



Republic of the Philippines
BULACAN AGRICULTURAL STATE COLLEGE
Office of Bids and Awards Committee
Pinaod, San Ildefonso, Bulacan, Philippines 3010

November 22, 2023

Bid Bulletin No. 1

Name of Project:	2023-06G: Acquisition of Laboratory Equipment for the Bulacan Agricultural State College for CY 2024
ABC:	Php10,500,000.00

This Bid Bulletin No. 1 is issued to modify or amend items in the Bidding Documents for the above cited project. This shall form an integral part of the said Bidding Documents. The changes in the technical description shall also apply to the Schedule of Requirements and Price Schedules found in the Bidding Documents

Section VII. Technical Specifications

Item	From	To
1	Full Automatic Triaxial Test Set Test Specimen: Soil Display: Digital Display Axial Force: 0-10kn, Measurement Accuracy: ±1% Shear Rate: 0.001-5.000mm/Min Specimen size: Φ39.1x80mm Confining Pressure: 0-1MPa Backpressure: 0-1MPa Aperture Pressure: 01MPa Volume Change: 0-50ml inclusion: with 1 year warranty with after sales services with installation/assembly with training	No changes
2	Analytical Balance Accuracy: 0.0001g Display type: LCD Material: Stainless Steel Structure: Desktop Certification: CE or ISO Application: Industry, School, Hospital, Laboratory Calibration: Internal Capacity: 0-220g Readability: 0.1mg inclusion: with 1 year warranty with after sales services with installation/assembly with training	No changes



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3	<p>Fume Hood</p> <p>Size (W*D*H) (mm) 1200 x 850 x 2350 or 1500 x 850 x 2350 or 1800 x 850 x 2350</p> <p>average windspeed: 0.3 - 0.6 m/s adjustable Noise Level: 60dB(a) Exhaust air rate: 1500 - 3000 m³/h Opening height: 20 - 750 mm Luminance: >300LX Power 220V/50HZ</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	<p>Fume Hood</p> <p>Size (W*D*H) (mm) 1500 x 850 x 2350</p> <p>average windspeed: 0.3 - 0.6 m/s adjustable Noise Level: 60dB(a) Exhaust air rate: 1500 - 3000 m³/h Opening height: 20 - 750 mm Luminance: >300LX Power 220V/50HZ</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>
4	<p>Visible spectrophotometer</p> <p>Optical System: Single Beam 1200lines/mm Wave length Range: 190~1100nm / 320~1100nm /340~1050nm Spectral Bandwidth: 2nm / 4nm Wavelength Accuracy ±0.3nm / ±0.5nm / 1nm Wavelength Repeatability: ≤0.1 / ≤0.2nm Photometric Accuracy: 0.3%T / 0.5%T Photometric Repeatability: 0.2%T Photometric Range:0-200%T, 0.3 - 3A Stray light: 0.05%T / 0.1%T / 0.15%T Stability: ±0.0001A / ±0.0002A Baseline flatness: ±0.002A Noise: ±0.001A Wavelength Setting: Auto Light Source: Deuterium Lamp / Tungsten Lamp Display: LCD Detector: Silicon Photodiode Output: USB Port x1 Power: AC 220V / 50Hz ; AC 110V/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	<p>Visible spectrophotometer</p> <p>Optical System: Single Beam 1200lines/mm Wave length Range: 340~1050nm Spectral Bandwidth: 2nm / 4nm Wavelength Accuracy ±0.3nm / ±0.5nm / 1nm Wavelength Repeatability: ≤0.1 / ≤0.2nm Photometric Accuracy: 0.3%T / 0.5%T Photometric Repeatability: 0.2%T Photometric Range:0-200%T, 0.3 - 3A Stray light: 0.05%T / 0.1%T / 0.15%T Stability: ±0.0001A / ±0.0002A Baseline flatness: ±0.002A Noise: ±0.001A Wavelength Setting: Auto Light Source: Deuterium Lamp / Tungsten Lamp Display: LCD Detector: Silicon Photodiode Output: USB Port x1 Power: AC 220V / 50Hz ; AC 110V/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>



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5	<p><i>Flame photometer</i></p> <p>Display: 7 - 10 inch Color Touch Screen Reproducibility: <2% Stability: <3% Responsetime: <8 seconds (min) Printer: Integral Thermal Printer USB Data Output: Optional Fp Win Data Collection Software (equal or higher)\ Supported Languages: English (and others) Concentration units: Ug/MI, Mg/100ml, Mmol/L, Meq/L Gases: LPG, Natural Gas, Propane, Butane, etc</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	No Changes
6	<p><i>Muffle furnace box type</i></p> <p>Capacity: up to 30L maximum Temperature: 1000°C - 1200°C Power Voltage: 10KW/380v or 12KW/380V Buckle Handle: 4 Clamping force: up to 500kg Controller: Programable Controller Liner: High Aluminum, pressure resistance, Strong wear resistance, Uniform Heating, small temp. fluctuation, thermocouple temperature measurement sensitive response. with voltage regulator</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	No Changes
7	<p><i>Electronic titrator</i></p> <p>Display: LED Touch Screen Chemical Analysis type: Karl Fischer Method Portable: Yes Application: Chemicals Analysis Method: Physical Analysis Type: karl Fished Moisture Meter Temperature Measuring: 0~100°C pH Measuring Range: 0~14.pH</p>	No Changes



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	<p>Mv Measuring range: $\pm 1999\text{mv}$ Resolution: 0,01pH; 0.1mv;0.1°C Repeatability: $\leq 0.2\text{mv}$ Power: AC 110v/220V$\pm 10\%$ 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	
8	<p>Drying Oven</p> <p>Operational Method: Continuous Material: Stainless Steel Structure: Desktop Capacity: 140L Temp range: rt+10~250/300°C temp. Precision: 0.1°C Temp Fluctuation: $\pm 0.5^\circ\text{C}$ Ambient Temperature: 5~40°C Timing Range: 1~9999min Shelves No.: 2 Power Consumption: 1500W Power: AC 110v/220V$\pm 10\%$ 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	<p>Drying Oven</p> <p>Operational Method: Continuous Material: Stainless Steel or Painted Stainless Steel Structure: Desktop Capacity: 140L Temp range: rt+10~250/300°C temp. Precision: 0.1°C Temp Fluctuation: $\pm 0.5^\circ\text{C}$ Ambient Temperature: 5~40°C Timing Range: 1~9999min Shelves No.: 2 Power Consumption: 1500W Power: AC 110v/220V$\pm 10\%$ 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>
9	<p>Autoclave</p> <p>Stainless steel Light Indicators for working state Over temperature & over pressure auto-protection Double Scale indication pressure gauge Safe protection water lacking Automatically shut of after sterilization 2 stainless steel sterilizing baskets</p> <p>Chamber volume: Maximum 150L</p> <p>Working Pressure: 0.22MPa Working Temperature: 134°C Heat average: $\pm 1^\circ\text{C}$ Timer scope: 0~60min Temperature Scppe: 105 ~134°C</p>	<p>Autoclave</p> <p>Stainless Steel or Painted Stainless Steel Light Indicators for working state Over temperature & over pressure auto-protection Double Scale indication pressure gauge Safe protection water lacking Automatically shut of after sterilization 2 stainless steel sterilizing baskets</p> <p>Chamber volume: Capacity: 150L Designed Pressure: 0.217Mpa Designed Temp: 138°C Working Pressure: 0.217Mpa Working Temp: 50-134°C Temp Display Accuracy : 0.1°C Timing Range: 0-99h</p>



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	<p>Power: 2.5KW / AC220V.50Hz (min) 6KW / AC220V.50Hz (max)</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	<p>Dynamic Pulse Exhaust Temp: 105-136°C Temp Holding Range: 50-100°C (Programmable) Consumption: 6kW Power Supply: 50Hz/220V</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>
10	<p><i>Automatic Kjeldahl Distillation Apparatus</i></p> <p>Control: Computer Control Display: Digital Accuracy Grade: 1 Mass Scope of Workpiece: <900kg Max Diameter for Workpiece: <500mm Power Supply 220V±10%, 50/60Hz Input power: 1250W Temperature Range: Ambient to -69°C Temperature Control Accuracy: ±0.5°C Refrigeration System: New Type Refrigeration Compressor Ambient Temperature: 10-35°C Relative Humidity: ≤85% Heating Power: 400w Filtration Filter: 363 Mesh Stainless Steel Wire Mesh</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	<p><i>Automatic Kjeldahl Distillation Apparatus</i></p> <p>Measuring Range: 0.1mg-240mg N Recovery Rate ≥99.5% Sample Output: Solid ≤6g; Liquid ≤25mL Distillation Speed: 3-8min / sample Distillation time: 0-99min Repeatability ≤0.5% Titration precision: 1.0 ul//step Storage Data: up to 1million groups Protection Device: Flowrate Detection, liquid level alarm, over pressure protection Display: 7 inches LCD (maximum) Rated power 12kW Power Supply: 220v 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>
11	<p><i>Portable Animal Digital Ultrasound (B/W)</i></p> <p>Display: 4-5.7 inch High Resolution Color TFT LCD Probe model: Electronic Convex and Linear Elements of Probe: 80 (minimum) Standard Probe: 6.5MHz multi-frequency Linear rectal prob Frequency range: 4.5/5.5/6.5/7.5 MHz Optional probe: 4.0MHz multi Frequency Convex Rectal Probe Frequency Range: 2.0/ 2.5 / 4.0 / 5.0 MHz Optional probe: 3.5MHz multi-frequency convex probe; frequency range: 2.0 / 2.5 / 3.5 / 5.0 MHz</p>	No Changes



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<p>Optional probe: 6.5MHz multi frequency intra cavity probe 6.5 MHz; frequency range: 4.5/5.5/6.5/7.5MHz</p> <p>Optional probe: 7.5 multi high frequency linear probe; frequency range: 5.5/6.5/7.5/9.0 MHz</p> <p>Optional probe: 5.0MHz multi micro convex probe; frequency range: 4.5/5.0/6.5/7.5 MHz</p> <p>Scanning angle: convex probe: 60°, intra-cavity probe: 135°</p> <p>Probe Connector: 1 pc, automative identifying' function</p> <p>Receiving channel: ≥16 digital beam former</p> <p>Resolution: Horizontal ≤2mm, Vertical ≤1mm</p> <p>Dead Zone: ≤5mm</p> <p>Maximum Scanning Depth: ≥190cm</p> <p>Geometric Position Accuracy:Horizontal ≤5% Vertical ≤5%</p> <p>Scanning mode: B,2B,4B,B/M,M</p> <p>Full field image with 9 lever adjustment</p> <p>Gain range: general gain continuously adjustment (0~127dB)</p> <p>Dynamic range: 27~90dB, video adjustable</p> <p>4 kinds of angles/ width adjustment</p> <p>Gray: 256</p> <p>Imaging Technology: full digital beam forming continuously dynamic adjustment focusing, Dynamic aperture</p> <p>Image Storage: 100 frames permanent Storage</p> <p>Cine Loop: 256 frames</p> <p>Intelligent TGC Control: near-field and far field</p> <p>Imaging Processing: Pre-processing (Continuous, dynamic focusing,dynamic aperture,dynamic filtering) post processing (4 gamma correction)</p> <p>Correlation Processing (4 levers) Left, Right, positive/ negative,vertical, horizontal flip and B/W conversion, edge enhancement</p> <p>With image depth enhance and amplification</p> <p>Frame rate: 30 FPS</p> <p>Measurement: Distance Perimeter, Area, Volume</p> <p>Battery: 2400 Mah</p>	
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	<p>Dual Mode Output: PAL/NTSC Adapter: 40VA Power: 85v~242V, 48~62Hz Power Saving Function</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	
12	<p>Sperm Analyzer</p> <p>Maximum of the tested sperms: 1000 Range of test speed: 0-180um/s Frame number of picture: 0-75 Resolution of particle in diameter: 0-150um/s Analysis time: 1-5 second (fastest) Group number of collected images: 1-15 groups Microscope objective lens: 10x 20x 25x 40x</p> <p>Displayed content of sperm test system is NOT less than</p> <ol style="list-style-type: none">1. Distribution curve of static sperms,2. features data of semen and statistical data from analysis of all main functions3. sperm dynamic trajectory curve4. Display various sperms in motion speed and energy is arrhythmic map of sperms <p>Output conten from sperms test system is NOT less than:</p> <ol style="list-style-type: none">1. Main technical data of sperm2 Sperm Dynamic trajectory curve3. Analyusis and determinant histogram4. Case information <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	No Changes
13	<p>Herbarium Cabinet</p> <p>2 to 4 colums 13 to 15 levels Double wall Construction Heavy duty all steel welded cabinet Elasometric Door Seal (no adhesives) Rigid Chrome Push Plate</p>	No Changes



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	<p>3 Pt Locking mechanism Removable Steel Shelf Drawer Air Space Safe type Heave 13 Gauge Lift off hinge Fumigant Compartments Chrome Label holder (3x5 card minimum) Key Lock Short Depth Shelf Fold at front of shelf Double panel air tight door</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	
14	<p>Soil test kit fertility nutrient analyzer</p> <p>LCD display Print: Print test date, sample number, sample items, sample contents, variety Large Capacity sotrage (time, place, fertilizers), data can be checked at anyyime Test: N, P, K, organic matter, salinity and pH in soil , fertilizer and plants Can set crop variety, crop yield, fertilizer variety, and automatically count the fertilizing amount</p> <p>SOIL NUTRIENT Stability: Absorbency of light drift <0.003 Repeatability: Absorbency of light <0.005 Linearity erros: Red light for Copper Blue light for potassium dicromate <3.0% Sensitivity: Red light $\geq 4.5 \times 10^5$ Blue light $\geq 3.17 \times 10^3$ Wavelength: Red light $620 \pm 5\text{nm}$ Blue light $440 \pm 5\text{nm}$ Anti Knocking performance: Qualified</p> <p>Ph Testing Range: 1 - 14 Error: $\pm 0.5\%$</p> <p>Salinity Testing Range: 0.01% - 1.00%</p>	No Changes



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	<p>Error: $\pm 5\%$</p> <p>Power Supply: 220v/110V $\pm 10\%$ 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	
15	<p>Laboratory flow meter</p> <p>Barrel parameters: inner hole 9.550 ± 0.005mm (min) Pistons parameters: Piston head: 9.474 ± 0.005mm Outlet length 8.000 ± 0.025mm Parameters: Extrusion hole: $1=2.095 \pm 0.005$mm Temperature range: room temp-450 degree centigrade Temperature Fluctuation: $\pm 0.2^\circ\text{C}$ Temperature uniformity: $\pm 1^\circ\text{C}$ Temperature Display resolution: 0.1°C Display Resolution: 0.1°C Maximum Consumption: $<600\text{W}$ Time Display Resolution: 0.1s Weight Capacity: 0.325kg to 21.6kg</p> <p>Position Detection Loop distance Up Down: 30mm Control Precision ± 0.1mm</p> <p>Test flow control Times of cutting the material: 0-10times Material cutting interval 0-999</p> <p>Control flow reaches the set temp w/o volatility Barrel temp time: 15min Material be installed: 1 Material sample tem recovery time: 4min Binder set: 1 min</p> <p>Output mode: Micro Automatic Print output Test load: 8 sets of weights Cut material method: automatic Power AC220v $\pm 10\%$ 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly</p>	No Changes



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16	<p><i>Binocular Microscope w/ LCD</i> <i>Viewing Head:</i> 5" - 7" LCD</p> <p><i>Nosepiece:</i> Ball beating quadruple nosepiece</p> <p><i>Eyepiece:</i> Wide field plane-scope eyepiece WF10X18mm</p> <p><i>Objective:</i> 1. Achromatic 4X, 40X, 40X(S), 100X(S Oil) 2. Plan achromatic 4X, 40X, 40X (S), 100X (S, Oil)</p> <p><i>Stage:</i> Double layer mechanical stage</p> <p><i>Condenser:</i> Abbe NA1.25 Condenser with Iris diaphragm & filter, rack & piion adjustment.</p> <p><i>Illumination:</i> Built-in illumination, halogen lamp, 6V/20W, power supply: 90-230V/3W LED</p> <p><i>inclusion:</i> with 1 year warranty with after sales services with installation/assembly with training</p>	<p><i>Binocular Microscope w/ LCD</i> <i>Viewing Head:</i> 5" - 7" LCD <i>Eyepiece:</i> Wide field plane-scope eyepiece WF10X18mm</p> <p><i>Infinite plan Achromatic Objective:</i> 4x N.A=0.10 WD=20.00mm 10x N.A=0.25 WD=0.68mm 100x (Oil) N.A=1.25 WD=0.20mm</p> <p><i>Stage:</i> Double layer mechanical stage</p> <p><i>Condenser:</i> Abbe NA1.25 Condenser with Iris diaphragm & filter, rack & piion adjustment.</p> <p><i>Illumination:</i> Built-in illumination, halogen lamp, 6V/20W, power supply: 90-230V/3W LED</p> <p><i>inclusion:</i> with 1 year warranty with after sales services with installation/assembly with training</p>
17	<p><i>Trinocular Microscope</i> Image sensor: 1/2.5" Color 5 megapixel CMOS Effective pixel: 2048x1536 Pixel size 2.2x2.2um LCD Screen size: 9.7" 1024x768 IPS LCD Frame rate: 15 Definition: FULL HD White Blance" Auto and Manual Operating System: Android 4.2.2 or higher Brightness Control: auto and manual Color: RGB Supports: Edge Enhancement, Film and Video, measurement, digital denoiser SD Card Interface: 32G SD 2.0, standard size, non visual design, maximum 32G</p>	<p><i>Trinocular Microscope</i> <i>Optical System: Infinite</i> <i>Viewhead: Compensation Free Trinocular Head, inclined at 30°, 360° rotatable, interpupillary 55~75mm</i> <i>Eyepiece: P10X/22mm P16/15mm</i></p> <p><i>Infinite plan Achromatic Objective:</i> 4x N.A=0.10 WD=20.00mm 10x N.A=0.25 WD=0.68mm 100x (Oil) N.A=1.25 WD=0.20mm</p> <p><i>Focosung: Coaxial Coarse and fine adjustable system range 30mm, fine division 0.002mm</i> <i>Stage: Double layers mechanical stage 155*145mm</i></p>



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	<p>Interface: Standard HDMI Output Lens: C Usb interface: USB2.0</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	<p>Moving range 80*50mm Condenser: Abb NA1.25 centerable condenser with iris diaphragm and filter Illumination: Halogen lamp 6v/20W, adjustable brightness Filter: Blue Yellow Green Power Supply: AC85 - 275V 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>
18	<p>Thermostatic water bath Capacity: 23L Power: 1000w Temperature Range: RT+5 -99°C Temperature Fluctuation: ±0.5°C Timer: 0-999min Voltage: 110V 60Hz /220V 50Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	<p>Thermostatic water bath Capacity: 18L(Minimum) 23L (maximum) Temp Range: RT. -100°C Temperature Fluctuation: ±0.5°C Temp Accuracy ≤±1°C Timer: 0-999min Power: 2000W (maximum) Power Supply: 110/220V 50/60Hz</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>
19	<p>Mycotoxin Analyzer Compact, Economical, standalone micro stirp reader with a log software Calculate result automatically more than 120 user-entered tests interactive LCD touch screen with USB Mouse optionm superb optics, onboard curve-fitting software and built-in printer</p> <p>Components 1 Microwell Reader 1 Touch Screen Protector 2 paper rols 1 photometer lamp 1 adhesive dress panel 1 12-well strip carrier 1 8-well strip carrier 1 manual 1 cover 1 usb connector 1 power supply cord</p>	<p>No Changes</p>



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	<p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	
20	<p>Soil Analysis</p> <p>Calcium chloride solution (CaCl₂) sufficient for 110 soil extracts calcium acetate lactate solution (CAL) sufficient for 7 soil extracts, 1 set of scales, 1 soil sieve, 1 funnel, 1 double-ended spatula, 3 syringes, 1 spray bottle, 1 measuring cylinder, 1 can, 2 shakers, 1 plastic shovel, 100 folded filters, 1 set of instructions</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly with training</p>	No Changes
21	<p>Centrifuge (Hematocrit)</p> <p>Speed= 12,000rpm (fixed) R.C.F= 14,648g Timer= 0~15 min. mechanical timer Motor= Universal motor Capacity= 24 x capillary tube (Diam. 1.5x75mm) Standard Accessory=Percentage Reader(Aluminum) Optional Accessory= Disc reader (plastic) Weight (kg)= N.W 9.0 / G.W. 9.5 Overall Dimension= W300xD300xH240mm Power supply= AC 110V 60Hz (220V, 50/60Hz available)</p> <p>inclusion: with 1 year warranty with after sales services with installation/assembly</p>	No Changes



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22	Centrifuge(Eppendorf) Digital Display Automatic lid release function Separate short spin key for short centrifugation Rotation speed: 800 - 13400rpm Maximum centrifugal force: 12100G Maximum throughput: 1.5 - 2.0 mL inclusion: with 1 year warranty with after sales services with installation/assembly with training	Centrifuge Digital Display Automatic lid release function Separate short spin key for short centrifugation Rotation speed: 800 - 13400rpm Maximum centrifugal force: 12100G Maximum throughput: 1.5 - 2.0 mL inclusion: with 1 year warranty with after sales services with installation/assembly with training

For the guidance and information of all concerned.


RONALD REAGAN T. ALONZO, Ph.D.
BAC Chairperson