

**BIDHAN CHANDRA KRISHI VISWAVIDYALAYA**  
**Department of Post Harvest Technology**  
**FACULTY OF HORTICULTURE**

**From: Dr. Surajit Mitra**  
**Professor & Head, PHT**  
**&**  
**Principal Investigator,**  
**ELU-Fruit Beverage Unit**



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Ref: ELU-FBU-3/2019

Date: 19.02.2019

**Tender ID: 2019\_BCKV\_217522\_1**

**Bid Submission End Date: 05-Mar-2019 06:00 PM**

**Notice Inviting E- Tender**

The Principal Investigator, Experiential Learning Unit (ELU) entitled “Processing of fruits and vegetables for value addition (Fruit Beverage Unit)” is inviting e-tender from competent and bonafide vendors /parties/ distributors/ dealers/agents/manufacturers having registration of GST for supply of following tools and equipments to establish a “Fruit Beverage Processing Unit”, in **turnkey** basis at BCKV, Mohanpur, Nadia, West Bengal-741252 within 14 days from the date of issue of this notice as per specifications appended against each item.

- i. Preparation of bids: the tender should be submitted under two bid system (i.e. technical and financial bid) with validity for a period of three months.
- ii. Submission of e-tender: the tender shall be uploaded on line within 14 days from the date of issuing tender notice.
- iii. Opening of the e-tender: the technical bid will be opened by the Central Purchase Committee, BCKV, duly consigned for this purpose. **After scrutinizing, the financial offer/bid of technically qualified vendors will be opened.**
- iv. Price: The price of all the tools and equipments, including the imported ones, should be quoted in NET per unit in INR (including all taxes and duties, etc). However, university will provide valid DSIR and authorization certificate to the clearing agent, if required. Without essential accessories tender will be considered as incomplete. Quoted rates must be FOR DESTINATION (including packing, insurance, transportation and delivery charges) up to the processing site at BCKV, Mohanpur, Nadia, West Bengal with satisfactory installation and demonstration. Prices shall remain firm & valid for 90 days from the date of opening of Quotation. The Dispatches/Deliveries are to be made within 4 to 6 weeks from date of acceptance of order. Installation shall be done, free of cost.

v. EMD: Vendors are required to pay the requisite amount (Rs.45000/-) as EMD draft as specified against their quotation. Scanned copy of the requisite draft must be uploaded as supporting document during submission of e-tender. **Without EMD, quotations will not be considered for technical or financial comparison.** Demand Draft must be in favour of 'Bidhan Chandra KrishiViswavidyalaya' payable at Kalyani (IFSC: SBIN0001082). **The EMD exemption certificate must be uploaded, if any.** However, bidders are requested not to send the original DRAFT during tendering process.

vi. Payment Schedule: Payment to be made after completion of the project with full satisfaction of the University Authority.

vii. Supporting documents:

- a) Bid papers should accompany authorization certificate from original manufacturer, trade license, GST registration, PAN etc.
- b) Scanned copy (self attested) of the original supporting document in favour of the specification –claim for each item must have to be uploaded separately.
- c) User list along with certificate from reputed users also need to be uploaded.
- d) Scanned copy of supporting document of assured after sale service in Eastern India and availability of spare parts need to be uploaded.

## **PROFILE AND RESPONSIBILITIES OF THE BIDDER**

**1. Bidders must have Manufacturer certificate, and registration with NSIC, MSME UdyogAdhar, Scanned copy of which must be uploaded along with Technical Bid.**

**2. Bidders must have experience of executing at least 3 (Three) Orders each of value more than Rs. 60 (Sixty) Lacs, Scanned copy of which must be uploaded along with Tender.**

**3. Bidders should have capacity to furnish complete details of the latest technology available with full descriptive literature.**

**4. The Successful Bidder must be able to provide complete details regarding all infrastructures needed for installation of the tools and equipment, which should be arranged before its arrival at the user end.**

**5. Order will be placed in a package, the Successful Bidder must be capable to execute the order as a Turn-Key Project.**

**6. The Successful Bidder will be fully responsible for the manufacturing Guarantee in respect of proper design, quality and workmanship of the equipment, accessories etc. covered by the tender, and must attend the site for servicing within 48 hours of reporting for a minimum period of 2 (Two) years.,**

**7. Successful Bidder must visit the Unit at an interval of two months to inspect the machines and do service if necessary to run all the machines properly for a period of two years.**

**8. Successful Bidder will make provision for imparting training to our staff on operation and use of equipment, during Commissioning time.**

**9. BCKV may claim the liquidated damages due to failure of accepting the order or delivery of materials after their tender is accepted, subject to maximum 2% of the material value.**

**10. The Successful Bidder must deposit a security @ 2% of the contract value at the time of bill payment after successful completion of the project which will be kept as a Performance Guarantee for a period of one year, with BCKV. This security money will be released after one year without any interest.**

**11. Bidders must have the following Documents which need to be uploaded along with their tender:**

- A. Pan Card of Individual in case of Proprietary Firm OR Company Pan Card in case of Partnership Firm or Limited Company.**
- B. GST Registration certificate.**
- C. Audited Balance sheet and Income Tax return for the last three years.**
- D. Technical Leaflet of the Equipment.**
- E. Any Performance Certificates received from Govt. Or Semi Govt. Authority or Private Industries.**
- F. List of Customers who are using Food Processing Equipment, supplied by the Bidders.**

**Price bid of the vendors will be compared only if technical specificity as appended against each item is fulfilled. The Viswavidyalaya reserves the right to accept or reject any tender without showing any reason, and will not be bound to accept mere the lowest bid.**

**Chairman, CPC, BCKV**

**Surajit Mitra  
Principal Investigator,  
ELU-Fruit Beverage Unit  
Faculty of Horticulture, BCKV,  
Mohanpur, Nadia, West Bengal**

**Establishment of a Fruit Beverage Processing Unit**  
**in turnkey basis as specified below-**

**For Technical Bid:**

Sl. No.	Items	Specifications
1	Washing Vat	Fabricated from 304 type stainless steel sheet of 1.5mm thick sheet, supported on stainless steel angle framed structure. All joints need to be argon welded and polished. Equipped with stainless steel perforated sheet made false bottom and water drainage stainless steel valve for water drainage. <b>Vat dimension : 4ft L x 2.5ft W x 2ft H</b>
2	Inspection Conveyor	Supporting Structure – Mild steel angle and channel combined structure. Conveyor Belt is of thick PVC, placed on plywood board. Motor : 0.5 HP 440 volts 3 phase AC NEC make. Gear Box :Bonfiglioli. Supply needs to be completed with Idler, Roller etc, to complete the unit. Side guards : Fabricated from Stainless steel thick sheet. <b>Dimension : 8’ft L x 8” W</b>
3	Fruit Mill / Crusher	Contact Parts : 304 type 18/8 quality stainless steel sheet. Supporting Structure : Mild steel angle and channel framed structure. Welding : Argon welded. Cutting Teeth setting : Stainless steel Motor : 2 HP 440 volts NEC make three phase AC. Supply needs to be completed with Motor, Main Cord etc. <b>Capacity : 300 Kg per hour</b>
4	Twin Pulper for extracting pulp from Mango	Contact Parts need to be fabricated from 304 type stainless steel materials- one unit for Coarse and other for fine sieving. Supporting Structure will be made from mild steel Angles and plates. Two nos nylon brush in each section need to be included with a Sieve of 1/8 mesh in coarse section and 1/32 in fine section, made from stainless steel. Operated by 440 volts three phase AC Main, by 2 Motors of 2 + 1 HP. <b>Capacity :Approx 200 Kg per hour</b>
5	Hydraulic Juice Press for crushed Pineapple, Guava etc.	25 tonnes pressure, rack and cloth type, with synthetic cloth and wooden racks. Tray covered with aluminium sheet, complete with 2 HP motor and hydraulic pump with automatic pressure control. Complete with 8 racks and 8 cloths.
6	Steam Jacketed Kettle, Stationary	<b>Double walled</b> model, Pan will be fabricated from 3 mm thick and Jacket also will be fabricated from 3 mm thick 304 type

	Type, with mechanical Agitator	stainless steel sheet, properly welded to withstand working steam pressure. All joints need to be Argon welded and polished. Supporting structure will be made from stainless steel pipe framed structure. The Kettle will be equipped with 2 HP motor operated agitating system. The rod and shaft will also be made from 304 quality stainless steel rod and flat bar. Product outlet will be provided at bottom with 1.5” stainless steel ball valve. <b>Brimful Capacity :225 litres</b>
7	Transfer Pump	All contact parts will be made of 316 quality stainless steel materials, operated by 0.5 HP three phase AC motor. Supply needs to be completed with Food Grade PVC pipe.
8	Steam Jacketed Pan, with Stirrer for Sugar Syrup Preparation	<b>Double walled</b> model, Pan will be fabricated from 3 mm thick and Jacket will be fabricated from 3 mm thick 304 type stainless steel sheet of 304 grade, properly welded to withstand maximum 2 Kg/cm <sup>2</sup> working steam pressure. All joints need to be Argon welded and polished. Supporting structure needs to be made from mild steel pipe framed structure. The Pan will be equipped with 1 HP motor driven stirring system. The rod and shaft will also be made from 304 quality stainless steel rod and flat bar. Product outlet will be provided at bottom with 1.0” stainless steel ball valve. <b>Brimful Capacity :150 litres</b>
9	Sugar Syrup Cooling System	This unit will consist of : i. Stainless steel Pump, to feed sugar syrup, operated by 1.0 HP 440 volts three phase AC Motor, with AC Drive to control feeding- one. ii. Shell and Tube type Heat exchanger, made from 304 type Stainless Steel tubes in tube, all joints argon welded and polished For cold process-one iii. Stainless steel tank of 400 liters capacity, having refrigeration system By Hermetically sealed adequate capacity Compressor, with its components and copper cooling coil widely distributed inside the tank, is provided to circulate cold water to cool down the temperature of syrup-one iv. Water circulating pump, operated by 1 H.P. motor-two
10	Filter Press for Sugar syrup filtration	All contact parts will be made of 304 type stainless steel materials. Supporting structure will be made from mild steel pipe, covered with stainless steel sheet.6 bed of 8” dia each, operated by 1 H.P. motor and stainless steel gear pump. <b>Capacity-200 LPH</b>
11	Sugar Syrup StorageTank	The tank needs to be fabricated from 304 type stainless steel sheet of 1.5 mm. thickness, properly argon welded on all joints and polished. <b>Capacity of the Tank : 500 liter.</b>
12	Transfer Pump	All contact parts will be made of 316 quality stainless steel materials, operated by 0.5 HP three phase AC motor. Supply

		needs to be completed with Food Grade PVC pipe.
13	Stainless Steel Blending Tank, fitted with Stirrer for Juice Line	<p>Inner chamber needs to be fabricated from 304 grade stainless steel of 1.5mm thick, having bottom of Conical Shape.</p> <p>Motor Base will also be made from 304 grade stainless steel angle framed base..</p> <p>Stirrer will be made from 304 grade stainless steel rod and stainless steel flat thick pati.</p> <p>Supporting Structure need to be made from heavy duty 4 nos stainless steel pipe, provided with heavy duty wheels for easy movement.</p> <p>Motor – 1 HP 440 volts three phase AC Main, having cover of stainless steel sheet.</p> <p>Product Outlet with stainless steel pipe of 1” dia fitted with stainless steel ball valve.</p> <p>All joints needs to be argon welded and polished.</p> <p><b>Brimful Capacity of the Tank : 200 liter.</b></p>
14	Homogenizer (Double stage) for Homogenizing fruit juice/ pulp	<p>Will come with three pistons for efficient functioning.</p> <p>All parts of head fabricated in stainless steel (food grade).</p> <p>Will come with pressure gauge of 6000 psi.</p> <p>Liquid whirling homogenizing head needs to be designed to provide maximum homogenizing effect.</p> <p>Counter shaft driven by electric motor.</p> <p>Easy to clean without dismantling the head</p> <p>Powered by 1.5HP motor of single phase AC only.</p> <p>Easy to operate, user friendly having wide variety of applications.</p> <p>Juice transfer pumps.</p> <p><b>Capacity : 150 liters/hr (LPH)</b></p>
15	Juice Pasteuriser, Tube in Tube system	<p>Tube in Tube system, Capacity-100 LPH</p> <p>This unit will consist of :</p> <ol style="list-style-type: none"> <li>i. Stainless steel Tank for Pulp of capacity 200 liter – One.</li> <li>ii. Stainless steel Pump, to feed pulp, operated by 1 HP 440 volts three phase AC Motor, with AC Drive to control feeding – One</li> <li>iii. Stainless steel tank of 400 liters capacity, connected with Steam line from the existing boiler, to circulate water through pump to Shell and Tube type Heat Exchanger, for hot process. - One</li> <li>iv. Shell and Tube type Heat exchanger, made from 304 type Stainless Steel tubes in tube, all joints with argon welded and polished For hot process. – Two.</li> <li>v. Shell and Tube type Heat exchanger, made from 304 type Stainless Steel tubes in tube, all joints with argon welded and polished. For cold process. – One.</li> </ol>

		<p>vi. Stainless steel tank of 400 liters capacity, to circulate water through pump to Shell and Tube type Heat Exchanger, to cool down Pulp temperature at required level - One</p> <p>vii. Water circulating pump, operated by 1 H.P. motor. – One</p> <p>viii. Interconnecting Steam line, Pressure Gauge, Safety Valve- One lot.</p>
16	Semi Automatic Bottle Washing Machine	Equipped with 0.5 HP Motor operated pump connected with 4 Rinsers. Supply needs to be completed with 2 Nos Stainless Steel Vat of 200 Litres Capacity – One for Detergent Water and other for Fresh Water.
17	Stainless Steel Turn Table – 20” Dia	Dia- 20 inches, Contact parts will be fabricated from Stainless steel materials, supported on Mild steel angle framed structure. Operated by 1 HP Motor.
18	Automatic Two Head Stroke Type Bottle Filling Machine	<p>Complete with Stainless steel slat conveyor, Stainless steel Guide Rail, Stainless steel Syringes, 2 nos Stainless steel Filling Nozzles, Electric Motor, Gear Box, Electric Panel Box, Cover, etc. <b>Machine needs to be supplied along with change parts suitable for 200ml, 500ml and 700ml Round Bottle.</b></p> <p>Power : 1 H.P. AC single Phase 220 V Motor for Main Machine.  ½ H.P. AC Motor for Conveyor Drive.</p> <p>Capacity: 200ml. to 700 ml. Round Bottles .</p> <p>Output : 720 to 780 bottles of 200 ml Capacity per hour</p>
19	Single Head Rotary Screw Cap Sealing Machine	<p>Complete with Single Screw Capping Head, Cap Dispensing Device and Chute, S.S. slat Conveyor, S.S. Guide rail, Gear Box, Motor, Star Wheel for Feeding and Discharging and for the Sealing Position, Head Up &amp; Down System by Gear Box and Motor, External Panel Box, <b>Pick and Place Arrangement of Caps</b> etc. The main Housing Box will be made of C.I. and M.S. Cladding with S.S. <b>Machine needs to be supplied along with the change parts suitable for 200ml, 500ml and 700ml Round Bottle.</b></p> <p>Power : 1.0 HP AC 220 Volt single Phase Motor</p> <p>Capacity : 200 ml to 700 ml Round Bottles.</p> <p>Output : 720 to 780 bottles of 200 ml Capacity per hour</p>
20	Shrink Tunnel	<p>Suitable for sealing PP/PVC Shrink Film.</p> <p>Separate controls for Heater/Cooler fan, gives good and perfect shrink seal.</p> <p>Machine design should be robust &amp; long-working life.</p> <p>Tunnel Machine size : 800 L x 200mm W x 300mm H.</p> <p>Sealing Speed : 0 to 10 meter/minute.</p> <p>Feeding weight : 30 Kg max.</p> <p>Complete with extended in and out conveyor of Slat mild steel chain. Total Length of the Conveyor will be 2 Meter including tunnel length, operated by 1 HP motor and controlled by VFD.</p>
21	Inkjet Printing	With Conveyor

	Equipment	
22	Stainless Steel collection vessel	<p>Suitable for collection and on process storing of pulp/ juice, etc. Fabricated from 304 type stainless steel sheet, all joints argon welded and polished.</p> <p><b>Capacity : 200 litres ( 18 swg thick body and 20 swg lid)</b></p>
23	Reverse Osmosis Method Water Plant –250 liters/hour	<p><b>Type of the Plant :</b></p> <ol style="list-style-type: none"> <li>i.) Iron Removal Filter :Complete with Pipe lines, Valves, Strainers, Bed Plate, CFM and Gravels etc.</li> <li>ii.) Activated Carbon Filter with Pipe lines, Valves, Strainer, Bed Plate, Graded Gravels and Activated carbon.</li> <li>iii.) Reverse Osmosis Plant.</li> <li>iv.) Reverse Osmosis Membrane.</li> <li>v.) Housing.</li> <li>vi.) High Pressure Pump.</li> <li>vii.) Dosing Pump.</li> <li>viii.) Big Blue Housing.</li> <li>ix.) R.O. Stainless steel pipe lines.</li> <li>x.) Rotameter.</li> <li>xi.) Pressure Gauge.</li> <li>xii.) Conductivity Meter.</li> <li>xiii.) Panel Board.</li> <li>xiv.) R.O. Fully Auto System.</li> <li>xv.) Ultra-Violet System.</li> <li>xvi.) Ozonizer.</li> <li>xvii) Water Softener with Pipe lines, Valves, Nozzles, Bed Support Plate, High Capacity Resin.</li> </ol>
24	Automatic Steam Boiler – Horizontal model	<p><b>Scope of Supply : Feed-Water Side :</b></p> <ul style="list-style-type: none"> <li>• Feed water pump with motor, v-belt and pulley mounted on the skid.</li> <li>• Feed water piping from feed water pump upto boiler inlet.</li> <li>• Feed water pump pressure gauge with dampening cock.</li> <li>• Feed water pressure relief valve.</li> <li>• Non-Return valve at feed water pump discharge.</li> <li>• Strainer for feed water pump.</li> <li>• Temperature indicator for feed water.</li> <li>• Magnetic level switch for protection against No/Low water level.</li> </ul> <p><b>Fuel Side :</b> * Monobloc, fully automatic HSD/LDO fired burner.</p> <p><b>Mounting &amp; Fittings</b></p> <ul style="list-style-type: none"> <li>• Main steam stop valve, flanged at steam header.</li> <li>• By-pass steam valve at steam header.</li> <li>• Steam safety valve at steam header.</li> </ul>



		<ul style="list-style-type: none"> <li>• Blow down valve with limit switch.</li> <li>• Steam pressure gauge with siphon pipe and dampening cock at steam header.</li> </ul> <p><b>General Accessories :</b></p> <p>* Header mounted on top of boiler for steam inlet, outlet, by-pass, pressure gauge, safety valve and temperature indicator-cum-controller.</p> <p>* Audio alarm in case of safety lock-down..</p> <p><b>Pre-wired Control Panel comprising.</b></p> <ul style="list-style-type: none"> <li>• Miniature circuit breaker-cum-isolator.</li> <li>• Rotary switch for feed water pump and burner.</li> <li>• Programmed sequence controller for auto operation of burner.</li> <li>• Contactors with thermal overloads for blower, fuel pump and feed water pump motors, relays for controls and safeties.</li> <li>• Pre-purging timer.</li> <li>• Bottle fuse for control circuit.</li> <li>• Channel mounted push-fit terminal blocks.</li> <li>• All cablings with cable markers from MCB onwards duly dressed and piped.</li> </ul> <p><b>Specification :</b></p> <p><b>Capacity : 400 Kg/hr. from feed water at 30 degree Celsius.</b></p> <p><b>Working Pressure, Kg/sq. cm.2 : 7 – 15</b></p> <p><b>Thermal efficiency (NCV) % : 89 + 2</b></p> <p><b>Electrical Load, Kw : 1.5</b></p> <p><b>Main steam stop valve, mm : 40</b></p> <p><b>Flue gas exhaust port, mm : 300</b></p>
25	Boiler completion tools	<p>i) a. Chimney – 6 meter.</p> <p>b. Fuel Tank – 150 liter.</p> <p>c. Water treatment plant for the boiler</p> <p>d. Soft Water day tank –1500 liter cap.</p> <p>e. Water pipe line from Soft water tank to boiler</p> <p>f. Blow Down Valve – One.</p> <p>g. Fuel pipe line from fuel tank to burner.</p> <p>ii) Steam Pipe Line- should be wrapped with LRB, chicken net tied, finally covered with aluminium sheet.</p>

Chairman, CPC, BCKV

**Surajit Mitra**  
**Principal Investigator,**  
**ELU-Fruit Beverage Unit**

**For Financial Bid:**

<b>Sl. No.</b>	<b>Items</b>	<b>Quantity</b>	<b>Price (Rs.)</b>
1	Washing Vat	1	
2	Inspection Conveyor	1	
3	Fruit Mill / Crusher	1	
4	Twin Pulper for extracting pulp from Mango	1	
5	Hydraulic Juice Press for crushed Pineapple, Guava etc.	1	
6	Steam Jacketed Kettle, Stationary Type, with mechanical Agitator	1	
7	Transfer Pump	1	
8	Steam Jacketed Pan, with Stirrer for Sugar Syrup Preparation	1	
9	Sugar Syrup Cooling System	1 unit	
10	Filter Press for Sugar syrup filtration	1	
11	Sugar Syrup Storage Tank	1	
12	Transfer Pump	1	
13	Stainless Steel Blending Tank, fitted with Stirrer for Juice Line	1	
14	Homogenizer (Double stage) for Homogenizing fruit juice/ pulp	1	
15	Juice Pasteuriser, Tube in Tube system	1 unit	
16	Semi Automatic Bottle Washing Machine	1	
17	Stainless Steel Turn Table – 20” Dia	1	
18	Automatic Two Head Stroke Type Bottle Filling Machine	1	
19	Single Head Rotary Screw Cap Sealing Machine	1	
20	Shrink Tunnel	1 unit	
21	Inkjet Printing Equipment	1	
22	Stainless Steel collection vessel	4	
23	Reverse Osmosis Method Water Plant –250 liters/hour	1 unit	
24	Automatic Steam Boiler – Horizontal model	1	
25	Boiler completion tools	1 set	
<b>Grand total</b>			