TagTeam®

MultiAction Legume Nutrition

Biologicals

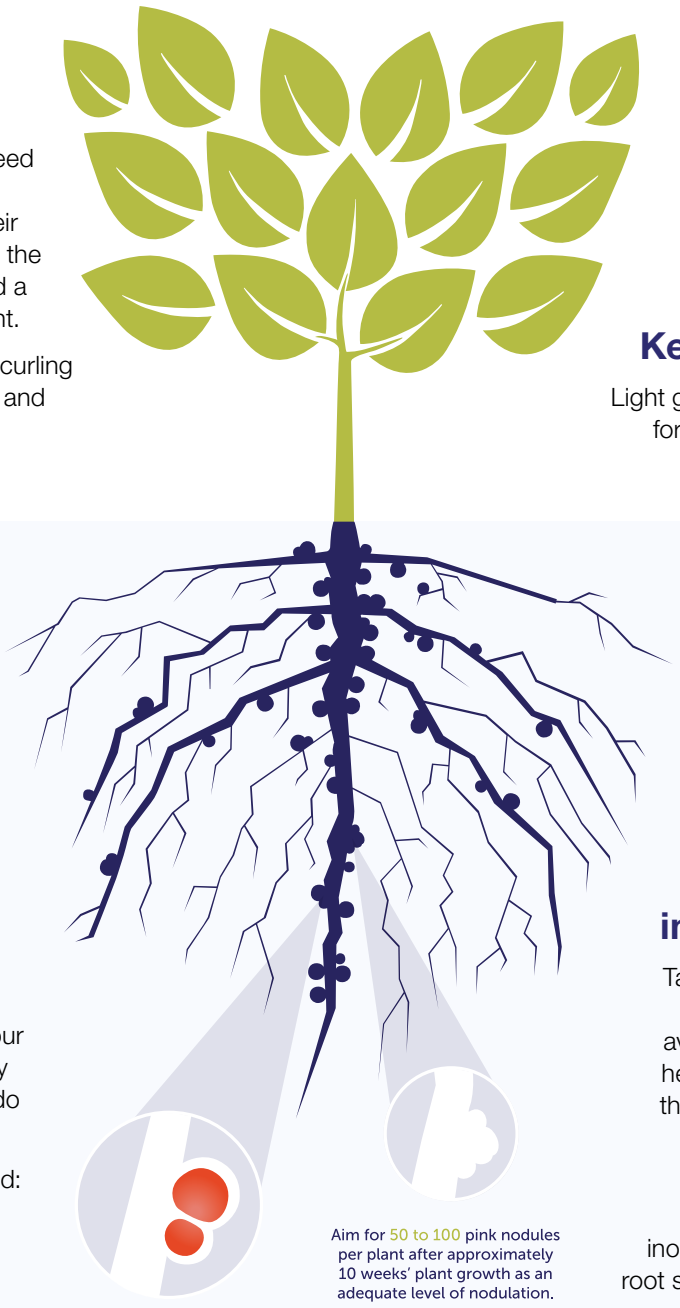
What are nodules?

Nodules are masses that form on the roots of plants that associate with symbiotic, nitrogen-fixing bacteria, like *Rhizobium leguminosarum*, to convert atmospheric nitrogen into a form the plant can use.

How do nodules form?

Nodulation occurs when plants need additional nitrogen. Plants send flavonoids into the soil through their root systems. Rhizobia bacteria in the soil sense the flavonoids and send a signal called LCO back to the plant.

The plant responds with root hair curling where the rhizobia enter the plant and nodules are formed around them.



Aim for 50 to 100 pink nodules per plant after approximately 10 weeks' plant growth as an adequate level of nodulation.

Keep an eye out for

Light green and/or stunted growth for potential nodulation issues.

When do nodules form?

Nodule formation on plant roots can happen shortly after emergence. Nodules will continue to form and the amount of nitrogen fixed will continue to increase up until podding.

How do I know if I have nodules?

The only verifiable way to see if your crops are getting the nitrogen they need, and forming nodules, is to do a root dig.

Nodule colour should be inspected:

- Red/pink nodules are actively fixing nitrogen
- Brown/green/white nodules do not fix nitrogen for the plant

How can I increase nodules?

TagTeam products help make nutrients in the soil more available to crops, resulting in healthier plants that can meet their maximum yield potential.

TagTeam® combines the *Penicillium bilaiae* and a *Rhizobium leguminosarum* inoculant to develop a stronger root system and a healthier plant.

Source: [1] https://grdc.com.au/tt-nitrogen-fixation-in-field-pea

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