આણંદ કૃષિ યુનિવર્સિટી

આણંદ

લેબોરેટરી પૃથ્થકરણના દરો નકકી કરવા બાબત..

**વંચાણે લીધો:** તા.૨૦/૦૯/૨૦૨૪ના રોજ કોન્ફરન્સ હોલ, યુનિવર્સિટી ભવન, આણંદ કૃષિ યુનિવર્સિટી, આણંદ ખાતે મળેલ કૃષિ સંશોધન પરિષદની ૧૬મી બેઠકની કાર્યનોંધના મુદ્દા નં. ૧૬.૧૦

**-: જા હે ર ના મું :-**

આથી સંબંધકર્તા સર્વેને જાણ માટે જાહેર કરવામાં આવે છે કે, તા.૨૦/૦૯/૨૦૨૪ના રોજ કોન્ફરન્સ હોલ, યુનિવર્સિટી ભવન, આણંદ કૃષિ યુનિવર્સિટી, આણંદ ખાતે મળેલ કૃષિ સંશોધન પરિષદની ૧૬મી બેઠકની કાર્યનોંધના મુદ્દા નં. ૧૬.૧૦થી નીચે મુજબ ઠરાવવામાં આવ્યું.

"આથી ઠરાવવામાં આવે છે કે, આણંદ કૃષિ યુનિવર્સિટી, આણંદની વિવિધ લેબોરેટરીઓ દ્વારા કરવામાં આવતા પૃથ્થકરણના સુધારેલ દરો તથા તેને લગતી બોલીઓ અને શરતો (Appendix-16.10) ને કૃષિ સંશોધન પરિષદ મંજુર કરે છે"

જા.નં. આકૃયુ/સંનિ/ટી.૧/ ૪૬૮૫ /૨૦૨૪

તા.૧૬/૧૦/૨૦૨૪

સંશોધન નિયામક અને

અનુસ્નાતક વિદ્યાશાખાધ્યક્ષ

**નકલ રવાના પ્રતિ**

1. માન.કુલપતિશ્રીના રહસ્ય સચિવશ્રી, આણંદ કૃષિ યુનિવર્સિટી, આણંદ તરફ જાણ સારૂ
2. કૃષિ સંશોધન પરિષદના સર્વે સભ્યશ્રીઓ તરફ જાણ સારૂ
3. યુનિવર્સિટીના તમામ અધિકારીશ્રીઓ તરફ જાણ સારૂ
4. તમામ યુનિટ/સબ યુનિટ અધિકારીશ્રીઓ તરફ જાણ સારૂ
5. ટી-૩ શાખા (સંશોધન નિયામકશ્રીની કચેરી) તરફ જાણ સારૂ

# ANALYTICAL RATES OF ANAND AGRICULTURAL UNIVERSITY, ANAND

| BTRS | | | |
|---|---|---|---|
| **Sr. No.** | **Name of Parameter** | **Charge/Sample (Rs.)** | **Remarks** |
| 1 | Moisture | 300/- | |
| 2 | Nicotine | 500/- | |
| 3 | Reducing sugars | 500/- | By titration (Copper reduction method by using Fehling's Reagent) |
| 4 | Chloride | 500/- | Silver Nitrate Method |
| **BIOCHEMISTRY** | | | |
| **Sr. No.** | **Name of Parameter** | **Charge/Sample (Rs.)** | **Remarks** |
| 1 | Acid value | 500/- | |
| 2 | Amino acid profile by UPLC | 3000/- | |
| 3 | Amylose content | 700/- | |
| 4 | Anthocyanin | 900/- | |
| 5 | Ascorbic acid | 700/- | |
| 6 | Ash | 500/- | |
| 7 | Carbohydrates | 600/- | |
| 8 | Carotenoids | 1000/- | |
| 9 | ß-carotene | 700/- | |
| 10 | Chlorophyll | 500/- | |
| 11 | Fibre | 500/- | |
| 12 | Flavanoids | 900/- | |
| 13 | Free fatty acids | 500/- | |
| 14 | Fatty acid profile by GLC | 3000/- | |
| 15 | Gluten | 700/- | |
| 16 | Lycopene | 700/- | |
| 17 | Lysine | 700/- | |
| 18 | Methionine | 700/- | |
| 19 | Moisture | 300/- | |
| 20 | Oil | 700/- | |
| 21 | Peroxide value | 1000/- | |
| 22 | Phenol | 700/- | |
| 23 | Phenol profile | 3000/- | |
| 24 | Proline | 1000/- | |

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|---|---|---|---|
| 25 | Protein (Crude protein) | 500/- | |
| 26 | Reducing sugars | 900/- | |
| 27 | Relative water content | 500/- | |
| 28 | Saponification value | 1000/- | |
| 29 | Sedimentation value | 500/- | |
| 30 | Starch | 700/- | |
| 31 | Tannin | 700/- | |
| 32 | Titratable acidity | 500/- | |
| 33 | Total antioxidant activity | 1000/- | |
| 34 | Total free amino acids | 700/- | |
| 35 | Total saponin | 1000/- | |
| 36 | Total soluble sugars | 700/- | |
| 37 | Tryptophan | 700/- | |

**DEPARTMENT OF AGRICULTURAL BIOTECHNOLOGY**

| Sr. No. | Services | Charges for one time instrument use (Rs.) | Remarks |
|---|---|---|---|
| 1 | SNP genotyping through iSCAN | 1500/- | |
| 2 | Real time PCR | 500/- | |
| 3 | PCR thermal cycler | 200/- | |
| 4 | Refrigerated centrifuge | 50/- | |
| 5 | Gel doc system | 50/- | |
| 6 | IEF system | 500/- | |
| 7 | CO2 incubator | 200/- | (Charges of one time (24 hrs) instrument use only) |
| 8 | Bio-safety cabinet 2 hrs | 200/- | (Charges of one time (24 hrs) instrument use only) |
| 9 | Ultra centrifuge | 2500/- | |
| 10 | Nano-drop spectrophotometer | 50/- | |
| 11 | Nanoparticle size | 300/- | |
| 12 | Fluorescent microscope | 500/- | |
| 13 | Laser micro-dissection microscope | 2000/- | |
| 14 | ELISA reader per plate | 150/- | |
| 15 | Multiporator | 100/- | |
| 16 | Gene gun per shot | 1000/- | |

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| 17 | Electrophoresis | 100/- | |
| 18 | FTIR | 500/- | |
| 19 | DNA fingerprinting of Okra, Brinjal, Tomato & Chilli with DNA marker | 5000/- | |
| 20 | Capillary sequencing | 2500/- | |
| 21 | **Bio Analyzer per chip** | | |
| | I. DNA HS/RNA Pico (One Chip) | 4000/- | |
| | II. DNA /RNA 1000 (One Chip) | 3500/- | |
| 22 | LC-MS/MS analysis optimization of LC/MS parameters | 3000/- | |
| 23 | LC-MS/MS sample analysis | 2000/- | |
| 24 | ICP-MS | 2000/- | |
| 25 | **Flow Cytometry** | | |
| | Cell detection and analysis | 2000/- | |
| | Cell sorting | 5000/- | |
| 26 | Microwave synthesis | 500/- | |
| 27 | Ball milling | 500/- | |
| 28 | Lyophilizer/freeze drying | 200/- | Per hour |
| 29 | Ultrasonic cleaner | 250/- | |
| 30 | Microwave digestion system | 350/- | |
| 31 | FTIR | 500/- | |
| 32 | Seed germination with light spectrum | 1500/- | For 2 hour |
| 33 | Live cell imaging system | 1500/- | |
| 34 | Zeta potential | 300/- | |
| 35 | Probe sonicator | 500/- | |
| 36 | High pressure homogenizer | 750/- | |

## COLLEGE OF FOOD PROCESSING TECHNOLOGY & BIO ENERGY

| Sr. No. | Name of Parameter | Charge/Sample (Rs.) | Remarks |
|---|---|---|---|
| **1** | Ash | 500 /- | |
| **2** | Ascorbic acid | 700 /- | |
| **3** | Fat | 800 /- | |
| **4** | Crude fibre | 500 /- | |
| **5** | Total sugar | 700 /- | |
| **6** | Moisture | 300 /- | |
| **7** | Moisture (spices) | 1000 /- | |

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| **8** | Protein | 500/- | |
| **9** | Starch pasting characteristics | 5000/- | By rheometer |
| **10** | Viscosity at different shear rate | 500/- | By rheometer |
| **11** | Sensory evaluation of food product | 1000/- | 9-point hedonic scale |
| **12** | Alcoholic acidity | 1000/- | By titration |
| **13** | Balancing efficacy test | 1000/- | |
| **14** | Popping efficiency (Grains) | 1000/- | |
| **15** | Efficacy test for pasteurized milk | 1000/- | By alkaline phosphatase test |
| **16** | Milk fat | 500/- | By Gerber method |
| **17** | Lactometer reading | 500/- | By Lactometer |
| **18** | Efficacy test for sterilized milk | 500/- | By Turbidity |
| **19** | ASTA color value | 1000/- | For Chilly |
| **20** | Pungency test (SHU) | 1000/- | For Chilly |
| **21** | Gluten quality | 1000/- | By Texture analyzer |
| **22** | Dough inflation test | 1000/- | By Texture analyzer |
| **LC-MS/MS** | | | |
| **1** | Veterinary drugs & antibiotics residues in Milk | 5000 /- | |
| **2** | Chloramphenicol, | 5000 /- | |
| **3** | Metronidazole & Ronidazole | 5000 /- | |
| **4** | Albendazole & Fenbendazole | 5000 /- | |
| **5** | Phenyl Butazone | 5000 /- | |
| **6** | Penicillin G & Amoxicillin | 5000 /- | |
| **7** | Cefaperazone, Cloxacillin, Ceftioufur & Diocloxacillin | 5000 /- | |
| **8** | Tetracycline, Oxytetracycline from milk | 5000 /- | |
| **9** | Enrofloxacin from milk | 5000 /- | |
| **10** | Gemifloxacin & piperine from plasma | 5000 /- | |
| **11** | Cinnamaldehyde & Eugenol from cinnamon | 5000 /- | |
| **12** | Piperine from pepper | 5000 /- | |
| **13** | Acrylamide from fried oil | 5000 /- | |

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| **HPTLC** | | | |
| **1** | Carmoisine | 2000 /- | |
| **2** | Erythrosine | 2000 /- | |
| **3** | Tartazine | 2000 /- | |
| **4** | Sunset yellow FCF | 2000 /- | |
| **5** | Sudan red G | 2000 /- | |
| **6** | Sudan red 7B | 2000 /- | |
| **7** | Fingerprinting of Saffron | 2000 /- | |
| **Gas Chromatograph** | | | |
| **1** | Fatty acid profile (Edible oils) | 3000 /- | |
| **Active compounds** | | | |
| **1** | β-Carophyllene from curry leaves | 2000 /- | |
| **2** | Menthol from mint leaves | 2000 /- | |
| **3** | Carvone from mint leaves | 2000 /- | |
| **4** | GCMS-HA | 5000/- | |
| **AAS** | | | |
| **Metals from food sample/Element** | | | |
| **1** | Chromium (Cr) | 750 / - | |
| **2** | Tin (Sn) | 750 / - | |
| **3** | Lead (Pb) | 750 / - | |
| **4** | Cadmium (Cd) | 750 /- | |
| **5** | Aluminum (Al) | 750 /- | |
| **6** | Zinc (Zn) | 750 /- | |
| **7** | Silver (Ag) | 750 /- | |
| **8** | Cobalt (Co) | 750 /- | |
| **9** | Nickel (Ni) | 750 /- | |
| **FTIR** | | | |
| **1** | Spectral fingerprinting | 1000 /- | |
| **Colour Lab** | | | |
| **1** | Colour index (L*a*b* values) | 500 /- | |
| **Potentiometric Auto titrator** | | | |
| **1** | Acid value | 1000 /- | |
| **2** | Saponification value | 1000 /- | |
| **3** | Iodine value | 1000 /- | |

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| 4 | Peroxide value | 1000 /- | |
| 5 | Moisture (by Carl fisher) | 1000 /- | |
| **Rancimate** | | | |
| 1 | Induction time at specific temperature | 2000 /- | |
| **Viscometer** | | | |
| 1 | Viscosity of liquid | 500 /- | |
| **CHNSO analyzer** | | | |
| 1 | Carbon, Hydrogen, Nitrogen and Sulphur content | 2000 /- | |
| 2 | Carbon, Hydrogen, Nitrogen, Sulphur and Oxygen content | 4000 /- | |
| **Water Activity Meter** | | | |
| 1 | Water activity | 500 /- | |
| **Bomb Calorimeter** | | | |
| 1 | Calorific value of food sample | 1000 /- | |
| **Ion Chromatography** | | | |
| 1 | Ions (Fluoride, Chloride, Bromide, Nitrate, Phosphate, Sulphate) | 2000 /- | |
| **Texture Profile Analyzer** | | | |
| 1 | TPA of foods | 3000 /- | |
| **Particle Size Analyzer** | | | |
| 1 | Particle size analysis | 1000 /- | |
| **Automatic Pycnometer (Ultra pyc 1200e)** | | | |
| 1 | True density | 1000 /- | |
| **Microbiological Analysis** | | | |
| 1 | Standard plate pount, Yeast & Mold count and Coliform Count | 1000 / each parameter | |
| 2 | *E. coli, Salmonella* and *Shigella* | 2000 / each pathogen | |
| **Packaging Materials** | | | |
| 1 | Bulk of paper & paperboard | 650/- | |
| 2 | Burst factor | 850/- | |
| 3 | Burst index | 850/- | |
| 4 | Bursting strength of paper | 650/- | |
| 5 | Caliper | 600/- | |

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| 6 | Dart impact | 850/- | |
| 7 | Grammage of paper | 850/- | |
| 8 | Hardness | 850/- | |
| 9 | Ink adhesion test | 750/- | |
| 10 | Leakage test | 650/- | |
| 11 | Leak in heat sealed packages | 650/- | |
| 12 | Machine/ cross direction | 650/- | |
| 13 | Moisture content for paper | 650/- | |
| 14 | Moisture content for paper wood | 650/- | |
| 15 | Oxygen transmission rate test | 6500/- | |
| 16 | Pouch burst test | 850/- | |
| 17 | Puncture resistance | 650/- | |
| 18 | Stack simulation | 2100/- | |
| 19 | Tear factor | 850/- | |
| 20 | Tear strength of paper | 650/- | |
| 21 | Tensile strength of plastic film | 850/- | |
| 22 | Water proofness / Cobb test | 750/- | |
| 23 | Water vapour transmission rate | 6500/- | |
| **MICRONUTRIENT RESEARCH CENTRE** | | | |
| **Sr. No.** | **Name of Element** | **Charge/element (Rs.)** | **Remarks** |
| **Soil Analysis (Available nutrient)** | | | |
| 1 | Fe (Iron) | 100/ | |
| 2 | Mn (Manganese) | 100/ | |
| 3 | Zn (Zinc) | 100/ | |
| 4 | Cu (Copper) | 100/- | |
| 5 | S (Sulphur) | 120/- | |
| 6 | B (Boron) | 200/- | |
| 7 | Cd (Cadmium) | 1000/ | |
| 8 | Co (Cobalt) | 1000/- | |
| 9 | Cr (Chromium) | 1000/- | |
| 10 | Ni (Nickel) | 1000/- | |
| 11 | Pb (Lead) | 1000/- | |

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|---|---|---|---|
| **Water/Effluent** | | | |
| **1** | Fe (Iron) | 300/- | |
| **2** | Mn (Manganese) | 300/- | |
| **3** | Zn (Zinc) | 300/- | |
| **4** | Cu (Copper) | 300/- | |
| **5** | B (Boron) | 300/- | |
| **6** | S (Sulphur) | 300/- | |
| **7** | Cd (Cadmium) | 1000/- | |
| **8** | Co (Cobalt) | 1000/- | |
| **9** | Cr (Chromium) | 1000/- | |
| **10** | Ni (Nickel) | 1000/- | |
| **11** | Pb (Lead) | 1000/- | |
| **Manure, Fertilizer & Amendment** | | | |
| **1** | Fe (Iron) | 200/- | |
| **2** | Mn (Manganese) | 200/- | |
| **3** | Zn (Zinc) | 200/- | |
| **4** | Cu (Copper) | 200/- | |
| **5** | B (Boron) | 200/- | |
| **6** | S (Sulphur) | 300/- | |
| **7** | Cd (Cadmium) | 1000/- | |
| **8** | Co (Cobalt) | 1000/- | |
| **9** | Cr (Chromium) | 1000/- | |
| **10** | Ni (Nickel) | 1000/- | |
| **11** | Pb (Lead) | 1000/- | |
| **Feed, Fodder, Plant** | | | |
| **1** | Fe (Iron) | 300/- | |
| **2** | Mn (Manganese) | 300/- | |
| **3** | Zn (Zinc) | 300/- | |
| **4** | Cu (Copper) | 300/- | |
| **5** | S (Sulphur) | 300/- | |
| **6** | B (Boron) | 300/- | |
| **7** | Cd (Cadmium) | 1000/- | |
| **8** | Co (Cobalt) | 1000/- | |
| **9** | Cr (Chromium) | 1000/- | |
| **10** | Ni (Nickel) | 1000/- | |

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|---|---|---|---|
| **11** | Pb (Lead) | 1000/- | |
| **Soil / Plant / Manure / Fertilizer / Blood etc.** | | | |
| **1** | Micro and secondary elements (Fe, Mn, Cu, Zn, Ca, mg) | 50/- | Charges include only reading on ICP/AAS |
| **2** | Heavy metals (Cd, Cr, Ni, Pb, Co) | 250/- | Charges include only reading on ICP/AAS |
| **AINP ON PESTICIDE RESIDUES** | | | |
| **Sr. No.** | **Name of Element** | **Charges/Sample (Rs.)** | **Remarks** |
| **Multi residues pesticide analysis** | | | |
| 1 | Water (Surface and groundwater) | 5000/- | Multi residues pesticide analysis using LC-MS/MS or GC-MS/MS (Scanning of ~400 pesticides) |
| 2 | Soil | 5000/- | |
| 3 | Raw agricultural commodities containing fat & soil ≥ 2 % | 10000/- | |
| 4 | Raw agricultural commodities containing fat & soil < 2 % | 7000/- | |
| **Elemental analysis** | | | |
| 5 | Soil | 5000/- | Total chemical analysis using ICP-MS (Include only Antimony, Arsenic, Cadmium, Chromium, Cobalt, Lead, Manganese, Molybdenum, Nickle, Selenium, Silver, Tin) |
| 6 | Water (Surface and groundwater) | 5000/- | |
| 7 | Raw agricultural commodities | 6000/- | |
| 8 | Organic manures | 6000/- | |
| 9 | Animal feed & fodder | 6000/- | |
| **Veterinary drug residues analysis** | | | |
| 10 | Milk | 7000/- | Veterinary antibiotic drug residues analysis using LC-MS/MS (include only Albendazole, Metronidazole, Phenylbutazone, Ronidazole) |
| **AGRIL CHEMISTRY & SOIL SCIENCE** | | | |
| **Sr. No.** | **Name of Parameter** | **Charges/element (Rs.)** | **Remarks** |
| 1 | pH (1:2.5) | 35/- | |
| 2 | Electrical conductivity (1:2.5) | 35/- | |
| 3 | Organic carbon | 130/- | |
| 4 | Available Nitrogen | 100/- | |
| 5 | Available Phosphorus | 100/- | |

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|---|---|---|---|
| 6 | Available Potash | 100/- | |
| 7 | Available Sulphur | 120/- | |
| 8 | Available Calcium (Exch. + WS) | 70/- | |
| 9 | Available Magnesium (Exch. + WS) | 70/- | |
| 10 | Cation exchange capacity | 250/- | |
| 11 | Bulk density / Particle density (Disturbed soil) | 50/- | |
| 12 | Soil texture | 400/- | |
| 13 | Soil moisture | 300/- | |
| 14 | Exchangeable sodium | 100/- | |
| 15 | Gypsum requirement | 120/- | |
| 16 | Lime requirement | 120/- | |
| 17 | Free calcium carbonate | 120/- | |
| **Irrigation Water** | | | |
| 1 | pH | 35/- | |
| 2 | Electrical conductivity / TDS | 35/- | |
| 3 | Calcium | 45/- | |
| 4 | Magnesium | 45/- | |
| 5 | Sodium | 45/- | |
| 6 | Carbonate | 45/- | |
| 7 | Bicarbonate | 45/- | |
| 8 | Chloride | 60/- | |
| 9 | Sulphate | 45/- | |
| 10 | Total water analysis (pH, EC, SAR, RSC, Cl, SO4) | 400/- | |
| **Plant/Fertilizers/Organic manures** | | | |
| 1 | pH (1:10) | 50/- | |
| 2 | Electrical conductivity (1:10) | 50/- | |
| 3 | Organic matter | 150/- | |
| 4 | Total Nitrogen | 250/- | |
| 5 | Total Phosphorus | 200/- | |
| 6 | Total Potassium | 200/- | |
| 7 | Total Sulphur | 300/- | |
| 8 | Total Calcium | 180/- | |

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|---|---|---|---|
| 9 | Total Magnesium | 180/- | |
| **AGRICULTURAL ENTOMOLOGY DEPARTMENT** | | | |
| **Sr. No.** | **Name of Parameter** | **Charges/ Kg (Rs.)** | **Remarks** |
| 1 | Honey processing | 25/- | |
| **PLANT PATHOLOGY DEPARTMENT** | | | |
| **Sr. No.** | **Name of Parameter** | **Charges/ Sample (Rs.)** | **Remarks** |
| 1 | Microscopic analysis | 350/- | |
| 2 | Cultural analysis | 500/- | |
| **NEMATOLOGY DEPARTMENT** | | | |
| **Sr. No.** | **Name of Parameter** | **Charges/ Sample (Rs.)** | **Remarks** |
| 1 | Soil sample analysis for estimation of nematode population | 800/- | |
| 2 | Root sample analysis for estimation of nematode population | 1000/- | |
| 3 | Both soil and root sample analysis for estimation of nematode population | 1500/- | |
| 4 | Soil sample analysis for detection of cyst nematodes | 1200/- | |
| 5 | Plant sample analysis for detection of foliar nematodes | 800/- | |
| 6 | Identification of Root-knot nematode species by perennial pattern | 5000/- | |

## ANALYTICAL RATES OF ANAND AGRICULTURAL UNIVERSITY, ANAND

**Terms and Conditions remain as follows:**

1. 100% charges shall be deposited along with the sample.
2. As per the discretion of the respective laboratory head / head of the unit / department head, the representative of the party shall remain present at laboratory at their own cost and the process shall take place in the presence of representative of the party who will witness, supervise and monitor the process. At any stage of process, if reaction fails, university will not be responsible for the same and refund claim shall not be entertained.
3. The party interested in getting their sample analyzed on instrument shall bring the sample & consumables / chemicals to the laboratory at their own cost except DNA fingerprinting for biotechnology related analysis.
4. The list of consumables along with company (brand) required for analysis must be approved in advance in consultation with the person undertaking the responsibility of the analysis for biotechnology related analysis.
5. Samples should be transported in proper control condition ($\leq$ 4 °C) and packed separately in purported bags to avoid cross contamination for pesticide residue analysis.
6. The results of pesticide residue analysis will be given for a sample, as received to the laboratory.
7. Minimum sample size should be 2.5 liters for water, 500 grams for soil, 500 grams for seed spices and 1.0 kilograms for raw agricultural commodities for pesticide residue analysis.
8. Soil and Plant sample analysis for Nematode detection must specify Name of Crop, Sampling date, Name of farmer, Type of crop, Sowing date, Name of village, Taluka, District, Contact No., Copy of 7/12 and 8 A as well as the GPS location of field. Free of cost service will be provided to the farmers for the identification of nematode in soil and plants.
9. These rates will remain valid until further order is issued by the Office of Director of Research, AAU, Anand.
10. The respective laboratory head / head of the unit / department head have full right to reject or accept the proposal for analysis in the interest of the university.
11. Anand Agricultural University will not be responsible for any kind of accident or hazards met in the handling of equipment or infrastructure etc. during experimentation
12. The party shall abide by the above terms and conditions before the offer / assignment is accepted by the university.

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13. Anand Agricultural University shall have sole discretionary power to settle unforeseen events or disputes if any.
14. The analytical results/data should not be used for legal purpose/dispute.