



PURCHASE REQUEST

PR #: GF-2021-10-01280

Date: 10-13-2021

Dept./Office: **PRCRTC**Category: **Laboratory Equipment**Section/End-User: **Lisa I. Arce**

Project Title/Code: **Rootcrops Genomics: Securing
 Rootcrops Genetic Diversity and Enhancing Crop
 Improvement for a Climate Smart Agriculture**

Funding Source: **General Fund - CO**

Item #	Item Description	Unit	Qty	Unit Cost	PAR/ICS	Total Cost
1	Analytical Balance, at least 220g capacity	unit	2	53,000.00		106,000.00

Specification:

- ?4 decimal places
- ?Automatic Internal Calibration, LCD back-lit display
- ?Capacity: 220g
- ?Readability: 0.1 mg
- ?Repeatability (std dev): 0.1 mg
- ?Linearity (+/-): 0.2 mg
- ?Pan size (mm/inch): 90 Ø/3.5Ø
- ?Response time: 3 sec
- ?Calibration: Perfect Self Auto Calibration (temperature / time /power on)
- ?Display: Bright LCD Display with LED backlight
- ?Unit of measure: gram, Milligram
- ?Tare Range: Full
- ?Operating Temperature: 10°C to 40°C
- ?Dimension (WDXH) mm : 342.5X212x341
- ?Power Supply: AC Adapter 100V- 240V +/- 20% 50-60Hz
- ?Net weight with Packing: 8 kgs
- ?Packing Dimension (WDXH) mm: 500 x 380 x 510 / 19.6? x 14.9?x 20?

2	Autoclave High Steam Sterilizer	unit	2	200,000.00		400,000.00
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Specification:

- ? (High Pressure Steam Sterilizer) , Automatic, Vertical Autoclave
- ?Portable, Top-loading Autoclave
- ?Space-saving design with lid opening upward.
- ?Dual-sensing lid interlock prevents lid opening when chamber is pressurized or when temperature exceeds 97°C.
- ?One-touch lever to easily open and close chamber lid
- ?Door-closure sensor provides a prompt and the cycle will not start unless the door is closed properly.
- ?In-process display shows status and progress of sterilization cycle
- ?Agar sterilization mode for sterilizing agar and then automatically maintaining it at liquid temperature
- ?Sterilization timer is activated only when load temperature reaches set temperature
- ?Temperature Range: 105°C to 135°C
- ?Agar warming range: After sterilization, agar can be maintained from 45°C to 60°C (programmable) for up to 24 hours to prevent coagulation.
- ?Sterilization Timer: 1 to 300 minutes

?Cooling Fan: Switch to turn fan on or off

?Safety Features: Circuit breaker with GFCI, low-water power cut-off, over-temp power cutoff, over-pressure power cut-off, safety valve, sensor for improper lid closing

?Power Requirements: 220V, 50/60 Hz, single phase

?Power Consumption: 3.9 KwShipping Weight: 255 lb (116 kg)

3	Basic Bench pH meters with replaceable electrode and buffer	unit	2	60,000.00		120,000.00
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Specification:

?Accuracy temperature: $\pm 0.3^{\circ}\text{C}$

?Accuracy pH: ± 0.1

?Electrical requirements: AC/DC 9 V adapter (220 VAC, 60 Hz)

?Resolution (mV): 0.1 mV (± 199.9 mV); 1 mV beyond ± 200 mV

?Temp probe calibration: offset in 0.1°C increments; offset range $\pm 5^{\circ}\text{C}$

?Range pH: 0 to 14

?Accuracy mV: ± 0.2 mV (± 199.9 mV), ± 2 mV beyond ± 200 mV

?Calibration points: 1 to 5 points with automatic buffer recognition (ABR)

?Include 13-620-AE6 3-in-1 single junction gel pH/ATC electrode

?Memory: 100 datasets

?Resolution temperature: 0.1°C

?Temperature compensation: automatic or manual (0 to 100°C)

?Temperature range metric: 0.0 to 100.0°C

?Range mV: ± 1999 mV

?Resolution pH: 0.01

?Power source: 220 - 240 50/60 Hz

?Warranty: 2-year meter warranty; 6-month electrode warranty

4	Benchtop incubator shaker	unit	1	300,000.00		300,000.00
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Specification:

- movement type (orbital);
- load capacity (30lb);
- speed range (30-300 rpm);
- capacity (5x2L);
- operating temp (ambient, 5-60C)

5	Centrifuge	unit	1	500,000.00		500,000.00
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Specification:

- speed range (200rpm-18000rpm);
- max rcf (23,542 x g);
- refrigeration range (-20°C - -40°C);
- noise level (<60 dB);
- inclusions: rotor buckets for 50mL tubes and PCR plates

6	Convection Oven	unit	1	100,000.00		100,000.00
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Specification:

- convection type;
- temp range (ambient, 10-200C);
- temp stability ($\pm 0.1^{\circ}\text{C}$ at 100C);

• capacity (2cu.ft/ 30000mL); • programable temperature						
7	Cryogenic storage system	unit	1	1,000,000.00		1,000,000.00
Specification: • with nitrogen level monitor; • capacity (184L); • vial capacity (6000); • type (manual fill LN2 Dewar); • insulation (vacuum); • monitoring options (ultrasonic level); • static holding time (185 days); • inclusion (indexed stainless-steel racks and cryogenic boxes)						
8	DeepFreezing Freezer/ Ultra-Low-Temperature Freezer	unit	1	1,150,000.00		1,150,000.00
Specification: Cooling: Direct colling Defrost mode Manually Colling agent FCKW/HFCKW-free Noise level dB(A)50 Colling performance (°C) -86 Recovery time min ? 10 Control Microprocessor Display 7" Touch screen LCD Mains connection (V/Hz) 230/50 Compressor capacity (W) 1000 Electric load (A) 5.5 Volume (Liter) 300 - 400 Net /Gross weight (approx.) (kg) 225/275 Useful dimensions (W x D x H) (mm) 440x696x1266 General dimensions (W x D x H) (mm) 785x1041x1947 Packing dimensions (W x D x H) (mm) 868x1140x2082 Container load (20'/40') 10/20 With warranty Alarm System:						

• High/Low temperature alarm Overheat • colling compressor Power breakdown High/Low voltage • Sensor failure Accu weak High ambient temperature Door alarm • Stands Wall openings, Trays /Inner door, USB interface, RS 485 interface						
9	Dishwasher	unit	1	40,000.00		40,000.00
Specification: • size (60m stainless steel; placement (freestanding); • with built-in display (LED); • water consumption (10L); • service capacity (more than 12); • energetic calification (A); • installation type(integrated)						
10	Fumehood	unit	2	150,000.00		300,000.00
Specification: • Laboratory fumehood; • 1800W*850D*2350L; • material (steel); • worktop material (epoxy resin, phenolic resin, ceramic, stainless steel); • floor mounted structure						
11	Gel Documentation System	unit	1	1,750,000.00		1,750,000.00
Specification: • max. samples size (28 x 36 cm); • maximum image size (19.4 x 26 cm); • excitation source (epi-white light and trans-UV; • illumination control (trans-UV, trans white, epi-white); • pixel density ?4000;						
12	Heating block with shaker	unit	1	150,000.00		150,000.00
Specification: • movement (orbital); • speed range (200-1500 rpm); • temp range (5-100 degrees C); • capacity (24 x 1.5mL)						
13	Horizontal Electrophoresis System	unit	2	300,000.00		600,000.00
Specification: • tray length capacity (10-25cm); • inclusions (15-20 well combs, gel caster, transparent tray, basic power supply)						
14	Laboratory Refrigerator with 10.6 cubic foot/300 L capacity	unit	2	70,000.00		140,000.00
Specification: ?Temperature range: +2°C to +8°C						

?Inner cabinet: white epoxy painted
 ?Inner shelves: epoxy plastic coated steel rod
 ?CFC Free Eco-friendly refrigerant R 134a
 ?CFC Free, environment friendly Cyclopentene foaming PUF insulation
 ?No frost, fan-assisted cooling circulation system
 ?Ultra fast pull down, auto defrost with self-evaporating drip tray
 ?Rear-to-front hot air anti-condensation
 ?Digital temperature controller
 ?Double glazed glass doors
 ?Full length illumination
 ?Fitted with castors, front two with brakes
 ?Low noise, green technology and energy saving
 ?Self closing hinge doors
 ?Lock as standard
 ?Input 220/240V, 50 Hz with power cord & plug
 ?Automatic voltage stabilizer with time delay restart
 ?gross volume: ? 300 L
 ?Inner dimension: 560(w) x 480(d) x 1415(h)
 ?Outer dimension: 645(w) x 570(d) x 2050(h)

15	Laminar Flow Hood	unit	2	200,000.00		400,000.00
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Specification:

?Horizontal
 ?with HEPA Filters
 ?UV Germicidal Light

16	Liquid nitrogen generator	unit	1	2,500,000.00		2,500,000.00
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Specification:

- LN2 Production capacity (20L/day);
- LN2 storage capacity (80L);
- Cooling water: entrance (10-30C);
- flow rate (3-6L/min);
- pressure (<0.8MPa);
- Water quality (tap water equivalent)

17	Liquid Nitrogen Transfer Vessel	pc	3	78,500.00		235,500.00
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Specification:

type: LN2 Transfer Vessel, capacity: 5L, Lightweight aluminum dewars assure low-static evaporation rates

18	Microcentrifuge with refrigeration	pc	2	800,000.00		1,600,000.00
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Specification:

Accel/Decel Profiles: acceleration up to 21,000 x g in 12 seconds
 Noise Level: <50dbA
 Run Time: 1 to 99min (1min increments); HOLD
 Temperature Range: -9° to +40°C

Max. RCF: 21,100 x g

Refrigerated: Yes

Type: Benchtop Centrifuge

Capacity: 24 x 1.5/2mL

Max. Speed: 14,000 to 14,999 rpm

CSA certified, CE IVD compliant, Certified Biosafety; IEC 61010-1, IEC 61010-2, IEC 61010-020

with extended warranty

19	Microscope with Infinity Corrected Optics and Eyepiece Camera	unit	1	150,000.00		150,000.00
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Specification:

?MICROSCOPE

?Optical System: UIS2 (Universal infinity-corrected) optical system

?6V/30W halogen bulb

?100-120V/220-240~0.85/0.45A 50/60Hz

?Focusing: Stage height movement by roller guide

?Fine adjustment scale: 2.5microns per gradation

?Fine adjustment stroke: 0.3microns per turn

?Total stroke: 20microns

?Revolving Nosepiece: Fixed quadruple nosepiece with inward tilt

?Objectives: Plan C Achromat Objectives

?4xNA: 0.10 W.D.: 27.8 mm

?10xNA: 0.25 W.D.: 8.0 mm

?40xNA: 0.65 W.D.: 0.6 mm

?100xOil NA: 1.25 W.D.: 0.13 mm

?Binocular Observation Tube: Field Number: 20

?Tube inclination: 30 degree

?Interpupillary distance adjustment range: 48mm-75mm

?Stage: Size: 188mm(W) x 134mm(D)

?Movement range: 76mm X-direction x 50mm Y-direction

?Stage: Size: 188mm(W) x 134mm(D)

?Movement range: 76mm X-direction x 50mm Y-direction

?Specimen holder: Double slide holder

?Rubber grip: Equipped as standard

?Condenser: Type: Abbe condenser, with built-in daylight filter

?NA: 1.25 with oil immersion

?Aperture in diaphragm: Built-in

?EYEPIECE CAMERA

?Optics

?Built-in magnification: 25x

?Lens type: Glass with Anti-Reflection coating

?Sensor

?Sensor Type: CMOS

?Resolution: 5 Megapixel (2592x1944)

?Maximum frame rate: 30 fps
 ?Dimensions
 ?Mounting type: Inside ocular/tube & c-mount
 ?Ocular inner diameter: 23, 30, 30,5mm
 ?Dimensions: 80 mm (H) x 32 mm (D)
 ?Compatibility
 ?Interface: USB 2.0
 ?Operating system: Windows XP, Vista, 7,8, & 10, MacOS 10.4 and up
 ?Inclusion of software

20	Mini CERTRIFUGE	unit	2	40,000.00		80,000.00
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Specification:

?Description:

?Quiet & Compact
 ?Spins multiple micro sample tube sizes
 ?Ideal for Quick Spin-Downs
 ?Fast Starting & Stopping

?Specifications:

?RPM: 6,600 rpm
 ?RCF: 2,200 xg
 ?Microtube Rotor: 2 x 8-strips or 16 x 0.2mL tubes
 ?Dimensions (WxDxH): +4°C to 50°C
 ?Electrical: 100V to 230VAC, 50/60 HZ, 0.1 A
 ?Warranty: 1 year

21	Mini PCR plate spinner	unit	2	50,000.00		100,000.00
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Specification:

compatible with 96-well plates with skirt, without skirt, and semi-skirt

22	Multi-position Hot Plate Stirrer	pc	1	95,000.00		95,000.00
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Specification:

?3 independent heating/stirring positions
 ?600 x 270 mm footprint
 ?robust aluminum / silicon alloy top plates
 ?Stirring speed: 1500rpm
 ?Volume: 15 L
 ?3 x 25 mm PTFE coated stir bars

23	Multipipette (0.5-10uL)	unit	1	90,000.00		90,000.00
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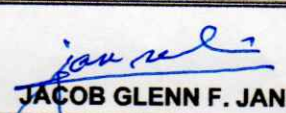
Specification:

- 8-Channel micropipettes;
- volume range 0.5-10uL
- digital dial with volume lock;
- accomodates standard pipette tips

24	Multipipette (120-1200uL)	unit	1	90,000.00		90,000.00
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Specification:

• 8-Channel micropipettes • volume range 120-1200uL; • digital dial with volume lock; • accomodates standard pipette tips						
25	PCR Plate Thermal Sealer	unit	1	300,000.00		300,000.00
Specification: • Heat up time (<3min); • temp range (100-190C, off)						
26	Pipette Sets (0.1-2.5 µL, 2-20 µL, 20-200 µL, and 100-1000 µL)	sets	5	100,000.00		500,000.00
Specification: ?Includes: 4 single-channel pipettors, universal linear stand for four single-channel pipettors ?With specific color codes ?Number of Channels: 1 ?Finger Style and grip type: Ergonomic ?Autoclavable ?Corrosive resistant						
27	Real-Time qPCR	unit	1	3,000,000.00		3,000,000.00
Specification: • Thermal cycler- temp range (0-100C) • accuracy ±0.2 C of programmed target; • gradient range (30-100C); • Optical detection sensitivity (detects 1 copy of target sequence in human genomic DNA); • Dynamic range- 10 orders of magnitude; • operating systems compatible to windows 8-10 or MacOS						
28	Safety storage cabinet	unit	2	60,000.00		120,000.00
Specification: • dimentions (915mmx459mmx459mm); • lockable; • material (stainless steel)						
29	Thermal Cycler	unit	2	700,000.00		1,400,000.00
Specification: • capacity (96 x 0.2 mL mutes or 1 x 96-well plate); • temp range (4-100C) • gradient range (30-100C); • temp differential range (1-25C);						
30	Vertical Electrophoresis System	unit	1	300,000.00		300,000.00
Specification: • no. of gels (2) • tray length capacity (10-15 cm);						

• inclusions (well combs, gel caster; transparent tray; basic power supply)						
31	Water bath with hood	unit	2	80,000.00		160,000.00
Specification: • with hood; capacity (2L); • temp uniformity ($\pm 0.2^{\circ}\text{C}$); • temp stability ($\pm 0.1^{\circ}\text{C}$ at 70°C); • max temp (100°C); • timer (yes)						
32	Water purification system	unit	1	1,500,000.00		1,500,000.00
Specification: • type (ultra pure water purification system); • certifications/compliance (UL, cUL, ISO 9001 v.2000; ISO 140001); • contaminant rejection (greater than 99%); • depth (48.4cm base, 58.1cm arm); • feedwater source (potable tap water); • product waer type (Type 1 and 3); • total organic carbon (<5)						
TOTAL						19,276,500.00
Purpose: Project Use						
Checked by:  JACOB GLENN F. JANSALIN TWG - Laboratory Equipment				Funds Available: ALICIA M. FLORES HEAD, BUDGET OFFICE <i>gmo</i> <i>Alicia Co</i>		
Signature:	Requested by:	Noted by:		Approved by:		
Printed Name:	LISA I. ARCE	LISA I. ARCE		EDGARDO E. TULIN		
Designation:	END USER	UNIT HEAD, PROJECT LEADER		PRESIDENT, VSU		