEA - FABA - LENTIL

Row Width		Recommended Rate (granular)			Area treated - acres (ha)	
in	cm	lbs/ac	kg/ac	kg/ha	Bag	Tote
6	15	4.4	2	5	6.1 (2.5)	196 (79.3)
7	18	3.8	1.7	4.3	7.1 (2.9)	227 (91.8)
8	20	3.3	1.5	3.7	8.2 (3.3)	262 (106)
9	23	3	1.4	3.3	9.0 (3.6)	288 (116.5)
10	25	2.7	1.2	3	10.0 (4.0)	320 (129.5)
12	30	2.2	1	2.5	12.3 (5.0)	393 (159)

Data provided by Lallemand

LALFIX® START SPHERICAL PEA & LENTIL

is a high quality, dual-strain sterile peat powder inoculant that contains a select peat carrier that aids in the adhesion of the inoculant to the seed. This product can be applied on the seed through a variety of application methods that suit the grower's requirements.

27 lbs (12.2 kg)	432 lbs (196 kg)
Application Rate: In Furrow	Application Rate: In Furrow
0.81 oz per 1,000 feet of row	0.81 oz per 1,000 feet of row
10" row spacing = 2.7 lbs/ac (1 bag treats 10 acres)	10" row spacing = 2.7 lbs/ac (1 tote treats 160 acres)

LALFIX® SPHERICAL PEA - FABA - LENTIL

contains two strains of Rhizobium leguminosarum biovar viciae selected for enhanced performance and competitiveness in pea, lentil, and faba bean production. These two strains are known to nodulate pea, lentil, and faba bean roots and fix atmospheric nitrogen in a symbiotic relationship with the plant.

BASF We create chemistry Nodulator® Inoculant

BASF continues to provide inoculants and biologicals backed by research, development and innovative technologies that benefit growers by improving nodulation, nitrogen-fixation, root vigor, nutrient uptake and yield potential.

NODULATOR XL LIQUID

Application Rates – Light formulation:

- One case contains 3 x 7.5L bladders
- One case will treat 300 bushels of seed.

On-Seed Liquid Application

Flow Valve Setting	Inoculant Flow Rate (liquid)		Seed/Auger Flow Rate	
	mL/min	fl. oz./min	kg/min	lbs (bu)/min
1	360	12	131	289 (5)
2	860	29	313	690 (11)
3	1340	45	487	1074 (18)
4	1660	56	604	1332 (22)
5	1780	60	647	1426 (24)
6	2030	68	738	1627 (30)

Data provided by BASF Canada Inc.

In-Furrow Liquid Application

Row Spacing		Application Rate		Area Treated per Case	
cm	in	L/ha	L/ac	ha	ac
15.2	6	6.5	2.6	1.2	2.9
17.8	7	5.5	2.2	1.4	3.3
20.3	8	4.9	2	1.5	3.8
22.9	9	4.3	1.7	1.7	4.3
25.4	10	3.9	1.6	1.9	4.8
27.9	11	3.5	1.4	2.1	5.2
30.5	12	3.2	1.3	2.3	5.7

BASF We create chemistry Nodulator® Inoculant

NODULATOR XL PEAT

Application Rates – Sterile peat formulation:

- One case contains 3 x 1.2 kg packages
- One case will treat 110 bushels of seed
- The standard rate of application is 1.2 kg per 600 kg of seed

On-Seed Peat Application

Application Method	Recommendations
Slurry	Add complete pack contents to approximately 2 litres of clean, dechlorinated water and stir well in a clean container to form a lump-free slurry. Not allowing slurry to settle out, pour onto the seed and mix thoroughly to ensure the seeds are evenly coated. Allow seed to dry before further handling.
Damp	Apply just enough water to slightly dampen seed (2 mL/kg). Mix the damp seed thoroughly with the inoculant so that they are evenly coated.
Dry	Pour the correct amount of inoculant onto thin layers of seed in the drill hopper and mix thoroughly to evenly coat seed. For bulk seed handling systems, the inoculant can be metered directly onto augured seed.

Data provided by BASF Canada Inc.

BASF We create chemistry Nodulator® Inoculant

NODULATOR DUO SCG

Application Rates – Solid Core Granule Formulation:

- One bag will treat 10.6 acres (7" rows) to 18.5 acres (12" rows)
- One Q-Pak will treat 170 acres (7" rows) to 18.5 acres (12" rows)
- Apply granular inoculant at a rate of 28.5 g/1,000 linear row feet

In-Furrow Granular Application

Row Spacing		Application Rate		Area Treated per Bag	
cm	in	kg/ha	lb/ac	ha	ac
15.2	6	6.2	5.6	3.7	8.9
17.8	7	5.3	4.7	4.3	10.6
20.3	8	4.6	4.1	4.9	12.2
22.9	9	4	3.6	5.7	13.9
25.4	10	3.7	3.3	6.1	15.2
27.9	11	3.4	3	6.7	16.7
30.5	12	3	2.7	7.6	18.5

Data provided by BASF Canada Inc.