



## CERTIFICATE OF ANALYSIS - PROFESSIONAL LAB REPORT

**Category: Garlic (Allium sativum) | Variety: Pant Lohit**

Stock: April–May 2026 | COA backed by NABL approved ISO/IEC 17025:2017 laboratory

**Sample ID: GARL001-V17-L02**

Lot: GARL001-26M05-172

**NABL Approved Lab**

Field	Value
Report ID	BBLLP/GARL001/2026/05/272
Report Ref	BB-COA-GARL001-26M05-172
Batch / Lot	B-GARL001-26M05-172
Sample ID	GARL001-V17-L02
Date of sample submission	26/04/2026
Date received in lab	01/05/2026
Analysis period	01/05/2026 to 07/05/2026
Date of issue	08/05/2026
Manufacturer	Botanika Bharat LLP
Address	Rudrapur, Uttarakhand, India
Sample quantity	1.5 kg
Lab accreditation	NABL approved (ISO/IEC 17025:2017)
Market clearance	Domestic, EU, UK, USA, Non-EU: Pass

### General Profile (Identity & Grade)

Parameter	Type	Allowed limit/spec	Result	Method	Status
Appearance	Mandatory	Characteristic export grade	Complies	Organoleptic	Pass
Botanical identity	Mandatory	Allium sativum	Confirmed	Macroscopy / DNA spot	Pass
Variety / cultivar	Mandatory	Pant Lohit	Confirmed	Traceability	Pass
Odour & taste	Mandatory	Typical, no off-note	Complies	Organoleptic	Pass
Foreign odour	Mandatory	Absent	Absent	Organoleptic	Pass

### Adulteration & Authenticity (Buyer Critical)

Parameter	Type	Allowed limit/spec	Result	Method	Status
Undeclared fillers / starch	Mandatory	Absent	Absent	Iodine / FTIR	Pass
Species substitution	Mandatory	Absent	Absent	HPTLC / DNA	Pass
Surface mould / rot	Mandatory	Absent	Absent	Visual	Pass
Extraneous matter	Non-mandatory	Within grade	Complies	ISO 927	Pass

### Chemical & Trade Markers (Buyer Decision)

Parameter	Type	Allowed limit/spec	Result	Method	Status
Bulb diameter (mm)	Mandatory	As per grade	49 mm	Caliper	Pass
Clove count / bulb	Mandatory	Variety typical	15	Manual count	Pass
Pyruvic acid (pungency)	Mandatory	Fresh bulb profile	14.7 µmol/g	Enzymatic	Pass
Alliin potential	Mandatory	Buyer reference	1.28 mg/g	HPLC	Pass
Moisture	Mandatory	< 68% fresh	62.2%	AOAC 934.06	Pass
Sprouting	Mandatory	Absent at dispatch	Absent	Visual	Pass
Mechanical damage	Mandatory	< 5%	1.9%	Visual	Pass
Pesticide residue (panel)	Mandatory	MRL all markets	0.028 mg/kg	LC-MS/MS	Pass
Total aflatoxins	Mandatory	< 10 µg/kg	< 3.1 µg/kg	HPLC	Pass

### Nutritional (Optional)

Parameter	Type	Allowed limit/spec	Result	Method	Status
Energy	Optional	Label reference	302 kcal/100g	Calculation	Pass
Protein	Optional	Label reference	4.3%	Kjeldahl	Pass
Carbohydrate	Optional	Label reference	60.7%	AOAC	Pass

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## Domestic India — FSSAI Buyer Panel

Parameter	Type	Allowed limit/spec	Result	Method	Status
FSSAI product category	Mandatory	Applicable schedule	Conforms	Regulatory review	Pass
FSSAI pesticide MRL	Mandatory	Within CIBRC notified limits	Complies	LC-MS/MS	Pass
FSSAI heavy metals	Mandatory	Within limits	Complies	ICP-MS	Pass
BIS / FSSAI microbiology	Mandatory	Retail-ready where applicable	Complies	ISO/BIS	Pass
Legal metrology (net qty)	Non-mandatory	Declared	Conforms	Doc review	Pass

## EU Buyer / Import Panel

Parameter	Type	Allowed limit/spec	Result	Method	Status
Lead (Pb)	Mandatory	Reg. 2023/915	0.20 mg/kg	ICP-MS	Pass
Arsenic (As)	Mandatory	EU limits	0.02 mg/kg	ICP-MS	Pass
Cadmium (Cd)	Mandatory	EU limits	0.037 mg/kg	ICP-MS	Pass
Mercury (Hg)	Mandatory	EU limits	0.014 mg/kg	ICP-MS	Pass
Aflatoxin B1	Mandatory	< 5 µg/kg	< 1.0 µg/kg	HPLC	Pass
Total aflatoxins	Mandatory	< 10 µg/kg	< 2.9 µg/kg	HPLC	Pass
EU pesticide MRL (EC 396/2005)	Mandatory	Compliant	Complies	LC-MS/MS	Pass
Import documentation (CHED)	Non-mandatory	Ready	Conforms	QA	Pass

## UK Buyer Panel

Parameter	Type	Allowed limit/spec	Result	Method	Status
UK retained EU contaminants	Mandatory	Documented	Conforms	Reg check	Pass
UK FSA heavy metals	Mandatory	Within limits	Complies	ICP-MS	Pass
UK mycotoxin spec	Mandatory	Within limits	Complies	HPLC	Pass
UK pesticide MRL	Mandatory	GB MRL / buyer	Complies	LC-MS/MS	Pass
UK microbiology (retail)	Mandatory	Within spec	Complies	ISO	Pass

## USA Buyer Panel (FDA/FSMA)

Parameter	Type	Allowed limit/spec	Result	Method	Status
FDA FSMA / FSVP readiness	Mandatory	Documented	Conforms	QA review	Pass
TAMC	Mandatory	< 100000 cfu/g	< 3680 cfu/g	USP <2021> / ISO 4833	Pass
Yeast & mould	Mandatory	< 10000 cfu/g	< 617 cfu/g	USP <2021> / ISO 21527	Pass
E. coli	Mandatory	Absent in 1g	Absent	USP <2022>	Pass
Salmonella	Mandatory	Absent in 25g	Absent	ISO 6579	Pass
US EPA tolerance (residues)	Mandatory	Compliant	Complies	LC-MS/MS	Pass

## Non-EU International Buyer Panel

Parameter	Type	Allowed limit/spec	Result	Method	Status
GCC (UAE / Saudi / Qatar) SPS	Mandatory	Halal / contaminant	Conforms	Panel review	Pass
Australia NZ MPI biosecurity	Mandatory	Import conditions	Conforms	Doc + lab	Pass
Japan MHLW / Korea MFDS	Mandatory	Residual limits	Complies	LC-MS/MS	Pass
Canada CFIA	Mandatory	Food import	Conforms	Panel	Pass
ASEAN (SG/MY/TH/VN)	Mandatory	Regional MRL	Complies	LC-MS/MS	Pass
Buyer release index	Non-mandatory	Composite score	92.3	QA	Pass

## Mandatory Release Parameters

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## Mandatory Release Parameters

Parameter	Type	Allowed limit/spec	Result	Method	Status
Identity & grade confirmation	Mandatory	Release critical	Confirmed	Buyer spec tests	Pass
Trade marker result (see Chemical)	Mandatory	Decision-critical	Within spec	HPLC/GC/ASTA	Pass
Heavy metals panel	Mandatory	Release critical	Within limits	ICP-MS	Pass
Mycotoxin panel	Mandatory	Release critical	Within limits	HPLC	Pass
Microbial panel	Mandatory	Release critical	Within limits	USP/ISO	Pass
Pesticide panel	Mandatory	Release critical	Within limits	LC-MS/MS	Pass

## Optional & Physical Quality

Parameter	Type	Allowed limit/spec	Result	Method	Status
Colour score	Non-mandatory	Commercial	7.3	Visual	Pass
Packaging / seal integrity	Mandatory	Export	Pass	Visual	Pass
Shelf-life / Apr-May stock	Optional	Dispatch window	Conforms	QA	Pass

## Critical Export Decision Summary

Parameter	Type	Allowed limit/spec	Result	Method	Status
Export buyer decision status	Mandatory	All panels	Approved	Composite	Pass
Domestic + EU + UK + USA + Non-EU	Mandatory	Multi-market	All Pass	QA sign-off	Pass
Authenticity / adulteration	Mandatory	Critical	Pass	Targeted tests	Pass
Lot traceability Apr-May 2026	Mandatory	ERP mapped	Verified	ERP	Pass

## General Notes

Parameter	Type	Allowed limit/spec	Result	Method	Status
Stock period	Info	April-May 2026	Covered	QA	Info
NABL accreditation	Info	ISO/IEC 17025:2017	Verified	Cert on file	Info
Report validity	Info	Sample & lot specific	Noted	QA	Info

## Remark:

COA backed with NABL approved lab. We have prepared this report for a recently shipped lot (April-May 2026 stock).  
Client information and material/supplier details are not shown in this COA (masked for presentation and confidentiality).  
Mandatory, non-mandatory and optional parameters reported; Domestic, EU, UK, USA and Non-EU panels: Pass.  
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