**PROCEEDINGS OF THE XI COMBINED JOINT AGRESCO MEETING OF BASIC SCIENCE & HUMANITIES / BASIC SCIENCE / PLANT PHYSIOLOGY, BIO-CHEMISTRY AND BIOTECHNOLOGY OF STATE AGRICULTURAL UNIVERSITIES OF GUJARAT HELD AT AAU, ANAND DURING 7-9 APRIL, 2015**

**11.6 BASIC SCIENCE & HUMANITIES / BASIC SCIENCE / PLANT PHYSIOLOGY, BIO-CHEMISTRY AND BIOTECHNOLOGY**

|  |  |  |
| --- | --- | --- |
| Chairman | : | Dr. C. J. Dangaria, Hon'ble V.C., NAU |
| Co-Chairmen | : | Dr. S. R. Vyas, Dean, Basic Science, SDAU  Dr. J. G. Talati, HoD, Bio-Chemistry, AAU |
| Rapporteurs | : | Dr. Sushil Kumar, AAU  Dr. Diwakar Singh, NAU |

The details of recommendations and new technical programmes presented, discussed and approved during the session are as under:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Universities** | **Recommendations** | | | | **New Technical Programmes** | |
| **Farming Community** | | **Scientific Community** | |
| **Proposed** | **Approved** | **Proposed** | **Approved** | **Proposed** | **Approved** |
| AAU | 1 | 1 | 3 | 3 | 8 | 8 |
| JAU | 4 | 4 | 5 | 5 | 9 | 9 |
| NAU | - | - | 3 | 3 | 10 | 10 |
| SDAU | - | - | - | - | 9 | 9 |
| **Total** | **5** | **5** | **11** | **11** | **36** | **36** |

**11.6.1 Recommendations**

**A. Farming Community**

|  |  |
| --- | --- |
| **Anand Agricultural University** | |
| 11.6.1.1 | **Canopy manipulation to study yield and quality in Ashwagandha (*Withania somnifera*)** |
| The farmers of middle Gujarat Agro-climatic zone-III growing ashwagandha crop are recommended for canopy manipulation of 50% leaf removal randomly at 75 days after sowing for getting higher dry quality root yield as well as net r**e**turn |
| મધ્ય ગુજરાત ખેત આબોહવાકીય વિસ્તાર-૩ ના અશ્વગંધા પાકનું વાવેતર કરતા ખેડૂતોને વધુ ગુણવત્તા સભર મૂળનું ઉત્પાદન અને RMbBM GOM મેળવવા પાકની વાવણી બાદ ૭૫ દિવસે ૫૦% પાંદડા યદ્દચ્છ રીતે ચુટીં કાઢવાની ભલામણ કરવામાં આવે છે.  **(Action:** **Research Scientist, Medicinal and Aromatic Crop Research Station, AAU, Anand**) |
| **Junagadh Agricultural University** | |
| 11.6.1.2 | **Effect of Brassinolide foliar spray on yield and yield attributing characters of wheat** |
| The farmers of South Saurashtra Agro Climatic Zone growing wheat under irrigated condition are recommended to spray growth promoter Brassinolide (BS) @ 0.01mgL-1 (12.5 ml Brassinolide dissolved in 5 litres water, from which 150 ml is taken and diluted to 15 litres solution) at milk dough stage to obtain higher grain yield and net return. |
| **દક્ષિણ સૌરાષ્ટ્ર ખેત આબોહવાકિય વિસ્તારમાં પિયત ઘઉંનું વાવેતર કરતા ખેડૂતોને વધારે ઉત્પાદન અને આર્થિક વળતર મેળવવા માટે ઘઉંમાં દૂધિયા દાણાની અવસ્થાએ ૦.૦૧ lમલીગ્રામ/લિટર \_.\_$ % w/w (૧૨.૫ lમલી લિટર બ્રાસિનોલાઇડ લઇ ૫ લિટર પાણીમાં ઓગાળી, તેમાંથી ૧૫૦ lમલીલિટર લઇ ૧૫ લિટર દ્રાવણ બનાવું) વૃધ્ધિ વર્ધક બ્રાસિનોલાઇડનો છંટકાવ કરવાની ભલામણ કરવામાં આવે છે.**  **(Action:** **Professor and Head,** **Department of Genetics and Plant Breeding, JAU, Junagadh**) |
| 11.6.1.3 | **Response of sesame (*Sesamum indicum* L.) to growth regulators** |
| The farmers of North Saurashtra Agro-climatic Zone growing sesame in *kharif* season are recommended for foliar spray Indole Acetic Acid (IAA) 100 ppm (1 gram/10 liter water) at flowering stage for obtaining higher yield and net return. |
| ptTZ ;{FZFQ8= B[T VFAMCJFSLI lJ:TFZ sB[T VFAMCJFSLI 5lZl:YlTv&fDF\ BZLO kT]DF\ T, G]\ JFJ[TZ SZTF B[0}TMG[ E,FD6 SZJFDF\ VFJ[ K[ S[ T,GF 5FSDF\ >g0M, V[;[8LS V[;L0 sVF>PV[PV[Pf! U|FD 5|lT !\_ l,8Z 5F6LDF s\!\_\_ 5LP5LPV[DP GFf N=FJ6GM O}, VFJJFGL VJ:YFV[ K\8SFJ SZJFYL JW] p¿5FNG VG[ RMbBL VFJS D[/JL XSFI K[P  **(Action:** **Research Scientist, Dry Farming Research Station, JAU, Targhadia**) |
| 11.6.1.4 | **Effects of foliar application of organic and inorganic substances on the yield of chick pea (GJG-3) under limited water supply** |
| The farmers of North Saurashtra Agro-climatic Zone (AES-VI) growing chickpea (Var.GJG-3) in rabi season are recommended to apply two irrigation (one at flowering and second at pod development stage) along with recommended dose of fertilizer (20:40 NP kg/ha ) and foliar application of KNO3 @ 2% twice at flowering and pod development stages for obtaining higher yield and maximum net return. |
| ptTZ ;{FZFQ8= B[T VFAMCJFSLI lJ:TFZ sB[T VFAMCJFSLI 5lZl:YlTv&f DF\ ZlJ kT]DF\ R6F sU]HPH]GFU- R6Fv#fG]\ JFJ[TZ SZTF B[0}TMG[ E,FD6 SZJFDF\ VFJ[ K[ S[ R6FDF\ A[ l5IT s5|YD O], VFJJFGF ;DI[ VG[ ALH] 5M58FGF lJSF;GF TASS[f VF5JFGL ;FY[ 5M8[lXID GF>8=[8 Z 8SF ãFJ6GF A[ K\8SFJ s5|YD O], VFJJFGF VG[ ALH] 5M58FGF lJSF;GF ;DI[f SZJFYL JW] pt5FNG VG[ JW] RMbBL VFJS D[/JL XSFI K[P  **(Action:** **Research Scientist, Dry Farming Research Station, JAU, Targhadia**) |
| 11.6.1.5 | **Effect of foliar spray of plant growth retardants on growth and yield parameters of kharif groundnut** |
| The farmers of South Saurashtra Agro climatic zone growing kharif groundnut are recommended for foliar spray of Cycocel (50% SL) @ 1000 ppm (2.0 ml/lit) at 30 Days after sowing (DAS) or foliar application of Paclobutrazol (23% w/w SC) @ 500 ppm (2.5 ml/lit) at 60 DAS to suppress the excess vegetative growth and to get higher pod yield and net return. |
| Nl1F6 ;F{ZFQ8= B[TvVFAMCJFlSI lJ:TFZGF RMDF;] DUO/L pUF0TF B[0}TMG[ E,FD6 SZJFDF\ VFJ[ K[ S[ JW] 50TL JFG:5lTS J'lwW V8SFJJF TYF JW] pt5FNG VG[ RMbBL VFJS D[/JJF DF8[ JFJ6L AFN #\_ lNJ;[ !\_\_\_ 5LP5LPV[DP sZ lD,Ll,8Z 5|lT l,8Zf ;F.SM;L, s 5\_ @ V[;PV[,Pf VYJF &\_ lNJ;[ 5\_\_ 5LP5LPV[DP sZP5 lD,Ll,8Z 5|lT l,8Zf 5[S,MaI]8=FhM, sZ#@ 0A<I]q0A<I] V[;P;LPf GF £FJ6GM K\8SFJ SZJMP  **(Action:** **Research Scientist, Oilseed Research Station, JAU, Junagadh**) |
| **Navsari Agricultural University** | |
|  | **Nil** |
| **Sardar Krushinagar Dantiwada Agricultural University** | |
|  | **Nil** |

**B. Scientific Community**

|  |  |
| --- | --- |
| **Anand Agricultural University** | |
| 11.6.1.6 | **Mining and validation of EST-SSR for gum (Galactomannan) in Guar** |
| There is narrow genetic base and low genetic variability in cultivated varieties of cluster bean (guar) for gum content as revealed by EST-SSR markers and thus there is need to create variability artificially and further assess it in germplasm through Genomic-SSR markers.  **(Action:** **Research Scientist, Agril. Biotechnology, AAU, Anand**) |
| 11.6.1.7 | **Mining and validation of EST-SSR for fibre development in Cotton** |
| EST-SSR markers associated with fibre quality traits can easily distinguish *Gossypium herbaceum* from *Gossypium arboreum* and thus can be successfully utilized for identification of interspecific hybrids between these two species followed by their use in marker assisted breeding of desi cotton.  **(Action:** **Research Scientist, Agril. Biotechnology, AAU, Anand**) |
| 11.6.1.8 | **Effect of Benzyl adenine (BA) on water deficit stress in wheat seedling** |
| It is recommended that to avoid adverse effects of drought stress, wheat seeds should be pre-soaked with 100 ppm benzyladenine for 6 hours to retain higher drought tolerant molecules such as relative water content, total chlorophyll, and total carotenoids with low membrane injury at seven days after germination.  **(Action:** **Prof. & Head, Biochemistry Dept., BACA, AAU, Anand**) |
| **Junagadh Agricultural University** | |
| 11.6.1.9 | **Biochemical Characterization of *Trichoderma* spp. for Inhibition of *Macrophomina phaseolina* causing Root Rot in Castor** |
| It is recommended to the scientific community that among seven *Trichoderma* spp*.*, *T. koningi* MTCC 796 was found the best antagonist to inhibit the growth of pathogen *Macrophomina phaseolina* followed by *T. harzianum* NABII Th 1 on PDA media. Cell wall degrading enzymes - chitinase and β-1, 3 glucanase are positively correlated to inhibit *in vitro* growth of fungal pathogen *M. phaseolina*. Two species specific SCAR primers, JAU-KON856-4 (F:5'ACCTTTCTGTCACTGCCCTG3'; R:5'AGGAGAAAGGAGTGGTCGGT3') for  *T. koningii* MTCC 796 and JAU-HAR395-3 (F:5'CTTTTGGTTTGACACGGTTCT3'; R:5'AAGCTTTGAAGTTGCGAGGA3‘) for *T. harzianum* NABII Th 1, were developed from sequenced, species specific, RAPD bands of OPA16. These two SCAR markers identified best antagonists inhibiting test pathogen *M. phaseolina.*  **(Action: Professor & Head, Department of Biochemistry & Biotechnology, JAU, Junagadh)** |
| 11.6.1.10 | **QTL mapping and development of SCAR marker for Fusarium wilt (*Fusarium oxysporum* f. sp. *ricini*) in Castor** |
| JAUC1 to JAUC5 series of primers can be used in castor breeding programme to identify Fusarium wilt resistant genotypes in Marker Assisted Selection (MAS) or Marker Assisted Backcrossing (MAB).  **(Action:** **Professor and Head, Department of Biochemistry and Biotechnology, JAU, Junagadh**) |
| 11.6.1.11 | **Sex Determination of Papaya (*Carica papaya*) through Molecular Markers** |
| The scientific community involved in papaya improvement are recommended to use JAUP1 to JAUP4 series of primers for sex determination at pre-flowering stage in ‘*Madhubindu’* variety of papaya.  **(Action:** **Professor and Head, Department of Biochemistry and Biotechnology, JAU, Junagadh**) |
| 11.6.1.12 | **QTL mapping and development of SCAR marker for *Macrophomina* root rot in Castor** |
| JAUC6 to JAUC10 series of primers can be used in castor breeding programme to identify root rot resistant genotypes in Marker Assisted Selection (MAS) or Marker Assisted Backcrossing (MAB).  **(Action:** **Professor and Head, Department of Biochemistry and Biotechnology, JAU, Junagadh**) |
| 11.6.1.13 | **Yield assessment of some drought tolerant groundnut genotypes** |
| It is recommended to the scientific community that the genotypes DRT-2004-7 and J-53 possessed drought tolerance under unirrigated condition. Both genotypes recorded higher pod, haulm and biological yield. Harvest index and partitioning to pod were also highest along with high LAI and number of nodules at 70 DAS, thereby having better assimilation of photosynthates towards sink under rainfed condition. These genotypes may be used as parents in breeding programme for development of drought tolerant varieties.  **(Action:** **Research Scientist (Groundnut), Main Oilseeds Research Station, JAU, Junagadh**) |
| **Navsari Agricultural University** | |
| 11.6.1.14 | **Screening of cotton genotypes for water stress tolerance** |
| Cotton entries GSHV-162 and H-1454/12 were found drought tolerant, whereas RHC-0717 and BS-79 were found drought susceptible based on physiological parameters, yield stability index, drought susceptibility index, root length and yield related factors.  **(Action:** **Research Scientist, MCRS, NAU, Surat**) |
| 11.6.1.15 | **Characterization of pectate lyase in banana** |
| Best stage for maximum recovery of pectate lyase (PEL) enzyme from G-9 variety of banana pulp is 4 days after 5% etheral treatment. Optimum activity of PEL enzyme is obtained in 20mM sodium phosphate buffer at pH 8.5 and temperature 37oC. PEL enzyme activity was increased by two thiol group chemicals (cystine and cysteine at 5.0 mM concentration) and one metal ion i.e. Mg2+ as MgCl2 (0.6 mM concentration). Major inhibitors of PEL enzyme are phenolics (ferulic acid, caffeic acid, ρ-Coumaric acid and salicylic acid), reducing agents (ascorbic acid and sodium metabisulphite), thiol groups (β-ME and DTT) and metal ions (Ba2+, Co2+, Cu2+, Fe2+ and Zn2+), which may increase shelf life of banana variety G-9.  **(Action:** **Prof. and Head, Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari**) |
| 11.6.1.16 | **Effect of nano-micronutrients (Zn and Cu) on physiology and stevioside production in stevia** |
| In the micropropagation of stevia, nano particles(< 50 nm) of ZnO (10 μM) and CuO (0.05 μM) can be incorporated in place of ZnSO4 & CuSO4 in the MS medium for getting more number of shoots per culture, higher fresh weight, dry weight and stevioside content (1.40% FW).  **(Action:** **Prof. and Head, Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari**) |
| **Sardar Krushinagar Dantiwada Agricultural University** | |
|  | **Nil** |

**11.6.2 New Technical Programme**

**Anand Agricultural University**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Title / Centre** | **Suggestions** | **Remarks** |
| 11.6.2.1 | **Centre: Regional Research Station, AAU, Anand** | | |
| Effect of different packaging materials and plant growth regulators on germinability and vigour of cotton (*Gossypium hirsutum* L) | **----**  **(Action:** **Research Scientist, RRS, AAU, Anand**) | Approved |
| 11.6.2. 2 | **Centre: Regional Research Station, AAU, Anand** | | |
| Effect of different packaging materials and plant growth regulators on germination and vigour of Green gram (*Vigna radiata* L. Wileczek.) Var. Meha. | **----**    **(Action:** **Research Scientist, RRS, AAU, Anand**) | Approved |
| 11.6.2. 3 | **Centre: Department of Agril. Biotechnology, AAU, Anand** | | |
| Development of Single Nucleotide Polymorphisms in diploid Cotton (*Gossypium herbaceum*) through Genotyping-by-Sequencing (GBS) technique | Approved with following suggestion/s   1. Mention the number of genotypes and criteria of genotype selection.   **(Action:** **Research Scientist, Agril. Biotechnology, AAU, Anand**) | Approved with suggestions |
| 11.6.2. 4 | **Centre: Department of Agril. Biotechnology, AAU, Anand** | | |
| Development and validation of highly sensitive LC-MS/MS method for plant metabolite quantification and confirmation. | Approved with following suggestion/s   1. Modify title as, “Development and validation of highly sensitive LC-MS/MS method for plant metabolite quantification and confirmation from medicinal and aromatic plants”.   **(Action:** **Research Scientist, Agril. Biotechnology, AAU, Anand**) | Approved with suggestions |
| 11.6.2. 5 | **Centre: Department of Agril. Biotechnology, AAU, Anand** | | |
|  | Isolation and validation of root knot nematode disease resistance *Mi* gene from tomato cultivar SL-120 | **----**  **(Action:** **Research Scientist, Agril. Biotechnology, AAU, Anand**) | Approved |
| 11.6.2. 6 | **Centre: Department of Agril. Biotechnology, AAU, Anand** | | |
| Identification of QTL conferring nematode resistance in tomato | Approved with following suggestion/s   1. Mention the type of crosses to be made (inter or intra species).   **(Action:** **Research Scientist, Agril. Biotechnology, AAU, Anand**) | Approved with suggestions |
| 11.6.2. 7 | **Centre: Plant Tissue Culture Lab, Department of Agril. Biotechnology, AAU, Anand** | | |
| Development of molecular markers for clonal fidelity testing of tissue culture raised plants of date palm (*Phoenix dactylifera* L.) Variety Barhee. | **----**  **(Action:** **Research Scientist, Plant Tissue Culture Lab, Agril. Biotechnology, AAU, Anand**) | Approved |
| 11.6.2. 8 | **Centre: Dept. of Biochemistry, BACA, AAU, Anand** | | |
| Assessment of different Soybean genotypes for biochemical and metabolite variability | Approved with following suggestion/s   1. Modify the title as, “Assessment of different Soybean genotypes for biochemical variability”.   **(Action:** **Prof. & Head, Dept. of Biochemistry, BACA, AAU, Anand**) | Approved with suggestions |

**Junagadh Agricultural University**

|  |  |  |  |
| --- | --- | --- | --- |
| 11.6.2.9 | **Centre: Department of Genetics and Plant Breeding, JAU, Junagadh** | | |
| Effect of pre-sowing treatment on germination and vigour of Ashwagandha (*Withania somnifera* L. Dunal.) | Approved with following suggestion/s   1. Mention dry root/shoot ratio in analysis. 2. Use word “repetition” instead of “replication”.   **(Action:** **Professor and Head, Department of Genetics and Plant Breeding, JAU, Junagadh**) | Approved with suggestions |
| 11.6.2.10 | **Centre: Department of Genetics and Plant Breeding, JAU, Junagadh** | | |
| Effect of pre-treatment of seeds on seed emergence and seedling vigour of coriander (*Coriandrum sativum* L.) | Approved with following suggestion/s   1. Mention 12 hours instead of overnight. 2. Include one biochemical parameter each for germination and growth, in observations to be recorded.   **(Action:** **Professor and Head, Department of Genetics and Plant Breeding, JAU, Junagadh**) | Approved with suggestions |
| 11.6.2.11 | **Centre: Department of Biochemistry and Biotechnology, JAU, Junagadh** | | |
| Phytochemical, antidiabetic and molecular characterization of custard apple (*Annona squamosa* L.) genotypes. | **----**  **(Action:** **Professor and Head, Department of Biochemistry and Biotechnology, JAU, Junagadh**) | Approved |
| 11.6.2.12 | **Centre: Department of Biochemistry and Biotechnology, JAU, Junagadh** | | |
| Qualitative and nutritional evaluation of promising genotypes of groundnut. | Approved with following suggestion/s   1. Include fibre content in biochemical analysis.   **(Action:** **Professor and Head, Department of Biochemistry and Biotechnology, JAU, Junagadh**) | Approved with suggestion |
| 11.6.2.13 | **Centre: Department of Biochemistry and Biotechnology, JAU, Junagadh** | | |
| Genome sequencing of pathogenic *Macrophomina phaseolina* isolated from castor. | **----**  **(Action:** **Professor and Head, Department of Biochemistry and Biotechnology, JAU, Junagadh**) | Approved |
| 11.6.2.14 | **Centre: Pearl Millet Research Station, JAU, Jamnagar** | | |
| Varietal characterization in pearl millet on the basis of root shoot traits. | **----**  **(Action:** **Research Scientist, Pearl Millet Research Station, JAU, Jamnagar**) | Approved |
| 11.6.2.15 | **Centre: Pearl Millet Research Station, JAU, Jamnagar** | | |
| Physiological mechanism of drought tolerance in pearl millet at early seedling stage using PEG | **----**  **(Action:** **Research Scientist, Pearl Millet Research Station, JAU, Jamnagar**) | Approved |
| 11.6.2.16 | **Centre: Dry Farming Research Station, JAU, Targhadia** | | |
| Effect of growth regulator, organic and inorganic foliar nutrition on the growth and yield of black gram (*Vigna mungo* L.) under rainfed condition. | **----**  **(Action:** **Research Scientist, Dry Farming Research Station, JAU, Targhadia**) | Approved |
| 11.6.2.17 | **Centre: Regional Cotton Research Station, JAU, Junagadh** | | |
| Influence of weather parameters on cotton (*Gossypium hirsutum* L.) phenology and seed cotton yield. | **----**  **(Action:** **Research Scientist, Regional Cotton Research Station, JAU, Junagadh**) | Approved |

**Navsari Agricultural University**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Title / Centre** | **Suggestions** | **Remarks** |
| 11.6.2.18 | **Centre: Principal and Dean, GABI, NAU, Surat** | | |
| Effects of water stress on critical stages of banana cultivar (*Musa acuminata* cv G-9) | Approved with following suggestion/s   1. Fourth open leaf from top should be used for biochemical analysis. 2. Include SOD enzyme in biochemical analysis. 3. Biochemical analysis should be carried out using standard procedures   **(Action:** **Principal and Dean, GABI, NAU, Surat**) | Approved with suggestions |
| 11.6.2.19 | **Centre: Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari** | | |
| Effects of water stress on critical stages of banana cultivar (*Musa acuminata* cv G-9) | Approved with following suggestion/s   1. Replace ppm with mg l-1. 2. Include SOD enzyme in biochemical analysis. 3. Mention Net and Gross plot size. 4. Experiment may be modified to include additional variety and reduce number of sprays after reviewing first year results, if necessary.   **(Action:** **Prof. and Head, Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari**) | Approved with suggestions |
| 11.6.2.20 | **Centre: Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari** | | |
| Effect of pre-harvest water stress on yield and post harvest quality of cabbage (*Brassica oleraceae* var. *capitata* L.) | Approved with following suggestion/s   1. Include moisture content in biochemical analysis. 2. Include Net and Gross plot size. 3. Replace “water content” by “water quantity”   **(Action:** **Prof. and Head, Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari**) | Approved with suggestions |
| 11.6.2.21 | **Centre: GABI, NAU, Surat** | | |
| Structural and functional studies of NAL1 Protein using Bioinformatics approach in various cereal crops | Approved with following suggestion/s   1. Modify title as, “*In-silico* studies of NAL1 Protein using Bioinformatics approach in various cereal crops”. 2. Include minor millet and pearl millet in the study, if genome sequence information is available.   **(Action:** **Principal and Dean, GABI, NAU, Surat**) | Approved with suggestions |
| 11.6.2.22 | **Centre: Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari** | | |
| Microspore culture in eggplant for crop improvement | Approved with following suggestion/s   1. Mention year and season wise programme. 2. Include the following in objectives:  * Development of double haploids (DH) after colchicine treatment.   **(Action:** **Prof. and Head, Dept. of Plant Molecular Biology and Biotechnology, ACHF, NAU, Navsari**) | Approved with suggestions |
| 11.6.2.23 | **Centre: GABI, NAU, Surat** | | |
| Isolation and Characterization of endophytic bacterium from various plants | Approved with following suggestion/s   1. Submit isolated new bacterial cultures for identification at MTCC, Chandigarh. 2. Mention the plant parts from where samples are to be collected.   **(Action:** **Principal and Dean, GABI , NAU, Surat**) | Approved with suggestions |
| 11.6.2.24 | **Centre: GABI, NAU, Surat** | | |
| Molecular Variability of *Trichogramma chilonis* strains | **----**  **(Action:** **Principal and Dean, GABI , NAU, Surat**) | Approved |
| 11.6.2.25 | **Centre: MCRS, NAU, Surat** | | |
| Identification and validation of molecular marker linked to Genetic male sterility in cotton (*G. hirsutum*) | **----**  **(Action:** **Research Scientist (Cotton), MCRS, NAU, Surat**) | Approved |
| 11.6.2.26 | **Centre: Food Quality Testing Laboratory, NAU, Navsari** | | |
| Exploring microbes for their siderophore production and their biocontrol potential | **----**  **(Action:** **Professor & Head, Food Quality Testing Laboratory, NAU, Navsari**) | Approved |
| 11.6.2.27 | **Centre: Food Quality Testing Laboratory, NAU, Navsari** | | |
| Exploring microbes for their exopolysaccharides (EPS) production | Approved with following suggestion/s   1. Modify the title as, “Exploring microbes for exopolysaccharides (EPS) production”. 2. Mention the source of water and site of soil collection.   **(Action:** **Professor & Head, Food Quality Testing Laboratory, NAU, Navsari**) | Approved with suggestions |

**Sardar Krushinagar Dantiwada Agricultural University**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Title / Centre** | **Suggestions** | **Remarks** |
| 11.6.2.28 | **Centre: Central Instrumentation Laboratory, SDAU, S K Nagar** | | |
| Identification of putative target genes for Iron and Zinc concentrations in bread wheat | Approved with following suggestion/s   1. Modify the title as, “Real time expression analysis of genes for iron and zinc concentration in wheat”. 2. Contrast genotypes should be identified on the basis of biochemical analysis for Fe and Zn followed by RT-PCR analysis with 2 or 3 genotypes only.   **(Action:** **Professor, I/C Central Instrumentation Laboratory, SDAU, S K Nagar)** | Approved with suggestions |
| 11.6.2.29 | **Centre: College of Basic Science & Humanities, SDAU, S. K. Nagar** | | |
| Elucidation of antioxidant potentials of Custard Apple. | Approved with following suggestion/s   1. In methodology, mention appropriate stage of fruit harvest like, physiological maturity stage. 2. In observation also include seed to pulp ratio. 3. Include total phenols in biochemical analysis. 4. Mention the period of storage.   **(Action :** **Dean, College of Basic Science & Humanities, SDAU, S. K. Nagar)** | Approved with suggestions |
| 11.6.2.30 | **Centre: College of Basic Science & Humanities, SDAU, S. K. Nagar** | | |
| Proteomics of buffalo milk fat globule membrane during different stages of lactation. | **----**  **(Action :** **Dean, College of Basic Science & Humanities, SDAU, S. K. Nagar)** | Approved |
| 11.6.2.31 | **Centre: College of Basic Science & Humanities, SDAU, S. K. Nagar** | | |
| Molecular characterization of wilt resistance in Cumin (*Cuminum cyminum* L.). | Approved with following suggestion/s   1. Modify the title, as “Induced mutagenesis and molecular characterization of wilt resistant Cumin (*Cuminum cyminum* L.). 2. Use high yielding genotype for mutagenesis. 3. Screening and selection should be at M3 generation without any selection pressure (without disease inoculation). 4. Select superior 50 mutants from M3 followed by their molecular characterization.   **(Action :** **Dean, College of Basic Science & Humanities, SDAU, S. K. Nagar)** | Approved with suggestions |
| 11.6.2.32 | **Centre: College of Basic Science & Humanities, SDAU, S. K. Nagar** | | |
| Development of microbial consortium for growth promotion of Cumin GC-4 plant. | Approved with following suggestion/s   1. Microbial characterization of PGPR should be carried out as per standard procedures. 2. Finalize and implement the programme in consultation with Dr. R.V. Vyas, Professor and Head, Department of Agri. Microbiology, AAU, Anand.   **(Action :** **Dean, College of Basic Science & Humanities, SDAU, S. K. Nagar)** | Approved with suggestions |
| 11.6.2.33 | **Centre: Dept. of Genetics and Pl. Breeding, CPCA, SDAU, S. K. Nagar** | | |
| Identification of molecular marker for wilt resistance in castor *(Ricinus communis* L) | Approved with following suggestion/s   1. Identify contrast castor genotypes (other than RG 2800 and JC 18) in consultation with Research Scientist, Castor and Mustard, SDAU, SK Nagar.   **(Action : Professor & Head, Dept. of Genetics and Pl. Breeding, CPCA, SDAU, S. K. Nagar)** | Approved with suggestions |
| 11.6.2.34 | **Centre: Castor & Mustard Research Station, SDAU, S. K. Nagar** | | |
| Evaluate yield performance of Castor in relation to bud topping agro-technique and harvesting of spikes at different maturity stages. | Approved with following suggestion/s   1. Modify the title as, “Effect of harvesting of recemes at different maturity stages on yield performance in castor”. 2. Remove T1 treatment and also T1 from T3 treatment. 3. Rectify the spacing as per the recommendation. 4. Remove 1st observation related to bud topping.   **(Action: Research Scientist, Castor & Mustard Research Station, SDAU, S. K. Nagar)** | Approved with suggestions |
| 11.6.2.35 | **Centre: Seed Spices & Referral Lab, SDAU, Jagudan** | | |
| Estimation of dithiocarbamate residues in cumin seed during storage period. | Approved with following suggestion/s   1. Under sample collection, mention “collection of farmer’s stored seeds” instead of “farmer’s field”. 2. Collect current year fresh seeds only.   **(Action: Research Scientist, Seed Spices & Referral Lab, SDAU, Jagudan.)** | Approved with suggestions |
| 11.6.2.36 | **Centre: Seed Spices & Referral Lab, SDAU, Jagudan** | | |
| Effect of physico-chemical treatment on germination of cumin seed. | Approved with following suggestion/s   1. Replace title of treatment T1 as, “Pre-soaking of cumin seeds with organic solvents”. 2. Mention the duration in T2 and T3 treatments.   **(Action: Research Scientist, Seed Spices & Referral Lab, SDAU, Jagudan.)** | Approved with suggestions |

**11.6.3 General Suggestions**

1. The new technical programmes and recommendations should be submitted in the prescribed format only.
2. The text in report and presentation should be similar.
3. In case of recommendation for scientific community avoid use of words, “It is recommended to/for”.
4. In future technical programmes concentration of chemicals should be given in M (Molar) concentration.
5. Action taken reports of recommendations as well as new technical programmes should be submitted by the indicated Scientist / Unit Head through the Convener of the sub-Committee to the Director of Research of respective University.