



NAVARI AGRICULTURAL UNIVERSITY

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Navsari, 3rd November, 2017

To,
The Director of Research and
Dean, PG Studies,
Navsari Agricultural University,
Navsari.

**Sub.: Proceedings of the seventh meeting of Board of Studies for Natural
Resource Management held on 12th October, 2017.**

Respected Sir,

Please find enclosed here with the proceedings of the seventh meeting of Board of Studies for Natural Resource Management held on 12th October, 2017 at Seminar Hall, N. M. College of Agriculture, N.A.U., Navsari.

Moreover, all the concerned members are requested to take necessary actions on the remarks/suggestions pertaining to the PG research work and send the action taken report to the undersigned.

Thanking you,

En:A/a

Chairman,
Board of Studies-NRM &
Professor and Head,
Department of Soil Science and Agril. Chem.,
N. M. College of Agriculture,
NAU, Navsari.

Copy submitted with respect to:

1. PS to The Hon'ble Vice Chancellor, Navsari Agricultural University, Navsari.
2. The Principal & Dean, N. M. College of Agriculture, Navsari Agricultural University, Navsari.
3. The Principal and Dean, ASPEE College of Horticulture and Forestry, Navsari Agricultural University, Navsari.
4. The Principal, College of Agriculture, Navsari Agricultural University, Bharuch.
5. The Principal, College of Agriculture, Navsari Agricultural University, Waghai.
6. All the Concerned Members of Board of Studies (NRM Subgroup), Navsari Agricultural University, Navsari for further necessary action.

**Proceedings of the Seventh Meeting of Board of Studies for Natural
Resource Management held on 12th October, 2017**

The Seventh Meeting for Board of Studies - NRM Sub Group was held at Seminar Hall, N. M. College of Agriculture, N.A.U., Navsari on October 12th, 2017. The inaugural function was presided by the Honorable Director of Research & Dean Post Graduate Studies, Dr. S. R. Chaudhari and the function was graced by the presence of Dr. M. K. Arvadia, Principal, N. M. College of Agriculture; Dr. Z. P. Patel, Principal and Dean, College of Agriculture, Waghai, Dr. H. R. Pandya, principal of ABM college, Dr. J. D. Thanki, Professor and Head (Agronomy) and Dr. G. G. Patel, Convener, Board of Studies-NRM Group. The Professors and Scientists of NRM Group from Main and Substations of Navsari Agricultural University also participated in the aforesaid meeting.

The meeting was started with a floral welcome by Dr. G. G. Patel, Convener, Board of Studies-NRM Group to Dr. S. R. Chaudhary, Director of Research & Dean PG Studies, Dr. M. K. Arvadia, Principal, N. M. College of Agriculture, Dr. Z. P. Patel, Principal and Dean, College of Agriculture, Waghai, Dr. H. R. Pandya, principal of ABM and Dr. J. D. Thanki. In his welcome address, he briefed about the background, mandates, activities and achievements during last year of NRM group, greeted other faculty teachers and presented the action taken report of last year Sixth BoS-NRM meeting.

While giving the opening remarks, Dr. M. K. Arvadia, Principal, N. M. College of Agriculture made the members aware of the revised academic regulation for synopsis and *kaccha* bound thesis presentation of Master and Doctoral PG students. He also elaborated on restructuring of existing PG seminar delivery system into four groups (crop production, crop improvement, crop protection, Basic and Social Science) and this will be effective from even semester of academic year 2017-18. Dr. M. K. Arvadia also congratulated the students who have qualified in various competitive examinations like NET, ICAR-JRF/SRF etc. He also mentioned that more and more students are coming in NAU from the other states through the ICAR entrance exam showing the popularity of Navsari Agricultural University in the country. He stated that in current year, the students from more than 11 other states from all over the India have took their admission in N. M. College of Agriculture in different PG courses.


Dr. Z. P. Patel, Principal and Dean, College of Agriculture, Waghai, also showered the group with his brief and inspirational speech. He praised the faculties,


infrastructure present in NMCA and encouraged the group for novel research activities. He also advised the students for working with the actual problems of farmers and to enjoy the research work.

Dr. S. R. Chaudhari, Director of Research and Dean PG Studies in his presidential address, appreciated the efforts of NRM group working in pursuit of conserving natural resources. He suggested the PG guides to maintain the records of their student and keep in touch with the alumni of the institute. He did not forget to mention the change of scenario in respect of increase in number of students participating and qualifying different competitive exams since last five years and congratulated the faculties for their sincere guidance. He mentioned the facilities provided to the students in this university and specially the protection provided to the girl students and expressed his utmost surge by the increasing number of girl students. He also advised in his speech to the PG guides to increase the inquisitiveness among their students and select some new ideas or introduction of some new crops in the South Gujarat region and he requested that at least ten percent of the students if given some experiments with new crop then it will be phenomenal. He also advised to conduct the research experiments keeping pace with global scenario of this internet era.

After the inaugural addresses, two technical sessions were conducted for discussing PG research proposals. In first technical session, research proposals of Ph.D. students from Soil Science and Agricultural Chemistry and Agronomy disciplines were presented while, in the afternoon technical session, PG research proposal of M.Sc. (Agri) students of both the discipline were presented. In both the technical sessions, a total of 8 Ph.D. and 25 M. Sc. (Agri.) students from the Agronomy discipline and 5 Ph.D. and 8 M. Sc. (Agri.) students of the Soil Science and Agricultural Chemistry discipline research proposals were thoroughly discussed and remarks were reported by the respective rapporteurs.

The meeting was wrapped up by the vote of thanks given by Prof. Jaimin Naik.


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Professor and Head,
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N. M. College of Agriculture, NAU, Navsari


(M. K. Aradia)
Principal & Dean,
N. M. College of Agriculture,
Navsari Agricultural University,
Navsari

TECHNICAL SESSION

Chairman: Dr. S. R. Chaudhari, Director of Research and Dean PGS
Dr. M.K. Arvadia, Principal, NMCA

Co-chairman: Dr. J.D. Thanki, Professor & Head, Agronomy
Dr. A. Das, Research Scientist (Soil Sci.)

Rapporteurs: Dr. L.J. Desai, Associate Professor
Dr. A.R. Kaswala, Associate Professor
Dr. R.B. Ardeshta, Associate Professor
Dr. Sonal Tripathi, Associate Professor

| Sr. No. | Title | Presented by | Major Guide | Suggestions/comments |
|---------|--|--------------|------------------|---|
| | AGRONOMY | | | |
| | Ph.D. | | | |
| 1. | Integrated nutrient management in summer green gram (<i>Vigna radiata</i> L.) and its residual effect on kharif transplanted rice (<i>Oryza sativa</i> L.) under south Gujarat condition | Barkha | Dr. M.K. Arvadia | <ol style="list-style-type: none"> 1) Recast the title 2) Recast the second objective 3) In 4th objective use word " suitable" instead of 'optimum' 4) Correct the treatment as mention below T₃: Biocompost @ 5 tonnes/ha T₄: Biocompost @ 5 tonnes/ha+ PSB(soil application @ 2.5 lit/ha) T₅: 50 % RDF + Biocompost @ 2. 5 tonnes/ha T₆: 50 % RDF + Biocompost @ 2.5 tonnes/ha+ PSB(soil application @ 2.5 lit/ha) 5) Net plot size will be "13.5 m x 1.8 m" instead of "14.5 m x 1.8 m" 6) In biometric observation instead of "number of root nodule", " volume of root nodule" to be considered. 7) Mention the unit of observations 8) Add Bulk density in observation, before and after of crop harvest at end of crop sequence for 0-15cm and 15-30 cm depth. |

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| 2. | Production potential of rainfed sorghum as influenced by in situ soil moisture conservation practices and FYM | Patel Devendrakumar K. | Dr. J.D. Thanki | 1) Add moisture study in observation |
| 3. | Nutrient management in mustard (<i>Brassica juncea</i> L.) and its residual effect on succeeding Cowpea (<i>Vigna unguiculata</i> L.) grown with different fertility levels | Dharmendrakumar T. Chaudhari | Dr. V.M. Patel | Accepted. |
| 4. | Effect of integrated nutrient management in chickpea (<i>Cicer arietinum</i> L.) - fodder maize (<i>Zea mays</i> L.) cropping sequence under south Gujarat condition | Patel Hardik A. | Dr. J.D. Thanki | 1) Add common application of manure in <i>rabi</i> crop. 2) Mention the dose of both bio-fertilizer in treatments. |
| 5. | Effect of integrated nutrient management in rabi green gram (<i>Vigna radiata</i> L.)- pearl millet (<i>Pennisetum glaucum</i> L.) cropping sequence under south Gujarat condition | Joshi Maitrik kumar P. | Dr. L.J. Desai | 1) Mention the dose of biofertilizer in treatment. 2) Use word "will be apply" instead of "applied" in treatment Note. |
| 6. | Effect of inter and intra row spacing on growth, yield and quality of sugarcane by using single eye bud settling | Thorave Dattatray Sahebrao | Dr. J.D. Thanki | Accepted. |
| 7. | Effects of tillage practices and fertility levels on growth, yield and quality of sugarcane (<i>Saccharum officinarum</i> L.) under South Gujarat Conditions | Vaghela Tusharkumar Dhirubhai | Dr. D.D. Patel | 1) Correct the treatment in subplot as "RDN" instead of "RDF" and maintain P & K Common. 2) Common application of organic manure. 3) Net plot sizes should be "6m x 5 m" instead of "6m x 4m". |

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| 8. | Integrated nutrient management in grain amaranth (<i>Amaranthus hypochondriacus</i> L.) - sesamum (<i>Sesamum indicum</i> L.) cropping sequence in south Gujarat Condition | Zala Jwalantkumar N. | Dr. M.S. Dudhat | Accepted. |
| | M.Sc. (Agri.) | | | |
| 1. | Effect of spacing and cobalt application on <i>kabuli</i> chickpea cultivars under south Gujarat condition | Mr. Prakash | Dr. N.N. Gudadhe | 1) In treatment detail, instead of two factor, it should be three factor as mentioned below A: Three Variety: V ₁ : Virat, V ₂ : Kripa and V ₃ : PKV-2 B: Two spacing: 45 cm x 10 cm and 60 cm x 10 cm C: Three cobalt application, C ₁ : seed priming at 1ppm, C ₂ : seed treatment at 1g/kg seed and C ₃ : foliar spray at 0.01 % Total treatments combinations will be 18 2) Replace the word "straw" with "stover" in observations. 3) Take observation of dry matter per plant at harvest only. |
| 2. | Effect of irrigation and nitrogen levels in grain amaranth (<i>Amaranthus hypochondriacus</i> L.) under south Gujarat condition | Chitla Sai Srujan | Dr. L.J. Desai | 1) Add moisture study in observations |
| 3. | Effect of rate and time of nitrogen application on growth, yield and quality of summer maize (<i>Zea mays</i> L.) | Yallanagouda Madagoudra | Dr. R.B. Ardeshna | 1) Delete the observation of number of leaves per plant (at 30, 60 DAS and harvest). |
| 4. | Weed dynamics, growth and yield of sesame (<i>Sesamum indicum</i>) as influenced by weed management | Bablu Ram Meena | Dr. T.U. Patel | 1) Recast the title as suggested. |

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| 5. | Response of onion (<i>Allium cepa</i> l.) to irrigation scheduling and integrated nutrient management | Gaurang Rathava | DR. V.R. Naik | 1) Merge first and second as well as fourth and fifth objectives. 2) Take pungency test instead of vitamin C. |
| 6. | Study on intercropping of pulses at different row proportion in summer pearl millet [<i>Pennisetum glaucum</i> (L.)R. Br.Emend Stuntz] under south Gujarat condition | Chauhan Girdharsinh Seluji | Dr. V.M. Patel | 1) Use 'suitable' word in place of 'remunerative' in the first objective. 2) LER can not be calculated as sole pulses are not included in the treatments. |
| 7. | Integrated weed management in <i>rabi</i> pop corn (<i>Zea mays</i> L. var. everta) under south Gujarat condition | Chaudhary Hirabhai N. | Dr. A.P. Patel | 1) Remove metsulfuron methyl from treatment T ₇ . |
| 8. | Response of summer pearl millet (<i>Pennisetum glaucum</i> (L.) (R.Br.emend.stuntz) to staggered sowing and nitrogen scheduling under south Gujarat condition | Chaudhari Komal S. | Dr. K.J. Vihol | 1) Write straw yield instead of stover yield in observations. 2) Specify NPK status for nutrient status. |
| 9. | Effect of nitrogen level and rhizobium inoculation on growth and yield attributes and yield in summer clusterbean (<i>Cyamopsis tetragonoloba</i> L. Taub.) under south Gujarat conditions | Khadadiya Maheshbhai Babubhai | Dr. A.P. Patel | 1) Reframe the experiment in consultation with Dr. L.J. Desai and Dr. M.S. Dudhat. |
| 10. | Effect of graded nutrient levels and timing of nitrogen application on growth, yield and economics of sweet corn (<i>Zea mays</i> L. var. <i>saccharata sturt</i>) under south Gujarat condition | Gamit Mitesh Kantilal | Dr. V. G. Bavalgave | 1) Keep P ₂ O ₅ 60 kg/ha common. |

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| 11. | Integrated nutrient management in <i>rabi</i> Indianbean (<i>Dolychos lablab</i> L.) cv. GNIB 22 | Desai Naresh B. | Dr. R.L. Leva | 1) Recast the treatments as Factor A : F ₁ -50% RDF, F ₂ -75% RDF, F ₃ -100% RDF; Factor B : O ₁ - FYM 2.5 t/ha, O ₂ - Bio-compost 2.5 t/ha; Factor C : B ₁ - No Bio-fertilizer, B ₂ -With Bio-fertilizer. 3) Include soil OC content, NPK content and uptake observations. |
| 12. | Effect of different row spacing and hybrids of summer pearl millet(<i>Pennisatum glaucum</i> L.) under south Gujarat condition | Patel Neha Ashokbhai | Dr. A.D. Raj | 1) Recast the title. 2) Take four replications. |
| 13. | Effect of nutrient management on productivity of different varieties of sorghum in summer season under south Gujarat conditions | Joshi Dhruvi Vinaykumar | Dr. D.D. Patel | Accepted. |
| 14. | Performance of Sorghum (<i>Sorghum bicolor</i> L) under sole crop and different intercropping systems in south Gujarat conditions | Jakkannagari Chaithanya | Dr. L.K. Arvadiya | 1) Recast the title as per suggestion. |
| 15. | Studies on irrigation scheduling, nitrogen level and cotton stalk biochar in summer maize under south Gujarat condition | Patel Prerak Maheshbhai | Dr. M.R. Thakur | 1) Remove I ₁ irrigation schedule and B ₃ biochar level. 2) Take I x N in main plot and Biochar in sub-plot. 3) Mention depth of irrigation. |
| 16. | Irrigation scheduling and weed management in <i>rabi</i> green gram | Darshan B. Patel | Dr. T.U. Patel | 1) Merge third and fourth objectives. 2) Specify rate of Pendimethalin CS which differs in PPT and gist of technical programme. 3) Delete bioassay study. |
| 17. | Effect of resource conservation technology on chickpea in rice fallows of south Gujarat | Ranvir | Dr. N. N. Gudadhe | 1) Correct plot size as Gross - 3.9 m x 5 m and Net - 2.7 m x 4.0 m. 2) Mention quantity of rice straw mulch in T ₂ and T ₄ . 3) Mention Factor A as Main Plot and Factor B as Sub-plot. |

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| 18. | Efficacy of new era combined herbicides in summer green gram (<i>Vigna radiata</i> L.) | Patel Rima H. | Dr. Rahul Pisal | 1) Add one treatment of Propaquizafop 2.5% + Imazethapyer 3.75% w/w ME 2) Take three replications. |
| 19. | Response of rabi maize (<i>Zea mays</i> L.) to fertilizer application and organic liquid spray under south Gujarat condition | Mr. Saurabh Rathod | Dr. V.M. Patel | Already accepted in 6 th BoS meeting. |
| 20. | Response of coriander (<i>Coriandrum sativum</i> L.) to spacing and fertilizer levels under south Gujarat condition | Srikumar Debasis Swain | Dr. M.S. Dudhat | Already accepted in 6 th BoS meeting. |
| 21. | Effect of integrated nutrient management in summer green gram (<i>Vigna radiata</i> L.) cv. GM- 6 under south Gujarat condition | Metiya Hiteshkumar D. | Dr. R.L. Leva | 1) Recast the treatments as Factor A : F ₁ -50% RDF, F ₂ -75% RDF, F ₃ -100% RDF; Factor B : O ₁ - FYM 2.5 t/ha, O ₂ - Bio-compost 2.5 t/ha; Factor C : B ₁ - No Bio-fertilizer, B ₂ -With Bio-fertilizer. 2) Correct time of recording initial plant population and take periodical observation of plant height. 3) Include soil OC content observation. |
| 22. | Nutrient management in fodder maize (<i>Zea maize</i> L.) under south Gujrat condition | Tejashree J. Patel | Dr.R.M. Pankhaniya | 1) Keep P ₂ O ₅ level 25 and 50 kg/ha. |
| 23. | Effect of different levels and methods of ferilizer application on growth and yield of sweet corn | Upasana J. Patel | Dr. S.P. Deshmukh | 1) Reframe the experiment in consultation with Dr. K.G. Patel and Dr. D.P. Patel. |
| 24. | Production potential of summer green gram (<i>Vigna radiata</i> L.) to different nutrient management practices under south Gujarat condition | Patel Vipul Mahendrabhai | Dr. K.A. Shah | 1) Modify rate of FYM as 2.5 t/ha in T ₂ , and 5 t/ha in T ₃ and rate of vermicompost as 1 t/ha in T ₅ and 2 t/ha in T ₆ . |
| 25. | Effect of irrigation and planting techniques in <i>rabi</i> green gram (<i>Vigna radiata</i> L.) | Patel Virenkumar Vasantbhai | Dr. H.H. Patel | Already accepted in 6 th BoS meeting. |

| SOIL SCIENCE AND AGRICULTURAL CHEMISTRY | | | | |
|--|---|-----------------------------|--------------------|--|
| Ph.D. | | | | |
| 1. | Study the sustainability in organic farming | Alpesh N. Lad | Dr. K.G. Patel | 1) Recast the title 2) Add "randomly" word in first point of survey work. |
| 2. | To study the feasibility of organic farming in different crops | Patel Ashish C. | Dr. K.G. Patel | 1) Add microbial study in objectives 2) Add pest and diseases observation. 3) Total microbial count should be count from one replication. |
| 3. | Effect of organics on yield and quality of finger millet [<i>Eleusine coracana</i> (L) Gaertn] and on soil properties | Patel Hirenkumar Pravinbhai | Dr. Sonal Tripathi | 1) Recast title as" Effect of organics on soil properties, yield and quality of finger millet [<i>Eleusine coracana</i> (L.) Gaertn] 2) Change the variety "GN-6" instead of "GN4". |
| 4. | Effect of phosphorus levels, time of application and Arbuscular Mycorrhiza on phosphorus use efficiency of sugarcane under South Gujarat condition | Kranti Balasaheb Patil | Dr. Sonal Tripathi | 1) Add absolute control outside the experimental unit. 2) Conduct the experiment for individual two years on university farm instead of farmer field. |
| 5. | Potassium use efficiency and yield of sugarcane as affected by potassium management under South Gujarat condition | Chaudhary Shamal R. | Dr. Sonal Tripathi | 1) Correct the word" Assess" instead of "acess". 2) Add absolute control outside the experimental unit. 3) Conduct the experiment for individual two years on university farm instead of farmer field. |
| M.Sc. (Agri.) | | | | |
| 1. | Effect of different sources of organics on N mineralization and periodical nutrient uptake by sweet corn grown on certified organic farm under South Gujarat conditions | Hashmatullah Durrani | Dr. D.P. Patel | 1) Recast the title and objectives as per suggestion. 2) Take four replications. |
| 2. | Effect of fertilizer levels, biocompost and biofertilizer on yield of <i>rabi</i> fodder sorghum and soil properties | Chauhan Aditi R. | Dr. A. Das | 1) Include crude protein content observation. |

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| 3. | Nutrient management in okra (<i>Abelmoschus esculentus</i> (L) moench) under south Gujarat condition | Chavda Bharat Naranbhai | Dr. A.P. Italiya | <ol style="list-style-type: none"> 1) Take this experiment on vegetable clusterbean and revise the observations accordingly. 2) Remove Factor A, <i>i.e.</i>, Fertility levels. Take the experiment at 100% RDF. 3) Take four replications. |
| 4. | Phosphorus management in summer green gram (<i>Vigna Radiata</i> . L.) under south Gujarat condition | Patel Bobbykumar N. | Dr. K.H. Patel | <ol style="list-style-type: none"> 1) Recast the objectives. 2) Arrange observations properly in the list of observations. 3) Check all the details carefully which differs in PPT and gist of technical programme. |
| 5. | Effect of sulphur and zinc with and without FYM on yield and uptake of nutrients in summer green gram under south Gujarat conditions | Miteshkumar D. Dharva | Dr. K.H. Patel | <ol style="list-style-type: none"> 1) Recast the title and objectives as suggested. 2) Factor C: Instead of FYM 10 t/ha keep it as FYM 5 t/ha. |
| 6. | Methods and levels of phosphorus application on brinjal yield and phosphorus use efficiency in clay soil | Patel Krishna N. | Dr. H.M. Patel | <ol style="list-style-type: none"> 1) Correct the title as suggested. 2) Control should be separate, <i>i.e.</i>, (3 x 3) +1 3) Keep net plot size 3.6 m x 4.8 m. 4) Common irrigation at 0.6 PEF to all treatments. |
| 7. | Effects of zinc oxide nanoparticles (zn-np) on growth, yield, quality and nutrient composition of sweet corn (<i>Zea mays saccharata</i> L.) under south gujarat condition | Satdev | Dr. V.J. Zinzala | <ol style="list-style-type: none"> 1) Correct title. 2) Recast the first objective. 3) Synchronize treatments. |
| 8. | Effect different levels of phosphorus on nutrient uptake and yield of rice grown on two texturally different soils of South Gujarat | Rabari Ravjibhai L. | Dr. D. P. Patel | <ol style="list-style-type: none"> 1) Recast the title. 2) Delete the first objective as it is repetition of the second objective. 3) Specify source of phosphorus for phosphorus levels. |