

Nodulaid®

Inoculant

Nodulator®

Inoculant Granules



Now made here, for here.

Winter crop inoculants guide

Totally
[Biological]
by **BASF**

■ - BASF

We create chemistry

Fix all your nitrogen needs

The totally biological nitrogen fixation provided by inoculants makes a major contribution to the size of yields in multiple crops at very low cost.



This diagram shows the result of a CSIRO/GRDC trial that increased nitrogen fixation by 700%. The benefit of using inoculants can vary widely, depending on the existing levels of rhizobia in the soil.

Why use an inoculant?

Of all farming inputs, inoculants surely provide the best value for money. For just a few dollars per hectare, they can provide substantial yield gains and residual nitrogen worth hundreds of dollars per hectare.

Why choose the BASF range?

BASF inoculants are manufactured to the highest standards and tested throughout the production process to eliminate all risk of contamination and ensure they exceed the industry standard for levels of active rhizobia.

Save your share of \$4 billion a year

The Australian Inoculants Research Group estimates that past and present use of inoculants saves Australian farmers about \$4 billion every year.

That's the difference between allowing nodulation to fix atmospheric nitrogen in the soil biologically and having to buy and apply the equivalent amount of nitrogen fertiliser.

It's totally logical that you should claim your share of those savings by inoculating your pulse crops too.



Field peas

- Use **Group E** (New Acid Tolerant Strain: WSM-4643) in Nodulaid or Nodulator, or combined strain Group E/F (WSM-1455) in Nodulator.
- Because of low Group E rhizobia survival rates in acid soils and over hot summers, fresh inoculation is recommended for each sowing.
- 8 weeks after sowing each plant in heavy soils should have about 100 pink nodules. In lighter soils, 20 nodules are satisfactory.



Lentils

- Use **Group E** (New Acid Tolerant Strain: WSM-4643) in Nodulaid or Nodulator, or combined strain Group E/F (WSM-1455) in Nodulator.
- 8 weeks after sowing each plant in heavy soils should have about 100 pink nodules. In lighter soils, 20 nodules are satisfactory.



Vetch

- Use **Group E** (New Acid Tolerant Strain: WSM-4643) in Nodulaid or Nodulator, or combined strain Group E/F (WSM-1455) in Nodulator.
- Nodulaid applied to the seed remains the most commonly used method of inoculation for Vetch. Some inoculant is also applied as granular formulation. Seed can be coated with Nodulaid as a slurry just prior to planting or during transfer (augering). Alternatively, Nodulaid can be applied in-furrow when planting using a liquid-injection system. Nodulator inoculant can be dispensed into the seed row with the seed at planting.
- More than 50 pink nodules per plant is considered satisfactory after eight to 10 weeks plant growth on most soil types.



Chickpeas

- Use **Group N** Nodulaid® or Nodulator®.
- Low rhizobia levels in paddocks without a long history of chickpea plantings mean most chickpea crops will show a strong yield response to nodulation.
- 8 weeks after sowing each plant should have between 10 and 30 pink nodules.



Annual Clovers

- Use **Group C** Nodulator.
- Some annual clover species, notably gland, bladder and arrowleaf clovers, are less compatible with naturalised soil rhizobia and inoculation is considered essential to ensure adequate establishment. High numbers of rhizobia on sown seed will compete with soil rhizobia at sowing but potency will diminish after several seasons.
- More than 50 pink nodules per plant after eight weeks growth indicates good nodulation of sub clover.



Faba Bean

- Use **Group F** (New Acid Tolerant Strain: SRDI-969) in Nodulaid or Nodulator, or combined strain Group E/F (WSM-1455) in Nodulator.
- The new strain (SRDI-969) can provide optimal nodulation down to pHCa 5.0 and improved nodulation to pHCa 4.5.
- More than 50 pink nodules per plant is considered satisfactory after eight to 10 weeks plant growth on most soil types.



Serradella (Yellow, pink, hybrid, slender and birdsfoot)

- Use **Group G** Nodulaid or Nodulator.
- Inoculation of serradella is mostly done with the application of a slurry of peat. Where podded serradella is being inoculated, adjustments to liquid volumes are required to ensure even distribution and survival of inoculant. Please follow label instructions carefully. Granular inoculant in furrow can also be used.
- Serradella rhizobia are naturally acid tolerant. Lime pelleting of serradella is recommended in all states except WA.
- For serradella more than 20 pink nodules per plant is satisfactory after eight to 10 weeks plant growth.



Lupins

- Use **Group G** Nodulaid or Nodulator.
- Inoculation of each fresh lupin crop in sandy soils is recommended, especially if the most recent lupin crop in that paddock was more than 4 years earlier.
- 8 weeks after sowing, the crown of each plant (the top of the root system) should be covered in nodules.

Recommended nodule counts based on GRDC guidelines.



Superior mixability

10 seconds after the inoculants were added to the beakers and even before stirring, the premium peat used as the base for Nodulaid is already widely dispersed whereas the competitor still sits in a clump on the surface.

Application methods

Nodulaid

Each pack of Nodulaid will treat:

- 250 kgs of lentil seed
- 500 kgs of other winter pulse crop seeds

One full pack will mix readily in 5 litres of clean water to produce a slurry which is easy to apply as a seed treatment or can be injected into the seed row at planting.

All rhizobia strains have been thoroughly tested to be paired with the specific crop in which they are most effective with.

Seed treatment

Apply the peat slurry directly to the seed via a clean cement mixer or similar vessel.

OR

Apply the peat slurry as an in-line spray onto the seed as it is transferred via the grain auger.

Liquid injection

Apply by suspending the peat in a calico bag.

OR

Apply directly into the liquid injection tank.

Sow as soon as possible after treatment and always within 24 hours.

Nodulator

Each bag of Nodulator granules will treat 4–9 hectares depending on the sowing rate. The fact sheet (downloadable from the website) includes a table for adjusting the application rate according to the row spacing.

The granules should be delivered into the seed row at sowing using the small seeds box of an airseeder.



To find out more on sowing rate, scan the QR code to download Nodulator fact sheet

Two totally biological choices



Nodulaid potent peat-based inoculant

Australia's best-known peat inoculant, with the longest history of achievement and regular innovations.

- ✓ Incorporating targeted AIRG-supplied rhizobia strains cultured and re-tested in our own local laboratory.
- ✓ Average yield gain across five pulse crops in 11 replicated trials of 7%.
- ✓ Potent formulation manufactured with over one billion live rhizobia cells per gram.
- ✓ High quality peat mixes easily with water, saving valuable time at application.

Nodulator granular legume inoculant

Nodulator granules combine potency with precise application to help maximise nodulation, crop yields and the amount of residual nitrogen available to the following crop.

- ✓ Smooth, evenly sized granules provide superior flow, more accurate metering and even distribution in the planting furrow.
- ✓ Application into the furrow reduces compatibility issues and protects the live organisms from hot or dry surface conditions and chemical treatment.
- ✓ At least 6 weeks' inoculant life in the soil allows early dry sowing ahead of rain.
- ✓ Lower rates for wider rows mean extra convenience and cost-effectiveness.

Nodulaid[®]
Inoculant

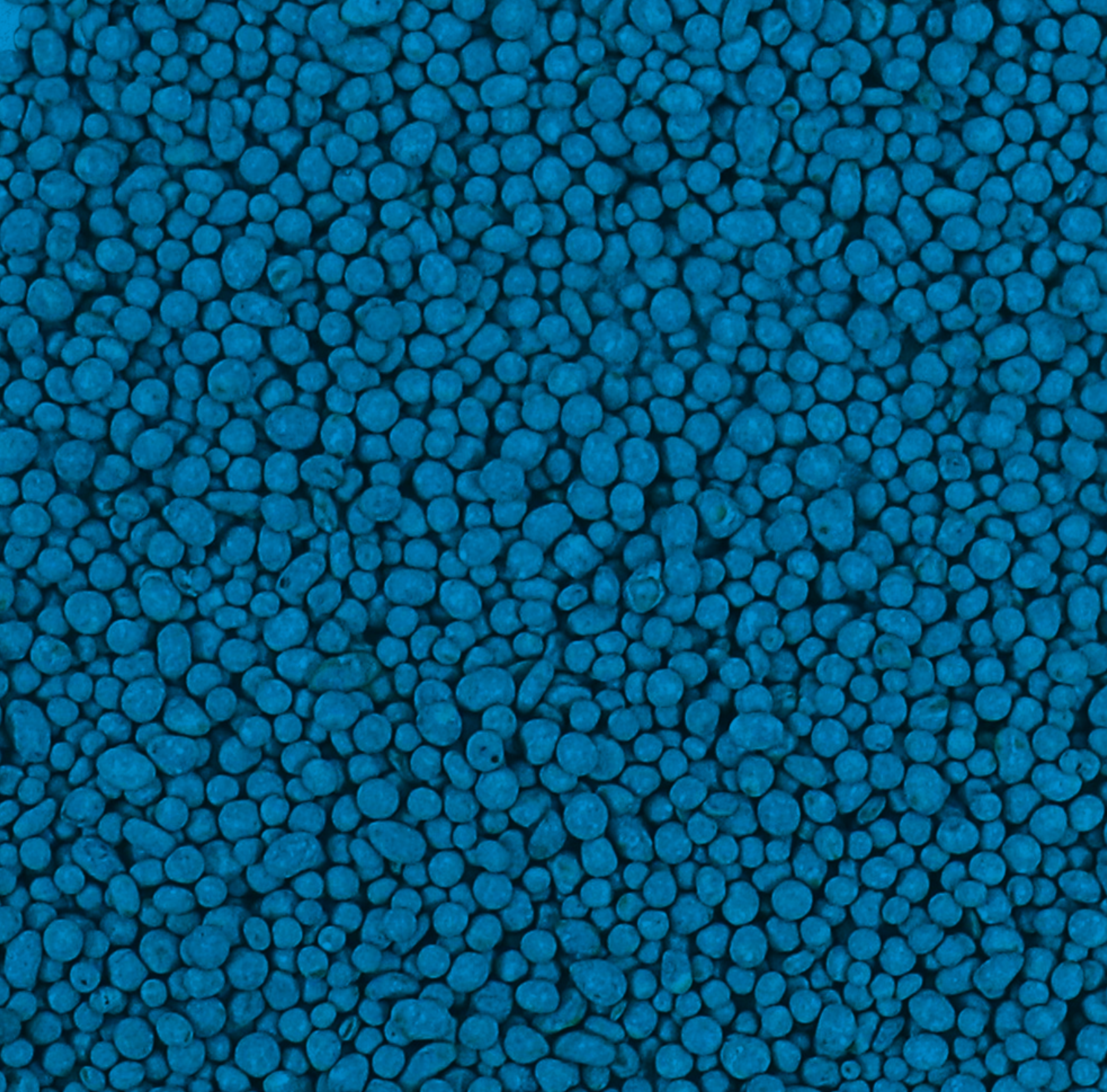
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BASF inoculants for winter grain legumes

Group (strain)	Crop/Pasture	Nodulaid Inoculant	Nodulator Inoculant Granules <small>*Please refer to Row Spacing table on back for amount required</small>
C	All Subterranean, Crimson, Rose, Cupped & Helmet Clovers. Arrowleaf, Balansa, Purple and Persian Clover	Unavailable	✓
E (WSM-4643, Acid Soil Tolerance Strain)	Lentil, Field Pea and Vetch Seeds	✓	✓
F (SRDI-969, Acid Tolerant Strain)	Faba Bean and Broad Bean	✓	✓ (made to order only)
E/F (WSM-1455 Strain)	Lentil, Split Pea, Field Pea, Vetch, Faba Bean, Broad Bean	Unavailable	✓
G	Lupin Seed and Serradella Pods. Yellow, Pink, Hybrid and Slender Serradella Seeds	✓	✓
N	Chickpea	✓	✓

Store in a cool, dry place.



For more information,
visit crop-solutions.basf.com.au
or call 1800 558 399

This brochure is intended as general advice. The information submitted in this publication is based on current BASF knowledge and experience. In view of the many factors that may affect its application, this data does not relieve the user from carrying out their own tests. The data does not imply assurance of certain properties or of suitability for a specific purpose. It is the responsibility of the user to ensure that any proprietary rights and existing laws and legislation are observed.

 **BASF**
We create chemistry

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