

Proceeding of 15th AGRESO Basic Science Sub Committee Meeting Held on 08-02-2019 at Conference Hall, Dept. of Soil Science & Agricultural Chemistry, NMCA, NAU, Navsari

The 15th AGRESO Basic Science Sub Committee meeting was held at Conference hall, Dept. of Soil Science & Agricultural Chemistry, NMCA, NAU, Navsari on 08-02-2019. The members from various disciplines (Biochemistry, Plant Physiology, Plant Biotechnology, Nanotechnology, Microbiology, Mathematics and Meteorology) participated in this meeting. At the outset, convener Dr. A. V. Narwade welcomed all dignitaries as well as Basic Science Sub Committee members present in the hall. In his welcome speech, he highlighted the significance of basic science subject in agriculture. He also stated that this meeting is an opportunity to frame a research outline based on current issues and problems being faced by farmers of this region and to workout their possible solutions; thereby strengthen the agriculture production and doubling farmers income. The Floral welcome to The Director of Research and Dean PG studies, Dr. S. R. Chaudhary, Principal & Dean, ASBI Dr. R. M. Patel, Dean ABM, Dr. H. R. Pandya and ADR, Dr. K. A. Patel was done by faculty members. The convener presented the action taken report of 14th Basic Science Sub Committee of AGRESO. Dr. S. R. Chaudhary, Director of Research and Dean PG studies narrated his satisfactory remarks to see the progress in compilation and presentation of action taken report. He also congratulated to all members and convener for proper suggestion incorporation in action taken report. He further clarifies to the members that, if new technical programme needed any technical suggestion from other concern or related subcommittee, than PI can present his/her experiment in that subcommittee for only technical approval. Final approval of same New Technical Programme should be done in this Basic Science Sub Committee; so as to avoid any technical problem arises at the time of recommendation. He urged all members to take active participation in different sessions of AGRESO meeting and make positive suggestions for improvement.

Vote of thanks for inaugural session was proposed by Dr. Trupti Vyas, Assistant Professor, Food Quality Testing Lab, NAU, Navsari.

Abstract of recommendations and new technical programme

Recommendations				New technical programme	
Farming community		Scientific community			
Proposed	Approved	Proposed	Approved	Proposed	Approved
1	1	4	4	22	22

Technical Session – I: Recommendations

Time: 10.20 to 12.30 hrs

Chairman : Dr. Sunil R. Chaudhary, DR & Dean PGS, NAU, Navsari

Co-chairman : Dr. K. A. Patel, ADR, NAU, Navsari

Rapporteurs : 1) Dr. Diwakar Singh, Assistant Professor, Dept. of PMBB, ACHF, Navsari
2) Dr. Priti Faldu, Assistant Professor, Dept. of SS&AC, NMCA, Navsari

Item No.	Title of experiment	Suggestions	Action to be taken by
15.1.1	Study of free living nitrogen fixing bacterial diversity with respect to seasonal variation (12.4.5.3)	Approved with following suggestions: 1. Correct the table title with table no. 2. Label the plates in fig. of siderophore production. 3. New technical programme was approved in PPSC subcommittee but keep recommendation in Basic Science subcommittee. 4. Change the number of NTP of PPSC for Basic Science recommendation. 5. Identify the isolates by 16s, quantify PGPR and amplify <i>nif h</i> gene to prove nitrogen fixer. 6. Do antimicrobial activity by dual culture method using <i>Fusarium</i> and <i>Sclerotium</i> . 7. Remove the terms soil inoculants and biofertilizer from recommendation.	HOD, Dept. of Plant Pathology, COA, Bharuch
Note: PI had requested to Hon. Director of Research for the extension of experiment for one year. As per PIs letter Ref.No. NAU/COA/Agresco/BS/852/2019 Date: 26-02-2019 mention that DR has suggested to extend above experiment for one year.			
15.1.2	Nutritional and antinutritional profiling of different Kabuli chick pea (<i>Cicer arietinum</i> L.) genotypes. (14.7.3.24)	Approved with following suggestions: 1. Keep 2-3 digit only in the tables. 2. Write table no. 3. Reanalyze data with the help of statistician for P and Mg. 4. Recast the recommendation in paragraph form by highlighting genotypes for nutritional properties.	Prof. & Head, Dept. of Soil Science & Agri. Chem., NMCA, NAU, Navsari
15.1.3	Delaying of the browning of	Approved with following suggestions: 1. Recast the recommendation as	Prof. & Head, Dept. of Food

Item No.	Title of experiment	Suggestions	Action to be taken by
	sugarcane juice by various treatments (13.7.3.35)	follows: "Sugarcane juice vendors are advised to use 0.05 % citric acid for delayed browning up to 3 hours retaining taste of sugarcane juice."	Quality Testing Lab., NMCA, NAU, Navsari
15.1.4	Characterization of bacteriocin produced by isolated lactic acid bacteria (12.6.2.3.12)	Approved with following suggestions: 1. Recast the recommendation as follows: "It is informed to scientific community that <i>Enterococcus faecium</i> produced bacteriocin which can be used in vitro to inhibit the growth of <i>Staphylococcus</i> , <i>Enterococcus</i> , <i>Serratia</i> , <i>Micrococcus</i> and <i>Listeria</i> ." 2. Write species of microorganisms.	Prof. & Head, Dept. of Food Quality Testing Lab., NMCA, NAU, Navsari
15.1.5	Genetic diversity analysis among promising Nagli (<i>Eleusine coracana</i> L.) genotypes (10.6.3.10)	Approved with following suggestions: 1. Mention genotype/varieties in recommendation. 2. Mention the colour and morphological features of genotypes. 3. In conclusion write results of only pooled analysis. 4. Recast the recommendation as follows: "Scientific community is informed to use RAPD markers OPE 07, OPF 12, OPG 8, OPH 4, OPH 5, OPI 6 and OPI 10 and ISSR markers UBC 841, UBC 857 and UBC 863 for genetic diversity analysis in Nagli genotypes. Genetically diverse genotypes, viz., GN-4 and GPU-48 & GPU-28 can be used in future breeding program."	Prof. & Head, Dept. of Plant Mol. Bio. & Biotech., ACHF, NAU, Navsari

Technical Session – II: New Technical Programme

Time: 13.30 to 16.00 hrs

Chairman : Dr. R. M. Patel, Principal & Dean, ASBI, NAU, Surat

Co-chairman : Dr. K. A. Patel, ADR, NAU, Navsari

Rapporteurs : 1) Dr. Dr. M. D. Khunt Assistant Professor, Dept. of Plant Pathology, NMCA, Navsari
2) Dr. Kiran Suthar, Assistant Professor, Dept. of PMBB, ACHF, NAU, Navsari

Item No.	Title of the Exp.	Suggestions	Action to be taken by
15.2.1	Nutritional analysis of mango seed kernel	Accepted with following suggestions: 1. Remove objective no. 2 "To evaluate mango seed kernel as important food source" 2. Remove observation 4 (qualitative analysis of mango seed oil) 3. Mention information regarding location of plant, further each time mango from the same location should be used for analysis 4. Keep minimum repetition 5	Principal ASABI, Surat
15.2.2	Optimization of genetic transformation of pigeonpea (<i>Cajanus cajan</i> L.) var GT-104	Accepted with following suggestions: 1. Remove objective no. 2 "To transform pigeon pea var. GT-104 with reporter gene"	
15.2.3	Computational characterization of different Banana bunchy top virus (BBTV) strain isolated in India	Accepted with following suggestions: 1. Title should be changed as " <i>In silico</i> characterization of different banana bunchy top virus (BBTV)" 2. Reframe the objectives as below: a. To extract different BBTV sequence available in NCBI database b. To evaluate genetic variability among component BBTV sequence	

Item No.	Title of the Exp.	Suggestions	Action to be taken by
15.2.4	Evaluation of different chemicals for drought management	<p>Accepted with following suggestions:</p> <ol style="list-style-type: none"> 1. Title should be changed as "Response of different chemicals under rainfed conditions in cotton" 2. Experiment should be conducted at Bharuch and if required add scientist from bharuch as Co-PI 3. Add absolute control treatment (No water spray) 4. Remove treatment T6 – Glycine betaine@50 ppm 5. Mention the season of experiment 	Research Scientist, Main cotton research station, NAU, Surat
15.2.5	Canopy management in HDPS cotton under high fertility condition	<p>Accepted with following suggestions:</p> <ol style="list-style-type: none"> 1. Title should be changed as "Effect of fertilizer and growth regulator on physiology of cotton under HDPS " 2. Recast objective of experiment as 1) To study the effect of fertilizer management on physiology of cotton under HDPS. 2) To study the effect of growth regulator on physiology of cotton under HDPS 3. Take observations of seed cotton yield and ancillary observation of insect incidence 4. Mention the net and gross plot area of experiment 5. Take only variety "GISV-272" 6. Add observation " shoot to root ratio" 7. Minimum 8 row per plot should be kept in experiment 	Research Scientist, Main cotton research station, NAU, Surat
15.2.6	Study of starch quality in greater yam <i>Dioscorea alata</i>	<p>Accepted with following suggestions:</p> <ol style="list-style-type: none"> 1. Remove the objective 1 "To identify most refrigeration stable starch of genotypes of greater yam" 	Prof. & Head, Dept. of Soil Science & Agri. Chem., NMCA, NAU, Navsari

Item No.	Title of the Exp.	Suggestions	Action to be taken by
		2. Mention previous work in background information	
15.2.7	Diazotropic bacterial population and other associated organisms on the phyllosphere of sugarcane	Accepted with following suggestions: 1. Title should be changed as "Diazotropic bacterial population and other associated microbes on the phyllosphere of sugarcane" 2. Remove the objective 2 "To identify the potent isolate for field level testing"	Prof. & Head, Dept. of Plant Pathology, NMCA, NAU, Navsari
15.2.8	Standardization of micro propagation protocol for banana genotypes	Accepted with following suggestions: 1. Title should be changed as " Optimization of micropropagation protocol for banana" 2. Change the unit of treatments from $g\ l^{-1}$ to $mg\ l^{-1}$. 3. The objective should be changed as "1) To study the response of shoot tip of banana genotypes to sterilization. 2) To study the response of <i>In vitro</i> shoot of banana genotypes to shoot multiplication medium. 3) To study the response of <i>In vitro</i> shoots of banana genotypes to rooting medium.	Dept. of GPB (Plant Physiology), NMCA, Navsari
15.2.9	Effect of cold stress on seed germination of rice genotypes	Accepted with following suggestions: 1. Mention the factors as genotypes treatments 2. Mention T3: control treatment 3. Take T1, T2 and T3 duration up to 14 days	Dept. of GPB (Plant Physiology), NMCA, Navsari
15.2.10	A GIS based approach for carbon sink and stock values in South Gujarat forest region	Accepted with following suggestions: 1. The study area should be restricted to dang district 2. Remove the objective 1 "To identify the study area of forest" and mention Dang district in objective 2 and revise it as "Data collection and data development"	Dept. of GPB (Plant Physiology), NMCA, Navsari

Item No.	Title of the Exp.	Suggestions	Action to be taken by
		for soil map, land use and land cover of Dang Dist"	
15.2.11	Molecular dissection of photoperiod responsive flowering and growth habit utilizing genomics tools in Indian bean	Accepted with following suggestions: 1. Technically approved by this committee 2. Programme needs to be presented and approved by AGRESCO-Crop improvement sub-committee	Dept. of GPB (Plant Physiology), NMCA, Navsari
15.2.12	Evaluation of different method for manure preparation from straw and threshing waste of rice using microbes	Accepted with following suggestions: 1. The treatment concentration needs to be finalized by consultation with Plant Pathology department, NMCA, NAU. 2. Title should be changed as " Evaluation of different methods for manure preparation from straw and threshing waste of rice " 3. Add "xylanase activity" in observation	Prof. & Head, Dept. Food Quality Testing Lab., NMCA, NAU, Navsari
15.2.13	Exploring actinomycetes for their cellulolytic and lignolytic activity	Approved as such	Prof. & Head, Dept. Food Quality Testing Lab., NMCA, NAU, Navsari
15.2.14	Biochemical analysis of finger millet flour for storage quality	Accepted with following suggestions: 1. Mention four replications. 2. Experiment should be conducted in winter, summer and rainy season.	Prof. & Head, Dept. of Plant Mol. Bio.& Biotech, ACHF, NAU, Navsari
15.2.15	Whole genome sequencing of <i>Solanum surattense</i>	Accepted with following suggestions: 1. Technically approved by this committee with following condition: a. Further approval for conducting the experiment should be obtained from Honorable vice chancellor of NAU. b. Based on availability of grant.	Prof. & Head, Dept. of Plant Mol. Bio.& Biotech, ACHF, NAU, Navsari

Item No.	Title of the Exp.	Suggestions	Action to be taken by
15.2.16	Cell suspension culture and plant Regeneration in Banana cv. Grand Naine	Accepted with following suggestions: <ol style="list-style-type: none"> 1. Add treatment details for experiment. 2. Finalize the experiment in consultation with Convener and ADR 3. Add following observation <ol style="list-style-type: none"> a. Contamination (%) b. Viability index 	Prof. & Head, Dept. of Plant Mol. Bio.& Biotech, ACHF, NAU, Navsari
15.2.17	Effect of liquid culture media in micropropagation in Banana cv. Grand Naine	Accepted with following suggestions: <ol style="list-style-type: none"> 1. Add treatment details for experiment 2. Finalize the experiment in consultation with Convener and ADR 3. Title should be changed as " Effect of liquid culture media in micropropagation of banana cv. Grand Naine " 4. Minimum 10 explant per treatment per replication should be kept 	Prof. & Head, Dept. of Plant Mol. Bio.& Biotech, ACHF, NAU, Navsari
15.2.18	Optimization of hardening process of banana cv. Grand Naine for cost effectiveness	Accepted with following suggestions: <ol style="list-style-type: none"> 1. Add treatment details for experiment 2. Finalize the experiment in consultation with Convener and ADR. 	Prof. & Head, Dept. of Plant Mol. Bio.& Biotech, ACHF, NAU, Navsari
15.2.19	Regeneration of dragon fruit (<i>Hylocereus costaricensis</i>) through tissue culture	Accepted with following suggestions: <ol style="list-style-type: none"> 1. Add treatment details for experiment. 2. Finalize the experiment in consultation with Convener and ADR 3. Title should be changed as "Micro-propagation of Dragon fruit (<i>Hylocereus costaricensis</i>)" 4. Subject to approval from Honorable vice chancellor of NAU regarding crop 	Prof. & Head, Dept. of Plant Mol. Bio.& Biotech, ACHF, NAU, Navsari
15.2.20	Standardization of a regeneration protocol in Apple ber (<i>Ziziphus</i>	Accepted with following suggestions: <ol style="list-style-type: none"> 1. Add treatment details for 	Prof. & Head, Dept. of Plant Mol. Bio.&

Item No.	Title of the Exp.	Suggestions	Action to be taken by
	<i>jujuba</i>)	experiment 2. Finalize the experiment in consultation with Convener and ADR 3. Subject to approval from Honorable vice chancellor of NAU regarding crop	Biotech, ACHF, NAU, Navsari
15.2.21	Plant regeneration of guava (<i>Psidium guajava</i> L.)	Accepted with following suggestions: 1. Add treatment details for experiment 2. Finalize the experiment in consultation with Convener and ADR. 3. Subject to approval from Honorable vice chancellor of NAU regarding crop	Prof. & Head, Dept. of Plant Mol. Bio.& Biotech, ACHF, NAU, Navsari
15.2.22	DNA barcoding of different bamboo and ficus species	Approved as such	Prof. & Head, Dept. of Basic Sci. & Humanity, CoF, ACHF, NAU, Navsari

Technical Session – III: Ongoing experiment**Time: 16.10 to 17.30 hrs****Chairman** : Dr. K. A. Patel, ADR, NAU, Navsari**Co-chairman** : Dr. H. R. Pandya, Professor & Head, NAU, Navsari**Rapporteurs** : 1) Dr. Vipul Parekh, Assistant Professor,
2) Prof. Kirti Bardhan, Assistant Professor,
Dept. of Basic Science, ACHF, NAU, Navsari

Chairman/Co-chairman reviewed the status of ongoing research programmes of Basic Science Sub Committee at each centre. The members were also asked to present technical problems faced by them, if any, in conduct of experiments and need for any modification required in ongoing experiments. After through discussion on points/problems presented by few centres, the following decisions were taken.

Item No.	Title of experiment	Suggestions	Action to be taken by
15.3.1	Characterization and field efficiency of PGPRs from different banana cultivars	Accepted with following suggestions: 1. As the second objective of the study was not yet completed. Hence, house suggested for continuation of the experiment to meet the objective. 2. Mention item No for this experiment	Prof. & Head, Dept. of Plant Mol. Bio. & Biotech., ACHF, NAU, Navsari
15/BS/MCRS/08	Identification and validation of molecular marker linked to Genetic male sterility in cotton (<i>Gossypium hirsutum</i> L.).	Accepted with following suggestions: 1. Continuation of experiment.	Research Scientist, Main Cotton Research Station, NAU, Surat
BSC 12.6.2.2.1	Screening of cotton genotypes for salinity tolerance	Accepted with following suggestions: 1. Continuation of experiment.	
BSC 12.6.2.2.2	Biochemical traits in relation to insect tolerance of wild species and cross derivatives involving wild species of cotton	Accepted with following suggestions: 1. Continuation of experiment.	
9.8.3.2	Development of mapping population and identification of molecular markers linked to jassid resistance in cotton	Accepted with following suggestions: 1. Continuation of experiment.	

Item No.	Title of experiment	Suggestions	Action to be taken by
12.6.2.3.4	Isolation and characterization of endophytic bacteria from wild cotton plants and exploring insecticidal activity against pink bollworm, <i>Pectinophora gossypiella</i> Saunders	Accepted with following suggestions: 1. Continuation of experiment.	Research Scientist, Main Cotton Research Station, NAU, Surat
14.7.2.12	Isolation and characterization of endophytic bacteria from G. 27 (<i>G. arboreum</i>) and exploring insecticidal activity against pink bollworm, <i>Pectinophora gossypiella</i> Saunders	Accepted with following suggestions: 1. Continuation of experiment.	
<p>Note: As per the AGRESCO report of 15th Basic Science Sub Committee submitted by Research Scientist, MCRS, Surat, experiment Sr No. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20 and 22 mentions were not approved earlier in Basic Science Sub Committee meetings. Therefore house suggested concerning PIs from MCRS, Surat to shift same experiment to crop improvement sub-committee.</p>			

The meeting ended with vote of thanks proposed by Dr. H. D. Bhimani, Associate Professor, ASBI, NAU, Surat.

Place: Navsari
Date: 27-02-2019



Convener
Basic Science Sub-committee (AGRESCO)
NAU, Navsari