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Date: 29<sup>th</sup> October 2015

**ADDENDUM TO TENDER NO**

**No: IISER/PUR/6443/15**

Dear Sirs,

**Sub: Plant Growth Chamber.**

The quantity of Plant Growth Chamber mentioned in the Technical Specifications of the Invitation to Tender of even number dated 17/10/2015 may be read as "One" instead of Two. A revised Technical Specification for Plant Growth Chamber is attached.

**Due date for submitting quotation is extended to 09<sup>th</sup> November 2015 [4PM].**

**Date of Opening Quotation is 12<sup>th</sup> November 2015[3PM].**

Other terms and conditions of our invitation to tender remain same.

Thanking You,

Yours Faithfully

  
Deputy Registrar *29/10/15*  
[Purchase & Stores]

## Technical specification for Plant Growth Chamber

One growth chamber to grow plants especially Arabidopsis are required for School of Biology. It should provide sufficient space for growing the plant to maturity (till seeds dry) under controlled temperature, humidity and light conditions. The growth chamber should meet the following *minimum* specifications:

1. The exterior cabinet should have proper insulation to constantly maintain the set interior plant growth conditions. The interior surface should be reflective to enhance light distribution. The chamber should accompany with proper water drainage system. Air-handling systems should ensure consistent horizontal airflow into the chamber. The three growing levels within the chamber provide maximum growing space within the smallest foot print possible. Growth chamber will be dismantled and reinstalled in new campus. Such option should be provided.

**2. Temperature range:** 10 °C – 45°C. **Chamber should be suitable to maintain a constant temperature of 22°C for long period of time.** Adjustable high and low temperature controls, audible alarms and visual indicators should be provided. The controller should shut down all the power to the chamber, and activates alarms. When the temperature returns to the normal range the system should automatically reset the temperature.

**3. Humidity:** from ambient up to 95%. Should able to maintain an ambient condition of 21 °C with 50% relative humidity.

**4. Programs:** Ramping and non-ramping programs. Provision to link multiple programs to simulate natural growth conditions.

### **5. Lighting:**

The growth chamber should have a 24hours photo-period provided by 10,000 lux. Option should be available to control the photoperiod. Lamps are separated by a barrier to remove waste heat before it enters into the growth volume. This in combination with lamp configurations and barriered lamp canopies should be designed to maximize light dispersion and minimize the temperature gradient across the shelf.

### **6. Shelving**

Adjustable shelves in two/three tiers preferable. These shelves should not have any perforation. Heat generated from lamps should not influence the temperature of subsequent shelf. Growing heights in each shelf should at least 55 cm or higher width of each shelf should be at least 130 cm or more.

**7. Working (interior) volume:** at least 2000 litres or better


**8.** Three years post warranty AMC should be provided and a minimum warranty period of 3 years

**9.** Mention the minimum number of months needed to deliver the product

**10.** Mention at least three R&D laboratories in India where you have supplied growth chambers that are being used currently, with contact details of concerned person in each institute. We may contact and/or visit these institutes to assess the quality of your product

**11.** Bidder should attach a detailed brochure.

**12.** Bidder should dismantle and reinstall the whole system from our present transit campus to the permanent campus of IISER-TVM at Vithura with no additional cost.

  
(K. Bhaskara Rao)  
Deputy Registrar  
Purchase & Stores]