



ICAR - SUGARCANE BREEDING INSTITUTE
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TAMIL NADU

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**NOTICE INVITING TENDER THROUGH GOVERNMENT e-MARKETPLACE (GeM)
FOR PURCHASE OF FERMENTER AT ICAR-SUGARCANE BREEDING INSTITUTE,
COIMBATORE, TAMIL NADU.**

Online Bids under two bid systems (viz. Technical Bid & Financial bid) is invited on behalf of the Director, ICAR-Sugarcane Breeding Institute, Coimbatore - 641007 (Tamil Nadu) through GeM.

The details of tender is enumerated in the following annexures. Please read the annexures attached before bidding.

Annexure-I	General Terms & Conditions
Annexure-II	Technical Specification of the Fermenter

IMPORTANT NOTES: -

- I. Bids received on GeM portal only will be considered. Bids in any other form sent through sealed cover/email/post/fax etc. will be rejected.
- II. The bidders are required to deposit **Bid security/ Earnest Money Deposit (EMD) of Rs.45,000/- (Rupees forty five thousand only)** in the form of Demand Draft/Fixed Deposit Receipt/Banker's Cheque or Bank Guarantee from any of the commercial banks payable to the Director, ICAR-Sugarcane Breeding Institute, Coimbatore - 641007, **within 5 working days of bid opening date**, failing which the bid will be treated as incomplete & lead to rejection of the bid without making any reference to the bidder. The Bid Security/EMD should be valid for 45 days beyond the bid validity.
- III. ICAR-SBI reserves the right to accept / reject any or all the tenders in part / full without assigning any reason thereof.
- IV. Any change / corrigendum/ extension of opening date in respect of this tender shall be issued through GeM/Institute Website only and no press notification will be issued in this regard.
- V. In case, any holiday is declared by the Government on the day of opening, the tenders will be opened on the next working day at the same time. The Institute reserves the right to accept or reject any or all the tenders.
- VI. The bidders are required to furnish / upload copies of the following documents:
 1. Signed & scanned copy of Firm's registration.
 2. Signed & scanned copy of GST Registration certificate.

3. Signed & scanned copy of PAN Card.
4. **Technical Bid** : Signed and Scanned Copy of Completely filled Technical Verification data sheet (Technical Compliance Statement) must be submitted for each quoted configuration..
5. **Financial bid** : Financial bid indicating item-wise price for the items mentioned in the technical bid is to be uploaded separately.

NOTE:

EACH OF THE ABOVE DOCUMENTS ARE TO BE UPLOADED AS A SEPARATE FILE. THE BIDS WITHOUT THE ABOVE DOCUMENTS WILL BE REJECTED SUMMARILY.

Bidders are required to furnish the following undertaking :

We agree to supply the above goods and allied services. We confirm that the same will meet the description, specification and other technical details as required in the tender enquiry.

We conform that we agree to all other terms and conditions of your tender enquiry including the terms of delivery, period of delivery and warranty provision.

We have furnished all the information, as required in the tender enquiry and attached the relevant documents.

We confirm that our offer will remain valid for acceptance for **180 days** after the date of opening of tenders.

ANNEXURE-I

i. Terms of delivery:

Delivery at site viz. - ICAR - SUGARCANE BREEDING INSTITUTE, COIMBATORE-641007 (TAMIL NADU)

- ii. **Performance Security:** To ensure due performance of the contract, performance security is to be furnished by the successful bidder for an amount of 3% of the value of the goods in the form of Account payee Demand draft / Fixed Deposit Receipt / Bank Guarantee in favour of the Director, ICAR-Sugarcane Breeding Institute, Coimbatore payable at Coimbatore to be furnished **within 15 days** from the date of issue of award of contract. The Performance security should be **valid up to 60(sixty)** days after the date of completion of all contractual obligations by the Supplier, including the warranty obligations.
- iii. **Delivery period for goods:** Within **15 days** from the date of the purchase order
- iv. Erection/installation and commissioning (if required, depending on the goods ordered) are to be completed within **10 days** of delivery of the goods at site.
- v. **Payment Terms:** Payment will be made after delivery of the item and satisfactory installation of the item.
- vi. **Price structure:**
 - a. The tenderer shall quote for the complete requirement of goods and services and for the full quantity as shown against in **Annexure-II.**
 - b. The rates and prices quoted shall be in Indian Rupees only.
 - c. All duties, taxes and levies payable by the supplier under the contract shall be included in the quoted price. The purchaser will not pay any such duties, taxes and levies separately.
 - d. The rates and prices quoted by the supplier shall remain firm and fixed during the currency of the contract and shall not be subject to variation on any account, whatsoever, including statutory variations, if any.
 - e. The quotation/offer shall remain valid for acceptance for a period not less than 180 days after the specified date of opening of the offers.
 - f. TDS on Income Tax/GST will be deducted as per existing rules and the same will be remitted to the department concerned.
- vii. At the time of awarding the contract, the purchaser reserves the right to increase or decrease by up to 25%, the quantity of goods and services without any change in the unit price or other terms and conditions.

- viii. The supplier shall at all times indemnify the purchaser, at no cost to the purchaser, against all third party claims of infringement of patent, trade mark or industrial design rights arising from the use of the goods or any part thereof, with respect to the goods quoted by the supplier in its offer.
- ix. Notwithstanding the above, the purchaser reserves the right to accept or reject any quotation or annul the tendering process and reject all quotations at any time prior to award of the contract, without assigning any reason, whatsoever, and without incurring any liability or obligation, whatsoever, to the affected tenderer or tenderers.

X. Receipt of goods and terms of payment:

Payment term for supply of goods, including erection/ installation and commissioning (as and if applicable): -

Immediately on receiving the goods at site, the purchaser will verify the quantities of the items supplied as specified in the delivery challan of the supplier and also check for any superficial damage etc. in the goods so supplied and issue a provisional receipt accordingly. If the goods supplied do not require erection/installation and commissioning at site, the purchaser, within three working days of issue of the provisional receipt, will issue acceptance certificate (of the goods) to the supplier, provided the goods supplied are acceptable in terms of the contract. However, if the goods supplied also need erection/installation and commissioning, the purchaser will issue acceptance certificate within two working days, after successful erection/installation and commissioning. The supplier will then send its invoice along with the purchaser's acceptance certificate and other accompanying documents to the paying authority for payment.

The paying authority will release the full payment to the supplier as due in terms of the contract, within fifteen working days of receipt of supplier's invoice, purchaser's receipt certificate and other accompanying documents, provided the same are in order.

PAYING AUTHORITY: THE DIRECTOR, SUGARCANE BREEDING INSTITUTE, COIMBATORE - 641 007.

xi. Liquidated Damage Clause:

If any time during the performance of the contract, the supplier encounters conditions hindering timely delivery of the goods, the supplier shall promptly inform the purchaser in writing the fact of the delay and the likely duration of the same. After receipt of supplier's communication, the purchaser shall decide as to whether to cancel the contract for the un-supplied portion after the existing delivery period, or to extend the delivery period suitably issuing an amendment to the contract. If the supplier fails to deliver the goods and/or perform the services within the contractual delivery period for reasons other than circumstances beyond supplier's control (which will be determined by the purchaser) and the purchaser extends the delivery period, the purchaser will also deduct from the contract price, as liquidated

damages, a sum equivalent to 0.5% (half per cent) of the delivered price of the delayed goods or unperformed services for each week of delay or part thereof until actual delivery or performance. The maximum limit of such deduction will, however, be 10% (ten per cent) of the contract price of the delayed goods or services.

Further, during such delayed period of supply and/or performance, the supplier shall not be entitled to any increase in price and cost, whatsoever, on any ground. However, the purchaser shall be entitled to the benefit of any decrease in price and cost on any ground, whatsoever, of the goods and services, supplied during the period of delay.

xii. Warranty Clause: Two Years

xiii. Dispute Resolution Mechanism

If any dispute or difference arises between the purchaser and the supplier relating to any matter connected with the contract, the parties shall make every effort to resolve the same amicably by mutual discussions. However, if the parties fail to resolve the dispute or difference by such mutual discussion within 30 days, either the purchaser or the supplier may give notice to the other party of its intention to refer the same to arbitration. The arbitration shall commence thereafter. The arbitration shall be conducted by a sole arbitrator, who will be appointed by the Secretary, ICAR and the procedure to be followed in this respect will be as per the Indian Arbitration and Conciliation Act, 1996. The venue of the arbitration shall be the place from where the contract is issued.

FERMENTER - Technical Specification

Supply, Installation, Testing and Commissioning of Bench-top fully Automated 5-Litre Low-shear Stirred tank Fermenter/Bioreactor and interchangeable insitu Airlift glass reactor assembly for Microbial and Entomopathogenic nematodes (EPN) cultivation and process optimization, Batch & Fed-batch operation, fully automated PLC/SCADA based.

Vessel: Borosilicate glass vessel, working volume of 2-4 L for **stirred tank fermenter**, vessel aspect ratio suitable for scale-up studies, SS316L head plate and bottom plate, corrosion-resistant construction. The **Airlift fermenter** should be interchangeable insitu glass reactor assembly, ring sparger with detachable draft tube, 3 lit capacity with HXD ratio 4:1. 400mm height and 100 mm diameter suitable to use with main unit reactor.

Sterilization: Fully in-situ sterilization vessel, sterilization temp PID control and display range 121°C or higher, simultaneous display of both Set temperature value and actual / present temperature value, digital pressure control and display; pressure range 0 - 20psi or more, Simultaneous display of both set pressure value and actual pressure value.

Agitation System: Motor Brushless servo motor with Digital speed control. Agitation Range 20-300 ± 1 rpm, Low-shear marine impeller configuration & inter-changeable marine impeller-2 Nos, draft tube provision and four blade single baffle assembly.

Aeration System: Sterile compressed air supply. Inlet air filter 0.2 μ m PTFE. Aeration Control by Rotameter or Mass Flow Controller, Air Flow range: 0.05-5.0 L/min (aeration rate 1.0-1.5vvm),

Sparger: Ring sparger/Sintered sparger

Exhaust: auto pressure exhaust with sterile exhaust filter (0.2 μ m).

Sensors and Control:

Temperature control: Temperature range 05-80°C ± 0.1 °C PID Control.

Heating/Cooling: Temp range 4.0°C to ambient / 40°C with +/- 0.5 accuracy, digital display with control, Heating mantle or jacket, Cooling through water circulation.

pH Control: Range pH 02-14 ± 0.05 , pH control and LCD display, automatic control and pH level by acid base dosing non spring head peristaltic pump or better technology pump, auto calibration pH sensor pH sensor make restricted to Broadley James or Mettler or Hamilton) with suitable cable BNC connector.

Dissolved Oxygen (DO) : Range 0-150% Dissolved oxygen (DO) control with LCD display with back light, manual and auto mode, auto calibration, SS High performance polarographic DO sensor restricted only in Mettler or

Broadley James or Hamilton Make, Suitable cable with connector/s.

Foam Control: Automatic foam sensor and automatic antifoam dosing pump.

Gas Mixing Station: Multi gas mixing unit with five flow meters & NRVs for each gas to check back pressure, flow range: 0.0 to 5.0 LPM suitable/calibrated for gases H₂, N₂, CO₂, Air and O₂.

Peristaltic Pumps Minimum four independent pumps: Acid addition, Base addition, Antifoam addition, Feed addition, Peristaltic Pumps with Variable speed control, Autoclavable tubing, Programmable operation, digital display of speed, non-spring type Teflon head to harvest/add culture, flow capacity about 60 ml/min.

Sampling and Inoculation Ports: Sterile inoculation port, Sampling port, Feed addition port, Harvest port.

Control System: Hardware PLC/SCADA based control system. Touchscreen HMI (minimum 7 inch).

Data acquisition system & Software: The software shall provide real-time display of parameters eight or more number of parameters like pH, temperature, speed, DO, etc. Trend graphs, alarm management, batch recording, Export to Excel/CSV, USB connectivity, capable for handling both online and off line data recording.

Accessories to be Supplied: The following shall be supplied without additional cost: pH probe - 1 No., DO probe - 1 No., Temperature probe - 1 No., Foam probe - 1 No. Marine impeller - 2 No., Sterile air filters - 10 Nos., Exhaust filters - 10 Nos., Silicone tubing set., Tool kit., Spare gasket set. Calibration kit. User manual.

Electrical Requirements: 230V, 50Hz., Single phase., Built-in UPS compatibility
Power Back up: 2.0 KVA or more capacity offline Branded UPS with minimum One hour or more backup to support the fermenter process. Special electrical switches or connectors if any required for installation, need to be supplied. Heavy duty stainless steel work table to accommodate the fermenter and computer to be supplied.

Warranty and Service: Minimum 2-year comprehensive warranty, Installation and commissioning included, On-site training.



ADMINISTRATIVE OFFICER

