



Technical Data Sheet

Nodu™ Rhizobial Inoculant

Region-matched rhizobial inoculant for nitrogen fixation

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Target crops	Peanut, soybean, common bean, cowpea, pigeon pea, mung bean, black gram and alfalfa

Developed and supplied by Huasheng Bio Limited.

1 Product Identification

Field	Detail
Product name	Nodu™ Rhizobial Inoculant
Category	Crop-specific rhizobial inoculant (biofertilizer) for biological nitrogen fixation — one formulation per legume.
Supplier	Huasheng Bio Limited.
Target crops	Peanut, soybean, common bean, cowpea, pigeon pea, mung bean, black gram and alfalfa.
Registration	China Ministry of Agriculture and Rural Affairs — microbial inoculant registration No. 16340 (2026). Per-crop SKUs are supplied under the Nodu™ line; destination-market registration is confirmed per country.
Regulatory class	Biological soil inoculant / biofertilizer (Risk Group 1). Non-GMO.

This data sheet gives the product specifications. For the technology overview, mechanism and evidence summary, see the Nodu™ Technology Profile.

2 Mode of Action

Legumes fix atmospheric nitrogen only in partnership with compatible rhizobia, which colonise the root and form nitrogen-fixing nodules. This partnership is host-specific: the rhizobial partner that nodulates one legume may do nothing for another. Where the specific partner is absent (for example soybean on new ground) or where the native population fixes poorly, the crop under-fixes even when it looks nodulated.

Nodu™ delivers elite Bradyrhizobium / Rhizobium inoculants that establish a strong, early and persistent nitrogen-fixing symbiosis — one formulation per legume — each strain selected against four criteria and confirmed against the region's native populations before release:

- **Infective** — forms nodules reliably on the target host;
- **Effective** — fixes nitrogen at a high rate (pink, active nodules);
- **Competitive** — wins nodule sites against the rhizobia already in the soil;
- **Persistent** — survives on the seed / in the furrow and establishes at sowing.

How Nodu fits the program: Nodu supplies the nitrogen-fixer; Orvan™ amplifies nodulation and suppresses aflatoxin; Vigor™ builds roots and solubilizes phosphorus. The three co-apply at sowing and are complementary.

3 Rhizobial Partner by Crop

Because the effective rhizobial partner differs by legume, Nodu™ ships as one crop-specific SKU per legume:

Crop	Rhizobial partner	SKU
Peanut	Bradyrhizobium (Arachis group)	Nodu™ GN
Soybean	Bradyrhizobium japonicum / diazoefficiens	Nodu™ SY
Common bean	Rhizobium tropici / etli / phaseoli	Nodu™ CB
Cowpea	Bradyrhizobium (cowpea / Vigna group)	Nodu™ CP
Pigeon pea	Bradyrhizobium (Cajanus group)	Nodu™ PP

Mung bean	Bradyrhizobium (Vigna group)	Nodu™ MB
Black gram	Bradyrhizobium (Vigna group)	Nodu™ BG
Alfalfa	Sinorhizobium (Ensifer) meliloti	Nodu™ ALF

4 Formulation Portfolio

All formulations deliver the crop-matched rhizobia; the choice follows the grower's application interface. Guaranteed viable count to expiry as shown.

Format	Carrier / form	Viable count	Rate	Best for
Nodu™ Peat	Sterile peat (40–45% moisture)	$\geq 1 \times 10^9$ CFU/g	3–6 g/kg seed	The classic on-seed
Nodu™ Liquid	Trehalose / PVP-stabilized	$\geq 1 \times 10^9$ CFU/mL	2–4 mL/kg or in-furrow	Easy application
Nodu™ Coat	Polymer-compatible	$\geq 1 \times 10^9$ CFU/mL	2–3 mL/kg seed	Seed-treatment lines
Nodu™ Granule	Mineral carrier	$\geq 2 \times 10^8$ CFU/g	5–10 kg/ha	In-furrow soil application
Nodu™ FD	Talc / dextrose, lyophilized	$\geq 1 \times 10^{10}$ CFU/g	per sachet	Long shelf life / remote markets
Nodu™ Duo	Rhizobia + micronutrient	per chamber	mix at sowing	Pair with a micronutrient

The label rate is set to deliver enough live cells to compete for nodule sites against the native rhizobial population — under-dosing and uneven coverage are the common failures. Do not exceed or fall below the label rate.

5 Field Performance

Standalone yield response and demonstration scale by crop (matched rhizobia vs. uninoculated control). Performance is greatest on new ground and on fussy hosts such as soybean, where the specific partner is scarce or absent.

Crop	Avg. yield response	Demonstration scale
Peanut	+9.8%	70 sites
Soybean	+10.8%	60 sites
Common bean	+8.4%	26 sites
Cowpea	+10.2%	24 sites
Pigeon pea	+8.9%	18 sites
Mung bean	+9.3%	28 sites
Black gram	+8.3%	16 sites
Alfalfa	+10.4%	52 sites

Site-specific performance may vary with soil, climate, crop variety, native rhizobial background and management, and should be validated through local trials. All strains are non-GMO and naturally isolated; strain deposit / identity documentation is available to qualified partners under NDA.

6 Compatibility & Handling

- **Fungicide seed treatments:** apply Nodu last, after any fungicide; where seed is fungicide-coated, prefer the granular in-furrow form so the bacteria never sit against the fungicide.
- **Co-application:** compatible with Orvan™ and Vigor™ at sowing, and with neutral-pH NPK.
- **Do not combine with:** copper-based fungicides, strongly alkaline substances (pH > 9), or chlorinated water (> 2 ppm) — these reduce viability.
- **Nitrogen:** avoid heavy starter nitrogen, which suppresses nodulation; a small starter dose only where soils are cold or infertile.

7 Regulatory & Biosafety

- **GMO status:** Non-GMO; all strains naturally isolated.
- **Biosafety:** handled as low-risk (Risk Group 1) agricultural microorganisms.
- **Registration:** China MARA microbial inoculant registration No. 16340 (2026); destination-market registration confirmed per country.

8 Storage & Handling

- Store cool, dry and out of direct sunlight; keep the pack in the shade until sowing; do not freeze liquid forms. CFU guaranteed to expiry; shelf life typically 6–8 months at 5–25 °C depending on the form.
- It is a living product — use before the expiry date; do not decant into unlabelled containers.

9 Disclaimer, Trademarks & Copyright

Performance disclaimer. Field performance data derive from Huasheng Bio Limited multi-site demonstration trials. Actual field performance may vary with soil, climate, crop variety, native rhizobial background, cropping system, water regime and management. Users are responsible for ensuring the product is registered and permitted in the destination market, for validating performance through local trials, and for verifying compatibility with their own seed treatments and fertilizers before commercial deployment.

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Contact & Support

Huasheng Bio Limited

Huasheng Bio Limited — legume inoculant technology: Nodu™ (rhizobial), Vigor™ (PGPR) and Orvan™ (Aspergillus–Rhizobia Coupling).

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For trial materials, samples, formulation selection, and regulatory dossiers, contact us by email or WhatsApp. Technical dossiers, safety data sheets, and regulatory-grade strain documentation are available to qualified partners under a mutual non-disclosure agreement.