



## ADDENDUM NO. 01

### Series of 2021

This Addendum No. 01 is issued to modify or amend items in the Bidding Documents for the **Provision of Technical & Scientific Equipment for the operation of various Projects**. This shall form an integral part of the Bid Documents.

Name of Project: **Provision of Technical & Scientific Equipment for the operation of various Projects**  
Location: CSU Campus, Ampayon, Butuan City  
Brief Description: Provision of Technical & Scientific Equipment for the operation of various Projects  
Approved Budget for the Contract : **Php. 7,141,000.00**  
Source of Funds: RAF 2022  
Contract Duration: 60 Calendar Days

Please be informed of the changes and the inclusion of design in the Bidding Documents, as follows:

CHANGES / AMENDMENTS					
No.	Item Description	Qty	Unit	Unit Cost	Total Cost
<b>Provision of Technical &amp; Scientific Equipment for the Operation of R&amp;D on the use of Biotechnology to Modernize Production of High-Value Crops</b>					
1.	<b>Class II- BIOSAFETY CABINET (230V, 60Hz)</b> *Electronically Commutated Motor (ECM) *Constant Airflow Profile (CAP) airflow monitoring system *Intrinsically-safe negative pressure design *Air-Wave™ Entry System* *Contain-Air™ Negative Pressure Channel* *Supply and exhaust 99.99% efficient HEPA filters. ( 99.999% efficient ULPA filters available) *Interior-mounted, line-of-sight color LCD with MyLogic OS. *Displays filter life, status messages for alarm conditions and alerts. 8 languages *Bright, 90-150 footcandle (forearm support), glare-free LED lighting located outside the contaminated work area *Fully-closing, clear 1/4" tempered safety glass sash *Curved stainless steel inlet grille with Reserve-Air Secondary Airflow Slots *Two electrical receptacles. Flush-mounted stainless steel with dampened hinges. Single outlets on 230V models. *Smart-Start™ System user-programmable start up & shut down *Night-Smart™ System reduces blower speed when sash is closed *Leak-tight stainless steel interior & powder-coated steel exterior *Removable towel catch located under work surface *Code-activated electronic security lock	1	unit	₱757,372.74	₱757,372.74



**BIDS AND AWARDS COMMITTEE (BAC)**

	<ul style="list-style-type: none"> <li>*22.6" (57 cm) max. sash opening &amp; 27.0" (69 cm) viewing height</li> <li>*10° Angled sash with counterbalanced, easy lift mechanism</li> <li>*ADA-Compliant touchpad control on right side post</li> <li>*Noise level &lt;63 dBA</li> <li>*Heat load 990 BTU/hour (4' models)</li> <li>*Removable, seamless type 304 stainless steel, dished work surface with lift out knobs</li> <li>*Nominal inflow velocity of 105 fpm (0.5 m/sec)</li> <li>*Nominal downflow velocity of 55 fpm (0.3 m/sec)</li> <li>*Approximately 70% air recirculation</li> <li>*Overall depth x height: 31.2" x 61.7" (79.2 x 156.7 cm)</li> <li>*Overall Dimensions : 42.3" x 32.3" x 61.7" (107.4 x 82.0 x 156.7 cm)</li> <li>* Interior Dimensions : 36.5" x 17.6" x 29.2" (92.7 x 44.7 x 74.2 cm)</li> <li>*10' (3 m) power cord with plug</li> <li>*Built-in timer and digital clock</li> </ul> <p>Models conform to the following standards:</p> <ul style="list-style-type: none"> <li>*ETL listed</li> <li>*NSF listed (Logic+ models)</li> <li>*ADA-compliant (height of controls and receptacles)</li> <li>*NSF and modified ASHRAE 110 compliant (Cell Logic+ models)</li> <li>*CE Conformity marking (230V models)</li> <li>*ISO 5 conditions per ISO 14644-1 and 2</li> </ul>				
2.	<b>pH METER</b> <ul style="list-style-type: none"> <li>*Automatic calibration with recognition of up to 6 buffers</li> <li>*Automatic temperature compensation</li> <li>*Electrode check during calibration</li> <li>Stability icon</li> <li>*BNC connector for glass-membrane</li> <li>*pH electrode or Redox electrode</li> <li>*Voltage: +1500.0 mV</li> <li>*pH: 0 to 14.0</li> <li>*Temperature: -5 to + 105°C</li> <li>*Voltage: 40.4 mV</li> <li>*With Electrode holding arm</li> <li>* With AC adapter</li> </ul>			₱43,372.67	₱43,372.67
3.	<b>TOPLOADING BALANCE</b> <ul style="list-style-type: none"> <li>*Weighing capacity (g): 2, 200g</li> <li>*Readability: 0.01g</li> <li>*Pan Size (mm): 180x180 mm dia.</li> <li>*Repeatability: 0.01g</li> <li>*Linearity: 0.02g</li> <li>*Response time (sec): 1.1 sec.</li> <li>*Calibration: Internal</li> <li>*Power Supply: 230V, 60 Hz</li> </ul>	1	unit	₱80,254.59.00	₱80,254.59.00
<b>RAND TOTAL</b>					<b>₱881,000.00</b>
4.	<b>Tachometer</b> <ul style="list-style-type: none"> <li>Contact/Noncontact: Contact and Noncontact</li> <li>Contact RPM Range: 0.5 to 20,000</li> <li>Noncontact RPM Range: 10 to 99,999</li> <li>Speed (FPM): 0.20 to 6560</li> <li>Speed (m/min): 0.05 to 1999.9</li> </ul>	3	unit	₱25,000.00	₱75,000.00



**BIDS AND AWARDS COMMITTEE (BAC)**

	RPM Accuracy: 0.05% Of Reading +1 digit Working Distance: 6.5 ft RPM Resolution: 0.100 (Less than 1000 rpm), 1 (Greater than 1000 rpm) Light Source: Laser Display: 5 Digit LCD Memory: Last/Min/Max Standards: CE Compliant Includes: (4) 1.5V AA Batteries, Carrying Case, Reflective Tape, Tips and Wheel for RPM or Linear Surface Speed				
<b>5.</b>	<b>Digital Temperature Logger</b> Weight: 10.2 ounces Maximum Storage Temperature: 1800 degrees Celsius Minimum Storage Temperature: -200 degrees Celsius Temperature Accuracy: $\pm 1^{\circ}\text{C}$ Temperature Measurement Range: -200 to 1800 $^{\circ}\text{C}$ Sensor Type: 8 Type Thermocouples Channel Number: 8 Resolution: 0.1 $^{\circ}\text{C}$ Recording Capacity: 86,000 Data Points/Channel Sampling Rate: 1sec to 24hr Logging Interval: 2sec to 24hr Battery: 9V Block Battery Battery Life: 12 months (Standard) Weight: 290g Accessories: 9V Block Battery, USB Cable, Mini K Thermocouple, NIST Tracable Certificate, Power Adapter, and Link to Download User Manual and Software Package Includes: K Type Mini-Connector Thermocouple Temperature Probe Sensor with connector Measure Range -50 to 700 degree celcius	<b>1</b>	<b>unit</b>	<b>P65,000.00</b>	<b>P65,000.00</b>
<b>6.</b>	<b>Digital Analytical Balance</b> AC110/220V $\pm 10\%$ , 50/60Hz; Power Cord, no battery Accessories: Balance body, adapter, weight, windshield. Capacity: 100g Readability: 0.1mg Scale Size: $\Phi 80\text{mm}$ Gross Weight: 10KG External Size: 415*285*430mm Package Size: 480*375*515mm Work Space Height: 230mm Calibration: Internal Calibration	<b>2</b>	<b>unit</b>	<b>P30,000.00</b>	<b>P60,000.00</b>
<b>RAND TOTAL</b>					<b>P200,000.00</b>
<b>7.</b>	<b>Laboratory Oven</b> PID Multi-Function Controller Alarm, AUto tuning Timer: 99 min 59 sec/99 hr 59 min/99 days 23 hours/Continuous Stainless Steel Interior & Epoxy Powder Coated Steel Exterior Ceramic and Glass Wool Insulation Inner Dimensions: 400 mmW x 400 mmD x 500 mmH	<b>1</b>	<b>unit</b>	<b>P200,000.00</b>	<b>P200,000.00</b>



**BIDS AND AWARDS COMMITTEE (BAC)**

	Outer Dimensions: 550 mmW x 650 mmD x 850 mmH Temperature Range: Ambient +5 to 250 deg Celsius Set Accuracy: +1.0 degrees Celsius Display: LED 4 Digits Safety: Overheat Protector, Over Current & Leakage Breaker Electrical Supply: 220 V; 50/60 Hz; 1.5 kW Heater Tempered Safety Glass Window Warranty: One year warranty period under normal use condition				
8.	<b>Digital Multimeter</b> Resistance Accuracy: $\pm(0.9\% + 1)$ Maximum Resolution: 0.1 $\Omega$ Maximum: 50 M $\Omega$ Capacitance Accuracy: $\pm(1.2\% + 2)$ Maximum Resolution: 1 nF Maximum: 10,000 $\mu$ F Frequency Accuracy: $\pm(0.1\% + 1)$ Maximum Resolution: 0.01 Hz Maximum: 100 kHz Temperature Accuracy: $\pm(1.0\% + 10)$ Maximum Resolution: 0.1°F (0.1°C) Range: -40 to 752°F (-40 to 400°C) Environmental Specifications Operating Temperature 14 to 122°F (-10 to 50°C) Storage Temperature -22 to 140°F (-30 to 60°C) Humidity (without condensation) 0 to 90% (32 to 95°F) (0 to 35°C) 0 to 70% (95 to 122°F) (35 to 50°C) Safety Specifications Overvoltage Category EN 61010-1 to 1000 V CAT III EN 61010-1 to 600 V CAT IV Agency Approvals UL, CSA, TÜV listed and VDE Pending Mechanical and General Specifications Battery Life Alkaline approximately 200 hours typical, without backlight Size: 1.7 x 3.5 x 7.3" (43 x 90 x 185 mm) Weight: 0.9 lb (420 g)	2	units	₱20,000.00	₱40,000.00
9.	<b>Digital Planimeter</b> Technical Specifications: Accuracy: $\leq \pm 0.2\%$ Measuring range: Top-bottom: max. 328mm Left-right: 30m from moving side Size: 21*37.5*7cm Continuous working: 30 hours Measurement functions: area, sum, average value. Uses: construction, forestry, vessel design, agriculture estimation, teaching, research, reallocation of land, machine design, medical science, data analysis and other activities.	3	unit	₱40,000.00	₱120,000.00



**BIDS AND AWARDS COMMITTEE (BAC)**

10.	<b>Digital Handheld Soil Moisture Meter</b> <b>SPECIFICATIONS</b> Display LCD Size: 28 x 19 mm (1.1 x 0.75") Measurement Range: 0 to 50% moisture content on soil Resolution: 0.1% Accuracy: $\pm(5\% + 5 \text{ d})$ full scale @ 23°C (73°F) $\pm 5^\circ$ Probe: 2 pins moisture electrode Data Hold: Freeze the display reading Sampling Time: Approx. 0.8 sec Operating Temperature: 0 to 50°C (32 to 122°F) Operating Humidity: Less than 80% RH Power Supply: 4 "AAA" batteries (included) Current Draw: Approx. DC 5 mA Weight: 267 g (0.58 lb) Dimensions: Meter: 172 L x 40 W x 40 mm D (6.8 x 1.6 x 1.6") Probe: 202 L x 10 mm D (8 x 0.4") Total Length (Meter/Probe): 374 mm (14.7")	2	units	₱20,000.00	₱40,000.00
11.	<b>Pyranometer</b> Spectral Range: 285 to 2800nm Response Time: <2s Zero Offset A: <7 W/m <sup>2</sup> Zero Offset B: <2 Wm <sup>2</sup> Directional Error (Up to 80° with 1000 Wm <sup>2</sup> beam): <10 Wm <sup>2</sup> Temperature Dependence of Sensitivity: <1% (-20 to 50°C) <2% (-40 to 70°C) Analogue Output: -V version: 0-1V -A version: 4-20mA Analogue Output Range: -V version: -200 to 2000W/m <sup>2</sup> -A version: 0 to 1600W/m <sup>2</sup> Digital Output: 2 wire RS485 Modbus RTU Digital Output Range: -400 to 4000W/m <sup>2</sup> Operating Temperature: -40 to +80°C Supply Voltage: 5 to 30vDC Power Consumption (at 12vDC): -V version: 55mW -A version: 100mW	1	unit	₱200,000.00	₱200,000.00
12.	<b>Digital Grain Moisture Meter</b> Test the moisture and temperature of the grains; Accuracy: Moisture $\pm (1\% \text{ Rh} = 0.5)$ , temperature $\pm 2.5^\circ\text{C} (\pm 5^\circ\text{F})$ ; Resolution: 0.5% moisture, temperature 0-85%Rh; Dimensions: 72x35x145mm, Probe: 415x36x36mm; weight: 190.6g, Probe 208.3 g; Power supplied by a 6F22 9V battery with auto reminder hile low battery	2	units	₱40,000.00	₱80,000.00
13.	<b>Weather Instruments with accessories</b> Wind Speed Range: 0-60m/s accuracy +/- 2% @ 12m/s Wind Direction Range: 0-359° accuracy +/- 3°C @ 12 m/s <b>Air Temperature Range: -35 to +70°C</b> accuracy +/- 0.1°C Relative Humidity Range: 0 to 100% RH accuracy +/- 0.8% RH Barometric Pressure: 600-1100hPa accuracy +/- 0.5hPa Dew Point Resolution: 0.1°C	1	unit	₱150,000.00	₱150,000.00



**BIDS AND AWARDS COMMITTEE (BAC)**

	Mounting: Anodized Aluminum Bracket Serial Output: RS232, RS422, RS485 or SDI-12 Power Supply Analogue 5-30vDC (SDI-12, Min 12vDC) 16mA Radiation Shield: 6-plate Naturally Aspirated Calibration: Factory calibrated with 1.8M USB Configuration Cable with 15m Power & Communications Cable (6 Pair) with Weather station tripod mounting kit with 3m pole.				
14.	<b>Metal Tipping Bucket Rainfall Sensor Rain Gauger</b> Rainfall collector Diameter : $\phi$ 200mm, height: 350mm Measured rainfall intensity Max: 4mm/min Allow rainfall intensity Max: 10mm/min Resolution: 0.1mm, 0.2mm Accuracy(2mm/min): $\pm 4\%$ Maximum load voltage: 30VDC(pulse output) Maximum load current: 20mA(pulse output) Output: Reed switch pulses, RS485(12-24VDC supply) Operating temperature(no freeze): -20--+80°C Main material Collector: 304SS, tipping bucket: ABS Tipping bucket: Single Heating(optional) Heating power: approx. 350W; Heating voltage: 220VAC Collector filter: Removable filter (prevent leaves and sundries) optional Weight(unpacked): 3.5kg	2	units	₱20,000.00	₱40,000.00
15.	<b>Viscometer (Digital Rotational)</b> Digital Model Measurement Range: 10 to 1,000,000 CPS (RVB-1) Spindle Speeds: 0.3 to 60 RPM Backlit LCD Display User Controlled Stepper Motor Stainless Steel Spindles (4 Included) Rotor Specification: Number 1 to 4, four types of rotors Rotation Speed of Rotor: 6, 12, 30 or 60 RPM Measurement Error: $\pm 5\%$ (Full Scale) Power Supply: AC 120V $\pm 10\%$ , 50 Hz $\pm 10\%$ Ambient Temperature: 5 to 35°C (41 to 95°F) Relative Humidity: Not more than 80% RS232 output	1	unit	₱120,000.00	₱120,000.00
16.	<b>Digital Food Moisture Analyzer</b> Adjustment options: External calibration Linearity: 3 mg Measuring range [Max]: 199 OC n/a: 2 g Readout (moisture): 0 Readout [d]: 1 mg Reproducibility: 1 mg Resolution: 110000 Stabilisation time: 3 s Tare range: 110 g Warm up time: 2 h Weighing range [Max]: 110 g Weighing system: Strain gauge Display digit height: 1,400 cm	1	unit	₱120,000.00	₱120,000.00





**BIDS AND AWARDS COMMITTEE (BAC)**

	Display digit height: 6 mm Level indicator: yes Material weighing plate: Aluminium dish Overall dimensions mounted (WxDxH): 240 x 365 x 180 mm Revolving screw feet: yes Weighing surface (d): 92				
17.	<b>Fruit Penetrometer/Sclerometer</b> FR-5120 (10 kilogram) Make: Lutron (Taiwan) Mechanism: Push & Pull Peak Force Probe: 6 mm diameter tip Accuracy range: 0.25% FS Application Range: 0 to 13 Kg (Appropriate for fruits such as apples, pears, peaches or kiwis) Unit: Newton/lbs	2	units	₱30,000.00	₱60,000.00
18.	<b>Digital Bulk Density Apparatus</b> Display: 4 Digit 7-Segment Red LED Keyboard: 6 Soft Touch Membrane Keys Cylinder: 2 Nos., 50/100 ml Cylinders Drop Height: 25 mm (Approx.) Power: 230 V $\pm$ 10% AC, 50 Hz. Dimensions: 600 x 450 x 200 mm (Approx.) Weight: 12 Kg (approx.) Accessories: 50 ml Cylinders - 2 Nos., Instruction Manual & Dust Cove	1	unit	₱320,000.00	₱320,000.00
19.	<b>Water Activity Meter</b> Type: Electromagnetic Meters, Temperature Measure: 0 to 50°C, Temperature Measure Accuracy: $\pm$ 0.5°C, Repeatability: $\leq$ 0.015, Temperature Coefficient: $\leq$ 0.0005/°C, Supply Voltage: 220VAC $\pm$ 10%, Water Activity Measurement range: 0 to 0.80aw, Water Activity Measurement Accuracy: $\pm$ 0.015(@25°C), Large-screen LCD (128x64 DOTS	1	unit	₱110,000.00	₱110,000.00
20.	<b>Food pH Meter</b> Maximum pH: +14pH Minimum pH: 0pH pH Resolution: 0.01pH Best pH Accuracy: $\pm$ 0.2pH Dimensions: 66 x 50 x 25mm Length: 66mm Width: 50mm Height: 25mm Power Source: Battery Minimum Operating Temperature: 0°C Maximum Operating Temperature: +50°C Battery Type: PR44 x 2 Weight: 50g Battery Life: 3000 h	2	units	₱50,000.00	₱100,000.00
21.	<b>Precision Balance (Top Loading)</b> *Weighing capacity (g): 2, 200g *Readability: 0.01g *Pan Size (mm): 180x180 mm dia. *Repeatability: 0.01g *Linearity: 0.02g *Response time (sec): 1.1 sec. *Calibration: Internal *Power Supply: 230V, 60 Hz			₱93,000.00	₱93,000.00
<b>RAND TOTAL</b>					<b>₱1,793,000.00</b>



**BIDS AND AWARDS COMMITTEE (BAC)**

22.	<b>Colorimeter</b> Portable Digital Colorimeter Color Space: CIE Lab Color Difference: delta E*ab Range: 0-100 Light Source: D65 Sensor: Photodiode Array Power: Electronic	1	unit	₱30,000.00	₱30,000.00
23.	<b>Digital Fruit Penetrometer/Hardness Tester/Sclerometer</b> FR-5120 (20 kilogram) Mechanism: Push & Pull Peak Force Probe: 6 mm diameter tip Accuracy range: 0.25% FS Application Range: 0 to 20 Kg (Appropriate for fruits such as apples, pears, peaches or kiwis and very hard fruits) Unit: Newton/lbs	1	unit	₱30,000.00	₱30,000.00
24.	<b>Digital Brix &amp; Sucrose Refractometer</b> Maximum Measurement: +80 °C, 85 %Brix Minimum Measurement: 0 %Brix, 0 °C Best Accuracy: ±0.2 %Brix Resolution: 0.1 %Brix, 0.1 °C Measurement Time: 1.5s Type: Digital/Optical Battery Type: 9V Battery Life: 5000 Tests Power Source: Battery Dimensions: 192 x 104 x 69mm Weight: 420g (	1	unit	₱50,000.00	₱50,000.00
25.	<b>Portable Food pH Meter</b> pH Range: -2.0 to 20.0 pH; -2.00 to 20.00 pH; -2.000 to 20.000 pH pH Resolution: 0.1 pH; 0.01 pH; 0.001 pH pH Accuracy: ±0.1; ±0.002 pH pH Calibration: up to five point calibration, seven standard buffers available (1.68, 4.01, 6.86, 7.01, 9.18, 10.01, 12.45) + five custom buffers pH CAL Check (electrode diagnostics): Yes pH Input impedance: 10 <sup>12</sup> Ohms mV Range: ±2000 mV mV Resolution: 0.1 mV mV Accuracy ±0.2 mV Temperature Range: -20.0 to 120.0°C (-4.0 to 248.0°F) Temperature Resolution: 0.1°C (0.1°F) Temperature Accuracy: ±0.4°C (±0.8°F) (excluding probe error) Temperature Compensation: manual or automatic from -20.0 to 120.0°C (-4.0 to 248.0°F) pH Electrode: FC2023 Foodcare PVDF body, pH electrode with internal temperature sensor, quick connect DIN connector and 1 m (3.3' cable) Logging Memory: 200 samples (100 pH and 100 mV range) Connectivity: opto-isolated USB with optional HI 92000 software and micro USB cable Automatic Shut-Off: user selectable: 5, 10, 30, 60 min or can be disabled GLP: Yes Battery Type/Life: 1.5V AA batteries (4) / approximately 200 hours of continuous use without backlight (50 hours with backlight) Environment: 0 to 50°C (32 to 122°F); RH 100% (IP67) Dimensions: 185 x 93 x 35.2 mm (7.3 x 3.6 x 1.4") Weight: 400gm	1	unit	₱55,000.00	₱55,000.00
26.	<b>Vision Scientific Digital Hotplate Magnetic Stirrer</b> Magnetic stirrer, with display, Stirring hot plates: cat no. -230V/50hz - 6798-420D, Temp./stir range: 60-1150RPM, Top plate size: 5" x 7" or (12.7cm x 17.8cm) with complete accessories. Temperature Range: 50-360 degrees Coated Plate Size: 6" x 6"	1	unit	₱35,000.00	₱35,000.00





**BIDS AND AWARDS COMMITTEE (BAC)**

	Display: LCD Stir Bar: 2 magnetic bars, manual				
<b>RAND TOTAL</b>					<b>₱200,000.00</b>
27.	<b>DIGITAL REFRACTOMETER,</b> Automatic power off: After about 3 minutes of unused, Range of Measurement: 0.0~85.0% Brix, nD : 1.3300~1.5080, nD20 : 1.3330~1.5040, 0~80°C, Temperature Compensation (°C): 10~40, Unit of Detection: 0.1% Brix, nD: 0.0001, nD20: 0.0001, temperature: 0.1 ° C, Waterproof: IP65, Specification: Measurement required: about 2 drops, Measurement cell: Stainless Ring & Flint Glass Prism, Measuring Time (seconds): About 1.5-2.0, Set Contents: Main unit, 1 9V alkaline battery, Japanese instruction manual, etc., Mass (g): 420, Light Source: Yellow (LED), Power Supply: Battery, Calibration: Water (distilled water, purified water), Accuracy: (25°C)±0.2% Brix, ±0.0005, ±0.3°C	1	unit	₱40,000.00	₱40,000.00
28.	<b>Toploading Balance</b> Weighing Capacity: 2,200g, Readability: 0.01g, PanSize: 180x180mm dia., Repeatability: 0.01g, Linearity: 0.02g, Response time: 1.1 sec., Calibration: Internal, Power Supply: 230V, 60Hz	1	unit	₱80,500.00	₱80,500.00
29.	<b>pH Meter</b> Measuring Range: Voltage: +1500.0 mV, pH: 0 Temperature: -5 to +105°C, Resolution: Voltage: 0.1mV, pH: ±0.01 Temperature: ±0.10°C, Accuracy Voltage: 40.4 mV <b>pH: ±0.01</b> Temperature: ±0.10°C 4 Keys: pH/mV -Standardize -Set-up -Enter Net weight: approx. 500g - 2kg Standard Equipment/Equipment Supplied: •Electrode holding arm •AC adapter	1	unit	₱44,000.00	₱44,000.00
30.	<b>Moisture Analyzer</b> System Measuring Capacity: 1mg Reproducibility: at 1g initial weight - + 0.2 5g init. Weight - + 0.05 Readability: 0.01% Display mode: %moisture %dry weight (solids) %Ratio g residue Temp Range and Settings: 40-160 degrees-ad 1-degree increment Operator Guidance: Icons Sample Heating: Infrared heating using metal heating elements Special version compliant with FDA/HACCP regulations: with aluminum panel inserts instead of glass panels	1	unit	₱160,000.00	₱160,000.00
31.	<b>Analytical Balance</b> Weighing capacity (g): 220g	1	unit	₱120,000.00	₱120,000.00



**BIDS AND AWARDS COMMITTEE (BAC)**

	Readability: 0.0001g Pan Size (mm): 90 mm Repeatability: 0.0001g Linearity: 0.0002g Response time (sec): 2.5 sec. Calibration: Internal Power Supply: 230V, 60 Hz				
32.	<b>Water Activity Meter</b> Type: Electromagnetic Meters, Temperature Measure: 0 to 50oC, Temperature Measure Accuracy: $\pm 0.5^{\circ}\text{C}$ , Repeatability: $\leq 0.015$ , Temperature Coefficient: $\leq 0.0005/^{\circ}\text{C}$ , Supply Voltage: 220VAC $\pm 10\%$ , Water Activity Measurement range: 0 to 0.80aw, Water Activity Measurement Accuracy: $\pm 0.015$ (@25°C), Large-screen LCD (128x64 DOTS	1	unit	₱105,500.00	₱105,500.00
<b>RAND TOTAL</b>					<b>₱550,000.00</b>
33.	<b>Sample Mechanical Mill/Grinder</b> Grinding principle=Rotor blade, Grinding rate=1 to 10 seconds, Particle Size = Depending on sample, Power Supply = 230 V, 600 W, Weight=7.5 Kg, Dimension(WxDxH)=190x322x237 mm, Rotor speed, impeller=16000 rpm, water supplu (cooling) = 2 l/min, 10-15 degrees C	1	unit	₱350,000.00	₱350,000.00
34.	<b>Sample Mechanical Mill/Grinder</b> Cutting speed=0-2400 rpm, chanber dia=1.575", Sample input size = 0.6", Sample volume=Dependent on sample, Torque=Continuous@2.56Nm, Peak:4.125 Nm, Display=LCD, Housing Material=Powder Coated Steel, Sieve Material=316 Stainless steel (10, 20, 40, 60 Mesh), Electrical = 230 V, Weight 63 lbs, Dimensions (LxWxH)=17"x12"x12", accesories=one jar adapted, on 4 oz collection jar and cleaning brush	1	unit	₱490,000.00	₱490,000.00
35.	<b>Wet-sieving apparatus</b> Capacity: 8 Micro-sieve (60 mesh) and 8 Stainless Reciever, Measuring range = 0-100%, Operating Voltage = 110-240 V, (complete set to determine aggregate stability of soils)	1	unit	₱580,000.00	₱580,000.00
36.	<b>Oven</b> Capacity=196(396) L, Type: Mechanical Convection, Temp range: 50-250 degrees C, Controller Type: Programmable Microprocessor Control Vaccum flourecent Display, Temp Stability=2.1 C, Electrical=230V 3000 W, 13 A, Material=Coated Steel, No. of Shelves = 39 max, Width=77.8 cm, Dimensions DxWxH)(interior)=21.5x21.4x52.6 in, Dimension DxWxH) (Exterior)=30.3x30.6x60.8 in	1	unit	₱480,600.00	₱480,600.00
37.	<b>Fume hood</b> External Size (WxDxH) = 1540x800x2200mm, Work Surface Height=850 mm, Max Opening, 520 mm, Air Velocity=0.3-0.8 m/s, Exhaust duct=PVC, 4 meters, Dia: 300mm, LED Lamp=16W, UV Lamp= 253.7 nm, Blower=Built-in Centrifugal Blower, speed adjustable, Front Window= 5 mm toughened glass, motorized, Height adjustable,	1	unit	₱130,000.00	₱130,000.00



**BIDS AND AWARDS COMMITTEE (BAC)**


	Electricals= 220 V, 500 W, Material= Exterior: Colled rolled Steel with anti-bacterial coating, Interior: high grade melamin board, Work table: Chemical resitant phenolic resin.				
38.	<b>Mechanical Shaker</b> Speed Range = 15-525 rpm, Orbit - 1 inch, Capacity: 20, 50 ml Erlenmeyer flask, Control=Touch Screen, Humidity Range=20-80% non-condensing, Operating Conditions=5-40 degrees, Accuracy 1 rpm, Includes = 12x12 in universal platform, Electrical=100-240 V, Dimension (LxWxH): 18.5X14.3X5.5 in	1	unit	₱350,000.00	₱350,000.00
39.	<b>Water Bath</b> Capacity=28 L, Temp Range=100 Degrees C, Temp Stability=0.1, Temp Uniformity=0.2, Chamber Material=Stainless Steel, Controller Type=Digital, Display=Monochrome LCD, Temp Presets = 4, Dimensions (LxWxH), 15.4x21.8x11.1, Electricals=230 V, 1200 W	1	unit	₱219,400.00	₱219,400.00
40.	<b>Muffle Furnace</b> Capacity=14 L, Temp Range=100 to 1200 Degrees C, Temperature Control=Digital Single Point (B1), Temp Stability 0.3 at 1000 Degrees, Temp Uniformity=2.2 at 1000 degrees, Shelve=Stainless Steel, Dimensions(DxWxH) (Interior)= 10x12.8x6.8 in, Dimensions(DxWxH) (Exterior)= 20.1x19.1x21 in, Electricals= 240 V, 12.9 A, 3095 W.	1	unit	₱400,000.00	₱400,000.00
<b>RAND TOTAL</b>					<b>₱3,000,000.00</b>
41.	<b>Colorimeter</b> WR10 Portable Digital Colorimeter Color Space: CIELab Color Difference: delta E*ab Range: 0-100 Light Source: D65 Sensor: Photodiode Array Power: Electronic	1	unit	₱20,000.00	₱20,000.00
42.	<b>Toploading Balance</b> Weighing Capacity: 2,200g, Readability: 0.01g, PanSize: 180x180mm dia., Repeatability: 0.01g, Linearity: 0.02g, Response time: 1.1 sec., Calibration: Internal, Power Supply: 230V, 60Hz	1	unit	₱80,500.00	₱80,500.00
43.	<b>Laboratory Centrifuge</b> Max Speed: 24000r/min, Speed Accuracy: ±10rpm, 47800*g, Time Range: 0~99min, Motor: Variable frequency motor, <b>Max RCF</b> : Microcomputer control, Power Supply: AC220V&110V 50Hz 5A,	1	unit	₱106,500.00	₱106,500.00
44.	<b>Water Bath</b> Heated, Type-Circulators and water Baths: General Purpose, Capacity-Circulators and water Baths: 28L, Chamber Depth: 8 in, Chamber Height: 8 in, Chamber Width: 17 in, Temp. Range (oC): Ambient +5 Degrees to 99 degrees, Temperature control: Yes, Temp. Accuracy: +/-0.25 Degrees C, Chamber Material: Stainless Steel, Amps: 12A, Voltage: 120, Display: Digital, Flow Rate: 28lpm, Material: Polycarbonate, Stainless Steel, Max Temp 100 degrees C, Overall Depth: 14 in, Overall Height: 14 in, Overall Width, 17.5 in.	1	unit	₱51,000.00	₱51,000.00
<b>RAND TOTAL</b>					<b>₱258,000.00</b>
45.	<b>Digital Grain Mositure Meter</b>	1	Unit	₱37,000.00	₱37,000.00



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	Test the moisture and temperature of the grains; Accuracy: Moisture $\pm$ (1% Rh = 0.5), temperature $\pm$ 2.5°C ( $\pm$ 5°F); Resolution: 0.5% moisture, temperature 0-85%Rh; Dimensions: 72x35x145mm, Probe: 415x36x36mm; weight: 190.6g, Probe 208.3 g; Power supplied by a 6F22 9V battery with auto reminder hile low battery				
<b>RAND TOTAL</b>					<b>₱37,000.00</b>
46.	<b>Feed microscopy (Compound microscope)</b> Eyepieces: WF 10 x 20 mm Objective: 4x / 10x / 20x / 40x / 100x Lens revolving unit: 5-times Tube: 360° rotating / 30° inclined Overall dimensions WxDxH: 306 x 200 x 395 mm, Net weight approx.: 10 kg	1	unit	₱115,000.00	₱115,000.00
47.	<b>Bulk density (Scott volumeter bulk density tester meter)</b> Square shape funnel: 1mm square conical shape: upper dia. is 12.5mmx12.5mm; Cylindrical receiving cup volume:25ml Stainless steel, net weight: 46 $\pm$ 1g; Maximum capacity: 1kg, accuracy is 0.02g	1	unit	₱35,895.00	₱35,895.00
48.	<b>Backfat Meter</b> The number of layers present; Compact and Lightweight for single hand operation; also function as ear tag reader using ISO Standard – ISO-11784/5, FDX-B	2	unit	₱25,552.50	₱51,105.00
49.	<b>Moisture test (Digital grain seed moisture meter)</b> Accurate measurement of moisture and temperature in the process acquisition, storage of feed stuff, powder	1	unit	₱20,000.00	₱20,000.00
<b>RAND TOTAL</b>					<b>₱222,000.00</b>
<b>GRAND TOTAL</b>					<b>₱7,141,000.00</b>

For guidance and information of all concerned.

  
**ARMIE LEILA M. MORDENO, DPA, CSEE**  
 BAC Chairperson