



Technical Data Sheet

Vigor™ PGPR Inoculant

Broad-spectrum PGPR — roots, phosphorus, stress tolerance

Document control	
Document No.	VIGOR-TDS-2026-01
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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	Vigor™ PGPR Inoculant
Category	Broad-spectrum plant-growth-promoting rhizobacteria (PGPR) inoculant (biofertilizer) — a single formula for all target legumes.
Supplier	Huasheng Bio Limited.
Target crops	All eight food and forage legumes — 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. 16355 (2026).
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 Vigor™ Technology Profile.

2 Mode of Action

Vigor™ is a broad-spectrum PGPR consortium — a single formulation that works across all eight legumes. It complements the nitrogen-fixers rather than replacing them: a bigger, healthier root system supports more nodulation and better nutrient uptake. It builds root systems, solubilizes bound soil phosphorus, and improves drought and salinity tolerance.

3 Composition & Guarantee

A four-strain plant-growth-promoting rhizobacteria (PGPR) consortium:

Strain	Primary function
<i>Bacillus subtilis</i>	Root colonization and plant-growth promotion
<i>Pseudomonas fluorescens</i>	Phosphate solubilization and biocontrol
<i>Bacillus megaterium</i>	Phosphate solubilization
<i>Azospirillum brasilense</i>	Ab-V5 / Ab-V6-type; associative nitrogen fixation and auxin (IAA) production

Guaranteed viable count $\geq 2 \times 10^9$ CFU per gram (or per mL) to expiry — see the formulation portfolio for per-format counts. Non-GMO; naturally isolated. Strain deposit / identity documentation is available to qualified partners under NDA.

4 Formulation Portfolio

Format	Carrier / form	Viable count	Rate	Best for
Vigor™ Granule	Mineral / organic	$\geq 2 \times 10^9$ CFU/g	5–10 kg/ha	Soil-applied, all legumes
Vigor™ Liquid	Stabilized aqueous	$\geq 2 \times 10^9$ CFU/mL	1–3 L/ha	In-furrow / foliar
Vigor™ WDG	Water-dispersible granule	$\geq 5 \times 10^9$ CFU/g	per label	Tank-mix flexibility
Vigor™ Seed	Talc-based powder	$\geq 2 \times 10^9$ CFU/g	3–5 g/kg seed	Seed treatment

5 Field Performance

Headline effects across the demonstration program: **applied phosphorus –25%** and **root biomass +12%**.

Standalone yield response and demonstration scale by crop (Vigor vs. uninoculated control):

Crop	Avg. yield response	Demonstration scale
Peanut	+7.3%	44 sites
Soybean	+7.1%	40 sites
Common bean	+8.3%	22 sites
Cowpea	+9.2%	22 sites
Pigeon pea	+8.6%	14 sites
Mung bean	+7.8%	24 sites
Black gram	+8.2%	16 sites
Alfalfa	+8.6%	34 sites

Site-specific performance may vary with soil, climate, crop variety, cropping system and management, and should be validated through local trials. Vigor is used where roots, phosphorus availability, or drought / salinity tolerance are the limiting factors; it is additive with Nodu™ and Orvan™.

6 Compatibility & Handling

- **Co-application:** compatible with Nodu™ and Orvan™ at sowing, and with neutral-pH NPK. A stronger root system supports the rhizobia rather than competing with them.
- **Fungicide seed treatments:** apply Vigor last, after any fungicide.
- **Do not combine with:** copper-based fungicides, strongly alkaline substances (pH > 9), or chlorinated water (> 2 ppm).

7 Regulatory & Biosafety

- **GMO status:** Non-GMO; naturally isolated strains.
- **Biosafety:** handled as low-risk (Risk Group 1) agricultural microorganisms.
- **Registration:** China MARA microbial inoculant registration No. 16355 (2026); destination-market registration confirmed per country.

8 Storage & Handling

- Store cool, dry and out of direct sunlight; do not freeze liquid forms. CFU guaranteed to expiry; shelf life typically 6–8 months at 5–25 °C depending on the form. Living product — use before expiry.

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, 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.

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.