



भाक अनुप-राष्ट्रीय केला अनुसंधान केंद्र  
(भारतीय कृषि अनुसंधान परिषद)  
तोगमलै रोड, थायनूर पोस्ट  
तिरुचिरापल्लि - ६२० १०२, तमिलनाडु

ICAR - National Research Centre for Banana  
(Indian Council of Agricultural Research)  
Thogamalai Road, Thayanur P.O.  
Tiruchirapalli - 620 102, Tamil Nadu, India



F.No.28(1)/2016-SP/ 1896  
To

Dated : 02.12.2016

3/12/16

Sir/s,

Quotations are invited by the Director, ICAR - NRC for Banana, Trichy, for the supply of the following items as per the specifications given below.

Sl.No.	Name of the article	Qty.
1.	Cold Storage cum Ripening Chamber for Banana (as per specifications furnished overleaf)	1 No.

1. Quotations should be inclusive of all charges towards packing, forwarding, Insurance, freight etc. Quotations exclusive of packing and freight charges etc. should indicate the amount that shall be charged on this account.
2. Complete descriptions, specifications and make of the goods should be given in the quotations. Necessary literature and pamphlets if any also be sent along with the quotation. Rate per unit should also be given precisely and delivery period clearly mentioned.
3. **THE FIRM SHOULD INVARIABLY QUOTE THE TIN, CST NO. ETC. ON THE BODY OF THE LETTERHEAD IN WHICH THE QUOTATION IS SENT, IF NOT QUOTATION WILL BE REJECTED.**
4. The quotation should be F.O.R. destination and should be kept open for 180 days from the date of quotations. Delivery at the Institute premises at NRCB Office Cum Laboratory Building, Near Thayanur Santhai, Thogamalai Road, Tiruchirappalli-620102/NRCB Research Farm Podavur Village, Inampuliyur Post, Via Kuzhumani, Tiruchirapalli - 639 103 (Tamil Nadu) is preferable.
5. The quotations should be addressed in the name of **"DIRECTOR, NATIONAL RESEARCH CENTRE FOR BANANA, Near Thayanur Santhai, Thayanur Post, Thogamalai Road, Tiruchirapalli - 620 102 (T.N.)"**, and should reach **LATEST by 21.12.2016 by 3.00PM** in a sealed cover superscribing **"Quotations for the supply of COLD STORAGE CUM RIPENING CHAMBER FOR BANANA"**.

The right to accept or to reject all or any of the quotation in part or full is reserved.

**NOTE :** You are requested to send your quotations through "SPEED POST" only and not through "Courier service".

Yours faithfully,

*S. Sallin*

Senior Administrative Officer

Copy to:-

1. Chairman (SPAC)
2. The Chairman (PMEC) – for uploading in NRCB Website.
3. The Nodal Officer (CPPP) - for uploading in CPP Portal.
4. PS to Director

Ms. CJ

Pl. upload in website  
J. Prasad

5/12/16

Phone : 0431-2618125 | Fax : 0431-2618125

Email : director.nrcb@icar.gov.in | directornrcb@gmail.com

Skype : nrcb.director | website : www.nrcb.res.in



**Specifications for COLD STORAGE CUM RIPENING CHAMBER FOR BANANA**  
**COLD ROOM:**

**Size** [in meter]: 2.94 (L) x 2.94 (W) x 2.39 (H) m (880 cu.ft.) having the storage capacity of minimum 2.0 tons.

**Temperature:** The temperature of the cold room should be in the range of + 12 to 25°C with digital indicator cum controller.

**Relative Humidity:** It should be maintained in the range of 85 to 95% with digital display indicator cum controller.

**Air circulation & Ventilation:** Air Circulation and ventilation should be adequate enough to circulate and maintain the freshness of the produce in the chamber.

**Insulation:** Pre-fabricated and insulated modular PUF panels having eco-friendly nature with 80 mm thickness. The panel should be laminated [wall and ceiling] with pre-painted galvanized steel sheet [Inside and outside 80 MM PUF panels]. **Floor** should be insulated with 80 mm thickness of suitable high quality material slap.

**Door:** Pre-painted galvanized PUF panel – flush in type with 34” x 78” clear opening with anti condensation door heater, pad-lock system, suitable seal closure. Provision should be given for human safety release knobs [inside the chamber].

**Refrigeration system:** A high quality refrigeration system with total refrigeration capacity of at least 15000 BTUH/Hr. An eco-friendly refrigerant should be used.

**Condensing unit:** Suitable / Reputed brand with ISI make

**Compressor type:** Hermetic

**Evaporator type:** Suitable / Reputed brand with ISI make

**Lighting:** Internal lighting should be provided with 2 nos. of LED type

**Ripening System:**

It should be automatic system with high standard ethylene gas cylinder [5% ethylene + 95% nitrogen]. Ethylene gas with suitable detection and dosing equipment to maintain ethylene concentration within required levels (Range 100 to 150 ppm). It must be ensured that there are adequate means of dispersing the ethylene gases throughout the ripening room on its release. High quality standard sensors with digital indicator display cum controller should be provided outside for ethylene gas concentration [ppm]. CO<sub>2</sub> concentration control range should be less than 1%. Suitable venting system consisting of fans/dampers/open – shut valves should be installed to maintain CO<sub>2</sub> concentration below 5000 ppm. Suitable sensor/Air Analysis kit should be installed for detecting and indicating CO<sub>2</sub> conc.

[Automatic CO<sub>2</sub> remover with suitable sensor and digital indicator to maintain the concentration less than 1% may be quoted separately).

**Power Supply line:** 230V, single phase with 50 Hz.

**Warranty:** Minimum **three years** from the date of installation/commissioning.

**Civil and masonry works [floor concrete with pedestal provision] for erection, installation and commissioning of the system should be fully taken care by the firm**

**Note:** All the specifications should meet the National Horticulture Board [NHB] standards and a certificate should be issued by the firm at the end.

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