Proceeding of the Seventh Combined Joint Meeting of the Agricultural Research Council (AGRESCO) of Junagadh Agricultural University held at AAU, Anand on 25th-27th April, 2011.

Varieties/recommendations and new technical programmes were presented by concerned conveners in seventh combined joint AGRESCO meeting of SAUs and discussed thoroughly in the various technical sessions. Six new varieties, 32 recommendations for farmers, eight scientific information and 94 new technical programmes were presented and approved with suggestions.

7.1 CROP IMPROVEMENT

Chairman: **Dr. A. R. Pathak, Hon'ble Vice Chancellor, NAU, Navsari**
Co-chairman: **Dr. C. J. Dangaria, Director of Research, JAU, Junagadh**
Presentation: **Dr. K. L. Dobaria, JAU, Junagadh**

PROPOSAL FOR RELEASE OF VARIETIES

1. Groundnut: Gujarat Junagadh Groundnut-17 (GJG-17)

This spreading type genotype was tested as JSP-48. The variety (GJG-17) is proposed for cultivation in *kharif* rainfed ecosystem across spreading groundnut growing area. The variety yielded 38.3, 20.4 and 13.7 per cent higher pod yield (1798 kg/ha) over the check varieties M-335 (1332 kg/ha), GG-11 (1493 kg/ha) and GG-13 (1581 kg/ha), respectively. The variety has shelling out turn (66.2%), higher kernel yield and oil yield than the checks. It is also tolerant to stem rot.

(Action: Research Scientist (G'nut), Main Oilseeds Res. Station, JAU, Junagadh)

2. Groundnut: Gujarat Junagadh Groundnut-22 (GJG-22)

The culture was tested as JSSP-36 and is a semi-spreading type developed from a cross JSSP-17 x GG-20. The variety gave 37.2 (1290 kg/ha) and 15.1(1538 kg/ha) per cent higher pod yield (1770 kg/ha) than the checks Kadiri-3 and GG-20, respectively. The variety possesses rose coloured uniform kernels with better shelling out turn (72.5%). It also showed resistant reaction to collar rot. It is recommended for release in groundnut growing areas of Saurashtra and South Gujarat.

(Action: Research Scientist (G'nut), Main Oilseeds Res. Station, JAU, Junagadh)

3. Indian Bean: Gujarat Junagadh Indian Bean-11 (GJIB-11)

This is a selection from local germplasm. It recorded 31.2 (72.7q/ha) and 32.1(72.22q/ha) per cent higher green pod yield (95.39q/ha) over Virpur local and Dantiwada local, respectively. The genotype being semi-spreading in nature is easier to harvest. The genotype is recommended for cultivation in late *kharif* growing areas of Saurashtra and Middle Gujarat.

(Action: Research Scientist (G&O), Vegetable Research Station, JAU, Junagadh)

4. Ridge Gourd: Gujarat Junagadh Ridge Gourd Hybrid-1 (GJRGH-1)

This is the first public bred ridge gourd hybrid of the state proposed for general cultivation in Saurashtra and Middle Gujarat. The cross combination is JRGL-11 x JRGL-32. The hybrid gave 20.7 per cent higher fruit yield (104.36 q/ha) than the check Pusa Nasdar. It has better quality for pulp skin ratio (6.0), total sugar (1.3%) and protein content (0.2%). The hybrid was also found tolerant to downy mildew. It exhibited clear-cut superiority for yield and quality attributes. However, it was deferred due to lack of data on precise characters for GOT, economics of seed

production and observations on biotic stresses like leaf minor and powdery mildew. It was also suggested to evaluate the hybrid for one more year along with the latest improved inbred variety.

(Action: Research Scientist (G&O), Vegetable Research Station, JAU, Junagadh)

5. Okra: Gujarat Junagadh Okra Hybrid-3 (GJOH-3)

The hybrid (JF-108-2 x JM-0301) was tested as JOH-05-09 and it has already been released under AICRIP programme for zone V, VI and VII of India. The hybrid was proposed for endorsement for cultivation in *kharif* okra growing area of Gujarat state due to its yield superiority (137.44 q/ha) to the tune of 19.9, 26.2, and 29.8 per cent over the checks GOH-1, Parbhani Kranti and Pusa Savni, respectively. It has dark green colour fruits with higher protein (1.5%) and ascorbic acid content (603 mg/100g). The hybrid showed lesser incidence of YVMV (24.2%).

(Action: Research Scientist (G&O), Vegetable Research Station, JAU, Junagadh)

6. Soybean: Gujarat Junagadh Soybean-3 (GJS-3)

It is a selection from germplasm line. The culture was proposed for cultivation under *kharif* rainfed condition for Saurashtra region, as it out-yielded (1860 kg/ha) the local checks GS-1 and GS-2 to the tune of 24.8 and 43.7 per cent, respectively. It has also recorded 18.02 and 28.63 per cent higher yield than zonal checks JS-335 (1576 kg/ha) and PK-472 (1446 kg/ha), respectively. Consequent upon its higher oil content (19.2%), it gave 30.7, 49.6, 20.2 and 32.6 per cent higher oil yield per hectare than GS-1, GS-2, JS-335 and PK-472, respectively. It is determinate type, with dark green foliage and yellowish brown seeds coupled with non-shattering habit.

(Action: Research Scientist, Agricultural Research Station, JAU, Amreli)

7. Pearl Millet: Gujarat Hybrid Bajra-732 (GHB-732)

The hybrid was proposed for endorsement for summer pearl millet growing area of Gujarat state as a medium late maturity hybrid. It involved a new MS line 96222 developed by ICRISAT with J2340 as fertility restorer line developed at Jamnagar and the line exhibited synchronized maturity. The hybrid revealed 15.0, 13.0 and 22.0 per cent higher grain yield (5037 kg/ha) over GHB-538, GHB-558 and GHB-526, respectively. It has synchronous tillering, appealing ear head with bold seeds. It showed resistance to lodging with good quality fodder (8150 kg/ha). The hybrid was approved for cultivation in summer pearl millet growing area of Gujarat.

(Action: Research Scientist, Main Pearl Millet Research Station, JAU, Jamnagar)

RECOMMENDATION FOR THE FARMERS /SEED PRODUCERS

8. Suppression of interspersed staminate flowers (ISF) in non-environmental sensitive (NES) pistillate line for hybrid seed production of castor GCH-6

It is recommended to apply two sprays of ethrel @ 0.05 per cent on pistillate parent (JP-65) at 45 and 65 days after sowing. The significantly reduces the number of interspersed staminate flowers (ISF) in racemes of female parent that culminates in reduction of selfing in hybrid seed plot. It has less labour requirements and also more genetic purity of the resultant hybrid seed.

(Action: Research Scientist, Main Pearl Millet Research Station, JAU, Jamnagar)

General Suggestion

It was also suggested by the house that nomenclature of all the new varieties be done as per vernacular circular number KA/U/FA/32-408/2009 dated 05/09/2009 in which all the varieties should start G denoting Gujarat followed by A/D/N/J denoting name of the university followed by crop and number of the variety.

(Action: All Crop Scientists of JAU, Junagadh)

New technical programme

1. Participatory varietal selection of groundnut

(Action: Research Scientist, Main Dry Farming Research Station, JAU, Targhadia)

7.2 CROP PRODUCTION

Chairman: **Dr. A. M. Shekh, Hon'ble Vice Chancellor, AAU, Anand**
Co-chairman: **Dr. C. L. Patel, Principal & Dean, NMCA, NAU, Navsari**
Dr. R. H. Patel, ADR (Agri), AAU, Anand
Presentation: **Dr. D. R. Padamani, JAU, Targhadia**

RECOMMENDATIONS FOR FARMERS

1. Effect of date of sowing and weather parameters on growth and yield of wheat under South Saurashtra Agro-climatic Zone

On the basis of the results obtained using heat unit concept, it is recommended to the farmers of AES-VI of South Saurashtra Agro-climatic Zone interested for early sowing of wheat i.e., during first fortnight of November (Minimum temperature 12 to 13^{o} C and Maximum temperature 30 to 31^{o} C) should prefer variety GW-366 for getting higher yield and net profit.

(Action: Professor (Agril. Met.) & Research Scientist (Wheat), JAU, Junagadh)

2. Effect of foliar application of nutrients on growth, yield & quality of onion

The farmers of AES-VI of South Saurashtra Agro-climatic Zone growing onion for bulb production (Var. Gujarat White Onion-1) during *rabi* season are recommended to apply NPK (19:19:19) @ 0.5 per cent as foliar spray at 30, 45 and 60 days after planting in addition to recommended dose of fertilizer (75:60:50 NPK kg/ha) for higher yield and net return.

(Action: Research Scientist, Vegetable Research Station, JAU, Junagadh)

3. Drip irrigation studies in onion crop (seed production)

The farmers of AES-VI of South Saurashtra Agro-climatic Zone growing onion for seed production (Var. Pilipatti) during *rabi* season are recommended to grow bulbs under drip irrigation with 4.0 LPH dripper at 0.5 m spacing on lateral with 1.45 m lateral spacing for getting higher seed yield. The system should be operated daily at 75 % PEF for 47 minutes.

(Action: Research Scientist, Vegetable Research Station, JAU, Junagadh)

4. Response of tomato to foliar application of micronutrients

The farmers of AES-VI of South Saurashtra Agro-climatic Zone growing tomato crop (Var. Gujarat Tomato-1) during *rabi* season are recommended to apply micronutrient mixture of boric acid, zinc sulphate, copper sulphate, ferrous sulphate and manganese sulphate each @ 100 ppm, and ammonium molybdate @ 50 ppm at 40, 50 and 60 days after planting in addition to recommended dose of fertilizer (75:37.5:62.5 kg NPK/ha) for getting higher fruit yield.

(Action: Research Scientist, Vegetable Research Station, JAU, Junagadh)

5. Integrated nutrient management in tomato

The farmers of AES-VI of South Saurashtra Agro-climatic Zone growing tomato crop (Var. Gujarat Tomato-1) during *rabi* season are advised to apply NPK @ 120:60:80 kg/ha + FYM @ 10 t/ha + S @ 25 kg/ha + *Azotobactor* @ 5 kg/ha as soil application at the time of planting and foliar spray of micronutrient mixture of boric acid, zinc sulphate, copper sulphate, ferrous sulphate and manganese sulphate each @100 ppm, and ammonium molybdate @ 50 ppm at 50 days after planting for getting higher fruit yield.

(Action: Research Scientist, Vegetable Research Station, JAU, Junagadh)

6. Identification of innovative Bt. cotton based cropping systems (Irrigated)

The farmers of AES-VI of South Saurashtra Agro-climatic Zone, who are growing irrigated Bt. cotton, are recommended to sow fodder sorghum or maize in *rabi* and sesame or groundnut (bunch) in summer after Bt. cotton to get higher net return.

(Action: Research Scientist, Cotton Res. Station, JAU, Junagadh)

7. Fertilizer management in cotton + sesame (1:1) intercropping system under dry farming condition

The farmers of AES-IV of North Saurashtra Agro-climatic Zone adopting hybrid cotton (G. Cot. Hy.-8) + sesame (1:1) intercropping system are advised to apply 80 kg nitrogen/ha to cotton and 100 per cent RDF on half of the area basis 25 kg nitrogen and 12.5 kg phosphorus/ha to sesame crop for getting higher yield and net returns under dry farming condition.

(Action: Research Scientist (Agro), Dry Farming Research Station, JAU, Targhadia)

8. Balance use of fertilizer in pearl millet based crop sequence (Pearl millet-Mustard)

The farmers of AES-II of North Saurashtra Agro-climatic Zone following pearl millet (*kharif*)-mustard (*rabi*) crop sequence are advised to apply 5 t FYM/ha and 100% RDF (80:40 kg $N:P_2O_5$/ha) to pearl millet crop and apply 100% RDF (50:50 kg $N:P_2O_5$/ha) + K_2O 30 kg + gypsum 100 kg + $ZnSO_4$ 10 kg + $FeSO_4$ 10 kg/ha to mustard crop for obtaining higher net return.

(Action: Research Scientist (Millet), Millet Research Station, JAU, Jamnagar)

9. Integrated nutrient management in summer pearl millet

The farmers of AES-II of North Saurashtra Agro-climatic Zone growing hybrid pearl millet during summer season in Zn deficient soil are advised to apply recommended dose of fertilizer (120:60:0 NPK kg/ha) along with 20 kg $ZnSO_4$ per hectare (basal) to obtain higher yield and net return.

(Action: Research Scientist (Millet), Millet Research Station, JAU, Jamnagar)

10. Nitrogen management in summer pearl millet

The farmers of AES-II of North Saurashtra Agro-climatic Zone growing hybrid pearl millet during summer are advised to apply nitrogen @ 120 kg/ha in three splits i.e., $^1/_3$ as basal, $^1/_3$ at tillering stage (25-30 DAS) and $^1/_3$ at boot stage (40-45 DAS) to obtain higher yield and net return.

(Action: Research Scientist (Millet), Millet Research Station, JAU, Jamnagar)

11. Response of sesame (*Sesamum indicum* Linn.) to potassium fertilization under rainfed condition

The farmers of AES-VIII of North Saurashtra Agro-climatic Zone growing sesame (G.Til-3) in *kharif* are advised to apply 40 kg K_2O/ha in addition to the recommended dose of fertilizer (50:25 NP kg/ha) for getting higher yield and net return.

(Action: Junior Agronomist, Agril. Research Station, JAU, Amreli)

12. Effect of foliar spray on seed yield and economics of sesame

The farmers of AES-VIII of North Saurashtra Agro-climatic Zone growing sesame (G.Til-2) in *kharif* are advised to apply recommended dose of fertilizer (50:25:00 NPK kg/ha) with two foliar sprays of urea @ 2% at flowering and capsule formation stages for getting higher yield and net return. Foliar spray of DAP was not found beneficial.

(Action: Junior Agronomist, Agril. Research Station, JAU, Amreli)

13. Performance of sesame varieties to pair row sowing under rainfed condition

The farmers of AES-VIII of North Saurashtra Agro-climatic Zone are advised to grow *kharif* sesame var. G Til-10 or G. Til-3 and adopt paired row sowing at 30:60 cm for getting higher yield and net return.

(Action: Junior Agronomist, Agril. Research Station, JAU, Amreli)

14. Nutrient management in onion under salt stress condition

The farmers of South Saurashtra Agro-climatic Zone growing white onion under saline irrigation water (EC 6.00 dSm^{-1}) are advised to apply FYM @ 20 t/ha + Gypsum 7 t/ha (50% GR) + 75 kg K_2O/ha in addition to recommended dose of fertilizer (75 kg N + 60 kg P_2O_5 /ha) to obtain higher yield and net income.

(Action: Professor & Head, Dept. of Ag. Chem. & Soil Sci., JAU, Junagadh)

15. Development of technology for rapid composting of cotton residues under rainfed agriculture

The farmers are advised to recycle cotton stalk (which are either burned or wasted) by chopping into small pieces of 5-6 cm using cotton shredder and composting with addition of compost culture @ 500 g per tonne, urea (N @ 0.5%) and cow dung @ 20% as well as 500 g each of *Azotobacter* and PSM per tonnes during first turning of to get enriched compost within 120 days having higher content of all the plant nutrients.

(Action: Research Scientist (Soil), Dry Farming Research Station, JAU, Targhadia)

16. Evaluation of crop sequence and nutrient management in respect to sustain agriculture and soil health under rainfed condition

The farmers of AES-X of North Saurashtra Agro-climatic Zone are recommended to adopt cotton-cotton rotation with integrated nutrient management practices (25% RDF + compost @ 5 t/ha + castor cake @ 500 kg/ha + *Azotobacter* and PSM @ 5 g/kg of seed) or cotton-groundnut rotation with RDF for each crop (12.5:25 N:P for groundnut and 40 kg N for cotton/ha) for getting higher yield and net realization along with maintaining soil fertility under rainfed condition.

(Action: Research Scientist (Soil), Dry Farming Research Station, JAU, Targhadia)

INFORMATION FOR SCIENTIFIC COMMUNITY

17. Soil test based fertilizer recommendation for targeted yields of onion crop

The fertilizer prescription equations of N (FN=0.84 x T – 0.45 SN), P (FP_2O_5 = 0.72 x T – 2.21 SP) and K (FK_2O = 0.43 x T – 0.17 SK) is fit up to yield target of 225 q/ha in onion. The yield targeting approach is also found effective in economic return and soil fertility build up for cultivation of onion in Saurashtra region.

(Action: Professor & Head, Dept. of Agril. Chem. & Soil Sci., JAU, Junagadh)

18. Soil test based fertilizer recommendation for targeted yields of garlic crop

The fertilizer prescription equations of N (FN= 3.73 x T – 0.52 SN), P (FP_2O_5 = 2.10 x T – 2.36 SP) and K (FK_2O = 2.90 x T – 0.45 SK) is fit up to yield target of 70 q/ha in garlic. The yield targeting approach is also found effective in economic return and soil fertility built up for cultivation of garlic in Saurashtra region.

(Action: Professor & Head, Dept. of Agril. Chem. & Soil Sci., JAU, Junagadh)

19. Establishment of critical limit of potassium for cotton in medium black calcareous soils

The critical limit for cotton crop, available K_2O (ammonium acetate-K) for cotton crop was obtained 152.0 kg K_2O/ha in medium black calcareous soil, while the critical value of K content in plant was observed 1.72 per cent at 30 DAS.

a) Approved with suggestion to add name of cotton variety.

(Action: Professor & Head, Dept. of Ag. Chem. & Soil Sci., JAU, Junagadh)

20. Relative salt tolerance of different wheat genotypes in simulated saline soil condition

The wheat varieties GW-322 and KRL-119 were found to tolerant salinity up to ECe 4 dS/m.

(Action: Professor & Head, Dept. of Agril. Chem. & Soil Sci., JAU, Junagadh)

21. Potassium supplying power of soils of Rajkot district

- The soils of Rajkot district were neutral to moderately alkaline reaction, non calcareous to highly calcareous, low to medium in organic carbon content. The 33.6, 1.8, 32.1, 20.7, 36.4 and 3.9 per cent soils were found low in availability of P, K, S, Fe, Zn and Mn, respectively.
- The maximum and minimum values of various potassium fractions were recorded in soils of Malia-Miyana and Paddhari Taluka, respectively.
- The higher and lower values of various potassium fractions were recorded with cotton-cotton and cotton-*rabi* crops sequences, respectively.
- Availability of K and values of different K fractions were increased with increase in soil depth.
- The different K fractions and availability of K were lower in irrigated conditions as compared to un-irrigated conditions.

(Action: Res. Sci. (Soil), Dry Farming Res. Station, JAU, Targhadia)

Concluded Experiment

Effect of harvest time and post harvest operations (drying and threshing) on the quantity and quality of produce in sesame

(Action: Junior Agronomist, Agril. Res. Station, JAU, Amreli)

New Technical Programmes

1. Weed management in garlic

a) Add observation on PHI.

(Action: Professor & Head, Department of Agronomy, JAU, Junagadh)

2. Weed management in cumin

a) Take paraquate @ 0.5 kg/ha instead of glyphosat in T4.
b) Add observation on PHI.

(Action: Professor & Head, Department of Agronomy, JAU, Junagadh)

3. Evaluation of pendimethalin 38.7% CS (stomp xtra 38.7% CS) against weeds in cumin

a) Experiment was dropped.

(Action: Professor & Head, Department of Agronomy, JAU, Junagadh)

4. Evaluation of preparatory and secondary tillage practices in rainfed groundnut

a) Take observation on moisture content if soil during dry spell of crop growth.

(Action: Professor & Head, Department Agronomy, JAU, Junagadh)

5. Crop yield forecasting through agro meteorological techniques

a) Specify all the three models for four crops as per district.

(Action: Professor (Agro Met.), Department of Agronomy, JAU, Junagadh)

6. Adaptation of drip irrigation system in groundnut (AICRP)

(Action: Research Scientist (G'nut), Main Oilseed Research Station, JAU, Junagadh)

7. Yield maximization in groundnut through nutrient management practices (AICRP)

(Action: Research Scientist (G'nut), Main Oilseed Research Station, JAU, Junagadh)

8. Evaluation of commercially available multi-micronutrient fertilizers and their economic viability in groundnut (Soil application) (AICRP)

(Action: Research Scientist (G'nut), Main Oilseed Research Station, JAU, Junagadh)

9. Evaluation of commercially available multi-micronutrient fertilizers and their economic viability in groundnut (Foliar application) (AICRP)

(Action: Research Scientist (G'nut), Main Oilseed Research Station, JAU, Junagadh)

10. Effect of potassium fertilizer on castor hybrid

a) Take variety GCH-7 instead of GCH-6.
b) Add observation on soil analysis before sowing and after harvesting.

(Action: Research Scientist (G'nut), Main Oilseed Research Station, JAU, Junagadh)

11. Optimization of *kharif* groundnut production under resource constraints

(Action: Research Scientist (G'nut), Main Oilseed Research Station, JAU, Junagadh)

12. Increasing efficiency of seed inoculation with bio-fertilizers through application of molybdenum in chickpea

(Action: Research Scientist (Chickpea), Pulse Research Station, JAU, Junagadh)

13. Effect of molybdenum and bio-fertilizers seed inoculation on seed yield of summer mung bean

(Action: Research Scientist (Chickpea), Pulse Research Station, JAU, Junagadh)

14. Integrated weed management in *kharif* urd bean

a) Add observation on PHI.

b) Add T_{11}= Phenoxaprop @100 g/ha at 20DAS and T_{12}=Two hand weeding at 20 and 40 DAS.

(Action: Research Scientist (Chickpea), Pulse Research Station, JAU, Junagadh)

15. Evaluation of Integrated nutrient management module for garlic (AICRP)

(Action: Research Scientist (G & O), Vegetable Research Station, JAU, Junagadh)

16. Effect of sulphur sources and levels on yield and quality of onion (AICRP)

(Action: Research Scientist (G & O), Vegetable Research Station, JAU, Junagadh)

17. Response of wheat to potassium application under irrigated condition

a) Delete treatment No. K_4, K_7, K_8, K_9 and K_{10}.

(Action: Research Scientist, Wheat Research Station, JAU, Junagadh)

18. Stale seed bed technique of weed control for Bt. cotton based intercropping system

a) Change title as "Weed management technique for Bt. Cotton-groundnut inter cropping system"

b) Take pendimethalin @ 1.0 kg/ha instead of 1.5 kg/ha in treatment T2 and T4.

(Action: Research Scientist, Cotton Research Station, JAU, Junagadh)

19. Exploiting new geometry and fertilization strategies for maximizing the productivity and profitability of Bt. cotton based intercropping system

a) Take urea phosphate instead of DAP in treatment F_1, F_3 and F_4.

(Action: Research Scientist, Cotton Research Station, JAU, Junagadh)

20. Phosphorus management in sesame under rainfed condition

(Action: Research Scientist, Dry Farming Research Station, JAU, Targhadia)

21. Developing *in-situ* moisture conservation techniques for sustainable pearl millet production under sub-optimal conditions (AICRP)

a) Experiment was dropped.

(Action: Research Scientist, Pearl Millet Research Station, JAU, Jamnagar)

22. Suitability of pearl millet hybrids under varying time of sowing during summer

(Action: Research Scientist, Pearl Millet Research Station, JAU, Jamnagar)

23. Response of rainfed pearl millet to Zn

a) Take 25 kg instead of 20 kg ZnSO4/ha in T_2.

b) Take 12.5 kg instead of 10 kg ZnSO4/ha + two foliar spray of ZnSO4 @ 0.5% at 30 and 45 DAS in T_3.

(Action: Research Scientist, Pearl Millet Research Station, JAU, Jamnagar)

24. Efficacy of multi-micronutrient formulations in improving crop production in Bt. Cotton

Recast the treatment as below

a) T_1= Control.

b) T_2= Soil application of $MgSO_4$ @ 50kg/ha.

c) T_3= Four foliar spray of $MgSO_4$ @ 0.5 % at 45, 60, 75 and 90 DAS.

d) T_4= LF Grade IV (for Zn & Fe deficiency) foliar spray @1.0% at 45, 60, 75 and 90 DAS.

e) $T_{5=}$ LF Grade V (Soil application) @ 40kg/ha.

f) T_6= Micronutrient application as per soil test value (STV).

(Action: Professor &Head, Department of Agril. Chem. & Soil Sci., JAU, Junagadh)

25. Efficacy of multi-micronutrient formulations in improving crop production in sesame

a) Experiment was dropped.

(Action: Professor & Head, Department of Agri. Chem. & Soil Sci., JAU, Junagadh)

26. Evaluate phosphorus absorption efficiency of different castor varieties

a) Change title as "Study of uptake pattern of phosphorus in different varieties of castor".

b) Delete V_4 (GC-3).

c) Dry matter and nutrient accumulation in different plant part and soil analysis at root studies at branching, flowering and capsule formation stages in observation.

(Action: Professor & Head, Department of Agri. Chem. & Soil Sci., JAU, Junagadh)

27. Establishment of critical limit of phosphorus in onion crop under medium black calcareous soils

a) Experiment was dropped.

(Action: Professor & Head, Department of Agri. Chem. & Soil Sci., JAU, Junagadh)

28. Establishment of critical limit of phosphorus in garlic crop under medium black calcareous soils

a) Experiment was dropped.

(Action: Professor &Head, Department of Agri. Chem. & Soil Sci., JAU, Junagadh)

29. Establishment of critical limit of iron in wheat in medium black calcareous soils

(Action: Professor & Head, Department of Agri. Chem. & Soil Sci., JAU, Junagadh)

30. Effect of soil amendments on different varieties of soybean (*Glycine max* L.) under sodic soil

a) Delete treatment A_2: GYP @ 50% GR.

b) Add variety V_4 NRC-37.

c) Take 3 replication instead of 4.

(Action: Professor &Head, Department of Agri. Chem. & Soil Sci., JAU, Junagadh)

31. Nutrient management in Bt. cotton under rain fed condition

Recast the treatments as below.

Control= Nitrogen @ 80 kg/ha.

a) Level of Phosphorus = 20 and 40 P_2O_5 kg/ha.

b) Level of Potash = 40 and 80 K_2O kg/ha.

c) Level of Sulphur =20 and 40 S kg/ha through Gypsum.

d) Take design as FRBD.

(Action: Research Scientist, Dry Farming Research Station, JAU, Targhadia)

7.3 HORTICULTURE & AGRO FORESTRY

Chairman: **Dr. N. L. Patel, Dean, ASPEE College of Hort. & Forestry, NAU, Navsari**

Co-chairman: **Dr. A. V. Barad, Dean, College of Agricultural, JAU, Junagadh**

Presentation: **Dr. R. S. Chovatia, JAU, Junagadh**

RECOMMENDATION FOR FARMERS

1. Comparison of open and low cost net house nursery for seed germination and dynamic growth of coconut seedling cv. D X T (Mahuva)

The nursery growers of South Saurashtra Agro-climatic Zone producing coconut seedlings are advised to grow coconut seed nut in the month of June under low cost net house (50 % shed net) to get higher quality seedling and net return as compared to open field.

(Action: Research Scientist, Agril. Research Station (Fruit Crop), JAU, Mahuva)

2. Effect of soil amendments with organic materials on yield and quality of onion cv. Talaja red under sodic soil and brackish water condition

Onion growers of South Saurashtra Agro-climatic Zone having sodic soil and brackish irrigation water condition are advised to apply gypsum 5 t/ha with 50 per cent recommended dose of chemical fertilizer (N:P:K 37.5:30:25 kg/ha) and neem cake 900 kg /ha to get maximum yield and net return of onion cv. Talaja red.

(Action: Research Scientist, Agril. Research Station (Fruit Crop), JAU, Mahuva)

3. Effect of plant growth regulators on gladiolus cv. American Beauty in protected condition

I. Farmers of South Saurashtra Agro-climatic Zone who are interested to grow gladiolus cv. American Beauty under poly house are advised to treat the corms of gladiolus with thiourea 1g/liter for 10 hrs before planting for getting maximum number of spikes with good quality, vase life and to get the highest net return.

II. Farmers of South Saurashtra Agro-climatic Zone who are interested to grow gladiolus cv. American Beauty under poly house are advised to treat the corms of gladiolus with GA_3 0.05g/liter for 10 hrs before planting for getting maximum number of corms and to get the highest net return.

(Action: Professor & Head, Department of Horticulture, JAU, Junagadh)

4. Proposal for release of Indian bean (*Valor*) variety Gujarat Junagadh Indian Bean-11 (GJIB-11)

The farmer of Saurashtra and Middle Gujarat growing Indian bean (*Valor*) crop during late *kharif* season are advised to grow Indian bean (*Valor*) variety Gujarat Junagadh Indian Bean-11 (GJIB-11). This variety recorded green pod yield of 95.39 q/ha, which was 31.21 and 32.08 per cent higher over local check varieties *Virpur* (72.70 q/ha) and *Dantiwada* (72.22 q/ha), respectively. The pods of GJIB-11 are medium length in size with green colour.

(Action: Research Scientist (G&O), Vegetable Research Station, Junagadh)

5. Proposal for release of Ridge gourd hybrid Gujarat Junagadh Ridge Gourd hybrid-1 (GJRGH-1).

The farmer of Saurashtra and Middle Gujarat growing, ridge gourd crop during *kharif* season are advised to grow Gujarat Junagadh Ridge Gourd hybrid-1 (GJRGH-1). This hybrid recorded fruit yield of 104.36 q/ha, which was 20.69 per cent higher than national check variety Pusa Nasdar.

(Action: Research Scientist (G&O), Vegetable Research Station, Junagadh)

6. Proposal for release of Okra hybrid Gujarat Junagadh Okra Hybrid-3 (GJOH-3)

The farmers of Gujarat State growing Okra crop during *kharif* season are advised to grow Gujarat Junagadh Okra Hybrid-3 (GJOH-3). This hybrid recorded fruit yield of 137.44 q/ha, which was 19.88, 26.24 and 29.82 per cent higher over checks GOH-1 (114.65 q/ha), Parbhani Kranti (108.87 q/ha) and Pusa Sawani (105.87 q/ha), respectively. The fruits of GJOH-3 are dark green, tender and attractive.

(Action: Research Scientist (G&O), Vegetable Research Station, Junagadh)

RECOMMENDATION FOR SCIENTIFIC COMMUNITY

7. Characterization of different accessions of black jamun (*Syzyguim cuminii* Skeels) from Saurashtra region

The different accessions like VR-1, VM-1, JAU-6, VB-1 and VMA-1 of black jamun identified from Junagadh region were observed better in different characteristics.

(Action: Professor & Head, Department of Horticulture, JAU, Junagadh)

New Technical Programmes

1. **Efficacy of high density planting in mango cv. Kesar on bund**
   a) Treatment S_1= 5 x 5m, S_2=5 x4 m, S_3= 5 x 3 and S_4= 5 x 2m.
   b) Replication numbers five instead of four.
   c) Observation should be taken date of first flowering instead of day of first flowering.

   (Action: Professor & Head, Department of Horticulture, JAU, Junagadh)

2. **Effects of vermicompost and chemical fertilizers on yield and quality of banana (*Musa paradisiacal* L.) cv. Grand Nain**
   a) Recast treatment like F_1=100:90:200 g/pl., F_2=200:90:200 g/pl. F_3=300:90:200 g/pl.NPK.
   b) Spacing 2.4 x1.2 m instead of 1.8 x 1.8 m
   c) Plot size gross 7.6 x 4.8 m instead of 9.00 x 1.5 m.

   (Action: Professor & Head, Department of Horticulture, JAU, Junagadh)

3. **Varietal evaluation of strawberry under protected condition**
   a) Add quality parameter like shelf life of fruit.

   (Action: Professor & Head, Department of Horticulture, JAU, Junagadh)

4. **Integrated nutrient management in mango cv. Jamadar**

   (Action: Research Scientist, Agricultural Research Station, JAU, Mahuva)

5. **Effect of planting geometry on growth, yield and quality of watermelon (*Citrullus lanatus* Thunb.) cv. Kiran under mulch and polyhouse condition**

   (Action: Professor & Head, Department of Horticulture, JAU, Junagadh)

6. **Effect of soil amendment with organic materials on yield and quality of tomato (Cv. Junagadh Tomato-3) under sodic soil and brackish water condition**

   (Action: Research Scientist, Agricultural Research Station, JAU, Mahuva)

7.4. PLANT PROTECTION

Chairman: Dr. G. M. Patel, SDAU
Co-chairman: Dr. I. U. Dhruj, Associate Director of Research, JAU, Junagadh
Presentation: Dr. K. B. Jadeja, JAU, Junagadh

RECOMMENDATION FOR FARMERS

Agricultural Entomology

1. **Efficacy of newer insecticides against sucking pests of coriander**

   For effective and economical management of aphids in coriander, one spray of acetamiprid 20% SP 0.004 % (2 g/10 l water) or imidacloprid 17.8 % SL 0.005% (2.80 ml/10 l water) or dimethoate 30 % EC 0.03 % (10 ml/10 l water) at the appearance of aphid infestation is recommended under South Saurashtra Agro-climatic Zone.

   (Action: Professor & Head, Department of Entomology, JAU, Junagadh)

2. **Management of eriophyid in coconut cv. T x D**

   For effective and economical management of eriophyid mite in coconut, root feeding application of azadiracatin 2.5% @ 15 ml with equal water quantity per palm at two months interval throughout the year is recommended under South Saurashtra Agro-climatic Zone.

   (Action: Research Scientist (Horti.), Agri. Res. Sta. (FC), JAU, Mahuva)

3. **Testing efficacy of bio-pesticides for the control of sesame leaf webber/capsule borer (*Antigastra catalaunalis*)**

   For effective and economical bio-pesticide based management of leaf webber/capsule borer in *kharif* sesame, three sprays of *Beuaveria bassiana* (2 x 10^8 cfu/mg), 5 g/l or neem seed kernel extract 5 % (500 g/ 10 l water) at 15 days interval starting from the pest infestation are recommended for the farmers of North Saurashtra Agro-climatic Zone.

   (Action: Res. Sci., Agricultural Research Station, JAU, Amreli)

Plant Pathology

4. Integrated Management of downy mildew of cucurbit (Ridge gourd)

For economical and effective management of downy mildew disease and to get higher ridge gourd fruit yield, the farmers of South Saurashtra Agro-climatic Zone are advised to adopt bower system with seed treatment of combi product of metalaxyl 8 % + mancozeb 64 % WP @ 4 g/kg seeds followed by three times removing of old leaves in the morning and three sprays of mancozeb 75 % WP 0.2 % (27 g/10 l of water) in the afternoon at 50, 60 and 70 days after sowing or bower system with seed treatment of metalaxyl 8 % + mancozeb 64 % WP @ 4 g/kg seeds followed by two sprays of fosetyl-Al 80 % WP 0.1 % (12.5 g/10 l of water) at 50 and 65 days after sowing.

(Action: Research Scientist (G&O), Vegetable Res. Station, JAU, Junagadh)

5. Chemical control of leaf/stem/capsule spots (*Alternaria alternata*) of sesame

Farmers of North Saurashtra Agro-climatic Zone growing *kharif* sesame are advised to apply three sprays of propiconazole 0.025 % (10 ml/10 l water) or hexaconazole 0.005 % (10 ml/10 l water) or carbendazim 12 % WP + mancozeb 63 % WP 0.15 % (20 g/10 l water) at 12 days interval starting from 40 days after sowing for effective and economical management of leaf/stem/ capsule spots.

(Action: Asso. Res. Sci. (Pl. Patho.), Agricultural Research Station, JAU, Amreli)

New Technical Programmes

Agricultural Entomology

1. Efficacy of newer insecticides against diamond back moth infesting cauliflower

a) Rhynoxypyr should be kept in plase of endosulfan 0.07 %.
b) Residue analysis of effective insecticides must be done.

(Action: Professor & Head, Department of Entomology, JAU, Junagadh)

2. Management of sucking pests through insecticides in brinjal

a) Observation-3, 7, 10 days.
b) Need base application of insecticide.
c) Root application of Imidacloprid should be given.
d) Pheromone traps should be installed.
e) Residue analysis of effective insecticide must be done.

(Action: Professor & Head, Department of Entomology, JAU, Junagadh)

3. Field efficacy of different insecticides against the leaf webber of mango

a) Imidacloprid-10ml/10 lit.
b) Tent/tree should be observed.
c) Data on No. of larvae should recorded.
d) Lab test should be carried out.
e) Need base as requirement.
f) Spray should be carried out 15 days interval.
g) DDVP 8 ml/10 lit (0.08 %) as treatment No.2.

(Action: Professor & Head, Department of Entomology, JAU, Junagadh)

4. Storability of HNPV and SNPV under refrigerator condition

a) Dose, Larval stage, Food.
b) 14R=25L.
c) Normal condition-Lab/Home.

(Action: Professor & Head, Department of Entomology, JAU, Junagadh)

5. **Evaluation of new molecules for the control of major insect pests of groundnut**

a) T_2-Variety, dose of insecticide should be checked.

(Action: Research Scientist (Ento), Main Oilseeds Research Station, JAU, Junagadh)

6. **Efficacy of new insecticides as fabric treatment for management of cross infestation of insect pests of stored seeds (Crop:Groundnut and Wheat)**

a) Plant size=Sample size.

(Action: Research Scientist (Ento), Millet Research Station, JAU, Jamnagar)

7. **Determination of economic threshold levels of bajra stem borer, *Chilo partellus* (Swinhoe)**

(Action: Research Scientist (Ento), Millet Research Station, JAU, Jamnagar)

8. **Effect of intercropping on the incidence of major insect pests of sesame**

(Action: Research Scientist, Agricultural Research Station, JAU, Amreli)

9. **Survey of pink boll worm *Pectinophora gosspiella* infesting cotton crop on farmer's field in Saurashtra**

(Action: Research Scientist, Cotton Research Station, JAU, Junagadh)

10. **Evaluation of insect growth regulator, insecticides and fungicides mixture against major pests and diseases of cotton**

(Action: Research Scientist, Cotton Research Station, JAU, Junagadh)

11. **Estimation of yield loss due to semilooper *janata* Linnaeus in castor under rainfed condition**

a) Alternate with Quinalphos/recommended insecticides.

b) Leaf folder initiation.

(Action: Res. Scientist, Main Dry Farming Research Station, JAU, Targhadia)

12. **Evaluation of some botanical and bio-pesticides against onion thrips**

a) Check oil per cent = 0.4 %.

b) T8-water spray at 7 days interval.

(Action: Research Scientist (G&O), Vegetable Research Station, JAU, Junagadh)

Plant Pathology

13. **Effect of different spawning methods on sporophore production of oyster mushroom (*Pleurotus sajor-caju*)**

(Action: Professor & Head, Department of Plant Pathology, JAU, Junagadh)

14. **Isolation and *in vitro* testing of antagonistic microorganisms against *Fusarium oxysporum* f.sp. *capsici* causing wilt in chilli**

(Action: Professor & Head, Department of Plant Pathology, JAU, Junagadh)

15. **Assessment of *Trichoderma* population in the fields under groundnut cultivation**

(Action: Professor & Head, Department of Plant Pathology, JAU, Junagadh)

16. **Isolation of microorganisms from decomposing agricultural waste**

a) T_3 should be replaced with Vermicompost.

(Action: Professor & Head, Department of Plant Pathology, JAU, Junagadh)

17. **Management of *Alternaria* leaf blight of groundnut**

a) Approved with change title.

(Action: Res. Sci., Main Oilseeds Research Station, JAU, Junagadh)

18. **Study on morphology and pathogenic variability of *Pyricularia grisea* causing pearl millet blast**

(Action: Research Scientist, Main Pearl Millet Research Station, JAU, Jamnagar)

19. **Testing of new molecular kresoxim methyl (Ergon 44.3%) against leaf spot and grey mildew diseases of cotton**

(Action: Research Scientist, Cotton Research Station, JAU, Junagadh)

20. **Biological control of soil borne diseases of sesame**

(Action: Research Scientist, Agricultural Research Station, JAU, Amreli)

21. **Management of black rot of cruciferous vegetable (cabbage)**

(Action: Research Scientist (G&O), Vegetable Research station, JAU, Junagadh

7.5 BASIC SCIENCE

Chairman: Dr. H. C. Pahak, Director of Research, NAU, Navsari
Co-chairman: Dr. R. S. Fougat, Research Scientist (Ag. Biotech.), AAU, Anand
Presentation: Dr. C. K. Mandavia, JAU, Junagadh

RECOMMENDATION FOR FARMERS

1. **Effect of foliar spray of growth substances under rainfed condition on yield potential of pearl millet**

Pearl millet growing farmers of North Saurashtra Agro-climatic Zone are recommended to apply two foliar sprays of salicylic acid @ 50ppm on pearl millet (GHB-558) at tillering and post anthesis stages to increase the yield potential of pearl millet, var. GHB-558 under rainfed condition.

a) This recommendation was not considered due to poor net realization.

(Action: Research Scientist, Pearl Millet Research Station, JAU, Jamnagar)

New Technical Programmes

1. **Micropropagation in coconut**

(Action: Professor & Head, Department of Agril. Botany, JAU, Junagadh)

2. **Standardization of plant regeneration protocol in castor**

(Action: Professor & Head, Department of Agril. Botany, JAU, Junagadh)

3. **Effect of Brassinolide foliar spray on yield and yield attributing characters of wheat**

a) Incorporate the observation on wheat grain quality parameters *viz*;gluten and starch.

Action: Professor & Head, Department of Agril. Botany, JAU, Junagadh)

4. **The effect of harvesting date on fresh seed dormancy in pearl millet hybrids**

a) Modify the harvesting dates after stigmatic stage as 15, 25, and 35 instead of 15 and 25.

(Action: Professor & Head, Department of Agril. Botany, JAU, Junagadh)

5. **Effect of pre-soaking treatments of growth regulators on germination and seed vigour in cumin (*Cuminum cyminum* L.)**

(Action: Professor& Head, Department of Agril. Botany, JAU, Junagadh)

6. **Biochemical characterization of *Trichoderma* spp. for inhibition of *Macrophomina phaseolina* causing root rot in castor**

(Action: Professor& Head, Department of Biochemistry, JAU, Junagadh)

7. ***In situ* detection of potassium status in cotton plants**

(Action: Professor& Head, Department of Biochemistry, JAU, Junagadh)

8. Effect of plant growth regulators and detopping on yield of Bt. cotton (*Gossypium hirsutum* L.) under rainfed condition

a) Carry out this experiment using any popular Bt. Cotton hybrid of Saurashtra region instead of BNBt. which is not available.

b) Incorporate fibre quality parameters in the observations.

c) Instead of plant width, record plant spread.

d) Instead of mature dry five boll weight, average boll weight should be recorded.

(Action: Research Scientist, Dry Farming Research Station, JAU, Targhadia)

9. Response of sesame (*Sesamum indicum* L.) to growth regulators

a) Include oil percentage and 1000 seed weight in the observations.

(Action: Research Scientist, Dry Farming Research Station, JAU, Targhadia)

10. Effect of plant growth regulators and detopping on morpho-physiological components of yield in cotton (*Gossypium hirsutum* L.) under irrigated condition

a) Carry out this experiment using any popular Bt. Cotton hybrid of Saurashtra region instead of NHH-44 Bt.

b) Instead of plant width, record plant spread.

c) Instead of mature dry five boll weight, average boll weight should be recorded.

(Action: Research Scientist, Regional Cotton Research Station, JAU, Junagadh)

7.6 AGRICULTURAL ENGINEERING

Chairman: Dr. R. C. Maheshwari, Hon'ble Vice Chancellor, SDAU, S.K. Nagar
Co-chairman: Dr. D. C. Joshi, Dean, Faculty of FPT & BE, AAU, Anand
Presentation: Dr. R. Subbaiah, JAU, Junagadh

RECOMMENDATION FOR FARMERS

1. Modified atmosphere packaging technique for sapota

The farmers, processors and exporters are recommended to adopt modified atmosphere packaging technique developed by JAU for increasing the shelf life of *sapota* fruit by packing in 25 µ LDPE bag with a combination of 5 % O_2 +10 % CO_2 gas concentration and stored at 6 ^{0}C temperature. The shelf life of *sapota* fruits can be increased up to 49 days by using this technique.

(Action: Research Engineer, Dept. of RE & RE, CAET, JAU, Junagadh)

2. Modified atmosphere packaging technique for mango

The farmers, processors and exporters are recommended to adopt modified atmosphere packaging technique developed by JAU for increasing the shelf life of mango fruit by packing in 25 µ LDPE bag with a combination of 6 % O_2 + 5 % CO_2 gas concentration and stored at 10 ^{0}C temperature. The shelf life of mango fruits can be increased up to 35 days by using this technique.

(Action: Research Engineer, Dept. of RE & RE, CAET, JAU, Junagadh)

3. Lime harvester

The farmers having *Kagzi* lime orchards are advised to use the JAU-Lime harvester to reduce losses like impact damage and immature lemon fall-up.

(Action: Research Scientist, RTTC, CAET, JAU, Junagadh)

4. Application of murrum in groundnut

The farmers of North Saurashtra Agro-climatic Zone growing bunch groundnut (GG-5) are advised to apply murrum @ 40 t/ha or FYM @ 10 t/ha along with recommended dose of fertilizer for obtaining higher yield of groundnut and net return under dry farming condition.

(Action: Main Dry Farming Research Station, JAU, Targhadia, Rajkot)

5. Mulching on dripped guava orchard

The farmers of North Saurashtra Agro-climatic Zone growing guava under drip irrigation system are advised to apply black plastic (50 micron) or groundnut shell or wheat straw mulch @ 7.5 kg/plant (0.5 m around the plant) for obtaining maximum plant growth, fruit yield and net return.

(Action: Main Dry Farming Research Station, JAU, Targhadia)

RECOMMENDATION FOR SCIENTIFIC COMMUNITY

6. Drying air variables tomato slices

The influence of drying air variables i.e. drying air temperature and velocity on drying rate constant "k" of tomato slices is recommended in the form of Arrhenius-type model, given below, for describing the thin layer drying behavior of 5.0 ± 0.5 mm thick tomato slices. The value of constant "c" did not show any regular dependence on drying air variables and recommended to be equal to mean value of 1.005.

$k = 587.83\ v^{0.36} \exp(3487.79 / T_{ab})$

(COD, $r^2 = 0.998$, $\chi^2 = 9.541 \times 10^{-8}$ for $0.25 m/s \leq v \leq 1 m/s$ and $50°C \leq T \leq 80°C$)

(Action: Professor & Head, Department of RE & RE, CAET, JAU, Junagadh)

New Technical Programmes

1. **Smart farming for increasing agricultural production in sodic soils of coastal area of Saurashtra**

   (Action: Professor & Head, Dept. of Soil & Water Engg., CAET, JAU, Junagadh)
2. **Estimation of pesticides residues in groundwater of Saurashtra region**

   a) House approved this experiment as preliminary study/filler trial.

   (Action: Professor & Head, Dept. of Soil & Water Engineering, CAET, JAU, Junagadh)
3. **Evaluation of skimming technology and pumping schedule in coastal area of south Saurashtra**

   a) House approved this experiment as preliminary study/filler trial.

   (Action: Professor & Head, Dept. of Soil & Water Engineering, CAET, JAU, Junagadh)
4. **Impact of irrigation regimes and mulching on the economic productivity of drip irrigated cotton**

   a) House suggested to adopt mulching on raised bed cotton.

   (Action: Research Scientist (Agri. Engg.), RTTC, JAU, Junagadh)
5. **Geometry of wetting pattern under trickle irrigation**

   (Action: Action: Research Scientist (Agri. Engg.), RTTC, JAU, Junagadh)
6. **Performance of auxiliary storage system in canal command areas for enhancing use efficiency of water resources**

   (Action: Action: Principal, College of PGIABM,JAU, Junagadh)
7. **Comparative performance study of solar photo voltaic panel operated different light sources on quality of rose**

   (Action: Professor & Head, Department of RE & RE, CAET, JAU, Junagadh)
8. **Participation of farm women in harvest and post harvest activities**

   (Action: Prof. & Head, Department of Agril. Engg. Ext. Edu., CAET, JAU, Junagadh)
9. **Rainwater management for sustaining groundnut productivity in medium black soils under dry farming conditions**

   (Action: Research Scientist, Main Dry Farming Research Station, JAU, Targhadia)
10. **Rainwater management for sustaining cotton productivity in medium black soils under dry farming conditions**

    (Action: Research Scientist, Main Dry Farming Research Station, JAU, Targhadia)

7.7 SOCIAL SCIENCE

Chairman: Dr. P. P. Patel, Director of Extension Education, AAU, Anand
Co-chairman: Dr. K. A. Khunt, Principal, PGIABM, JAU, Junagadh
Presentation: Dr. S. M. Upadhyay, JAU, Junagadh

RECOMMENDATION: NIL

New technical programmes

1. **Economics of Bt. cotton (LS) production in South Saurashtra region of Gujarat**
   (Action: Professor & Head, Dept. of Agricultural Economics, JAU, Junagadh)
2. **Testing the validity of crop yield forecasting model in groundnut**
   (Action: Professor & Head, Dept. of Agricultural Statistics, JAU, Junagadh)
3. **Identification of important variables in social science studies**
   (Action: Professor & Head, Dept. of Agricultural Statistics, JAU, Junagadh)
4. **Performance of auxiliary storage system in canal command areas for enhancing use efficiency if water resources**
   (Action: Principal, PG Institute of Agri-Business Management, JAU, Junagadh)
5. **Farmers' perception of brand and brand loyalty for pesticides in South Saurashtra**
   (Action: Principal, PG Institute of Agri-Business Management, JAU, Junagadh)
6. **Impact of climate change on the livelihood of peasantry in South Saurashtra Agro-climatic Zone**
   (Action: Professor & Head, Dept. of Extension Education, JAU, Junagadh**)**
7. **Participation of farm women in harvest and post harvest activities**
   (Action: Professor & Head, Dept. of Aril. Engg. Ext. Edu., CAET, JAU, Junagadh**)**
8. **Economics of Bt. Cotton (LS) production in North Saurashtra region of Gujarat**
   (Action: Research Scientist, Dry Farming Research Station, JAU, Targhadia)

7.8 ANIMAL SCIENCE AND FISHERIES SCIENCE

Chairman: Dr. J. V. Solanki, Dean, Veterinary Science, AAU, Anand
Co-chairman: Dr. A.Y. Desai, Dean, Fisheries, JAU, Veraval
Dr. N. H. Kelawala, Dean, Veterinary Science, NAU, Navsari
Presentation: Dr. K. L. Jetani, JAU, Okha

Fisheries Science

INFORMATION FOR ENTREPRENEURS

1. **Population growth of rotifer *Brachionus rotundiformis* Tschugunoff in varying salinity**
   Finfish/crustacean hatchery entrepreneurs are recommended to use 15 to 20 ppt salinity water at 25^{o} C to achieve higher production of rotifer, *Brachionus rotundiformis* in 10 days.
   (Action: Research Officer, Fisheries Research Station, JAU, Okha)

RECOMMENDATION FOR FISH FARMERS

2. **Study of location specific growth rate in marine alga *kappaphycus alvarezzi***
   It is recommended that carrageenan yielding marine alga *Kappaphycus alvarezii* can be grown profitably in Okha mandal region and five fold growth can be achieved in 45 days from January onwards.
   (Action: Research Officer, Fisheries Research Station, JAU, Okha)

INFORMATION FOR THE SCIENTIFIC COMMUNITY

1. **Study on seasonal variation in iodine content of promising iodine yielding red sea-weeds of gulf of Kutch**

   Among the available red seaweed (Rhodophyceae) species of Gulf of Kutch, maximum iodine content is found in *Asperogopsis entestinalis* (555 mg/100gm DW) followed by *Rhodomenia australis* (151 mg/100gm DW).

   (Action: Research Officer, Fisheries Research Station, JAU, Okha)

2. **Evaluation of cycle duration of fish landing at Veraval fish Center**

   Since the information presented for the recommendation "The entrepreneurs and financial institutions are advised to consider an aggregate, profit making time span of nine years as the cycle period" was found insufficient by the house hence, **it was dropped**. It was also suggested that next year it should come with clarity of facts and information regarding as how the profit can be increased and the losses are minimized.

   (Action: Principal, College of Fisheries, JAU, Veraval)

Animal Science

RECOMMENDATION: NIL

New Technical Programmes

Fisheries Science

1. **Evaluation of stocking density of carp fry in rearing pond**

   (Action: Principal, College of Fisheries, JAU, Veraval)

2. **Enhancement of coloration in guppy (*Poecilia reticulata*) through use of some natural pigment sources**

   (Action: Principal, College of Fisheries, JAU, Veraval)

3. **Analysis of plankton in brackish water shrimp culture pond**

   a) The house suggested to include nitrate and phosphate as two additional parameters to be recorded.

   (Action: Principal, College of Fisheries, JAU, Veraval)

4. **Effect of bottom sediments on moulting to *Fenneropenaeus merguiensis* in aquarium**

   (Action: Research Officer, Fisheries Research Station, JAU, Okha)

5. **Fattening of *Scylla serrata* (Forskal) male and female in two different cement pond**

   (Action: Research Officer, Fisheries Research Station, JAU, Okha)

6. **Identification and quantification of rotifer fauna of Okha mandal region**

   (Action: Research Officer, Fisheries Research Station, JAU, Okha)

7. **Documentation on marine fin fish and shell fish of Okha fish landing center**

   (Action: Research Officer, Fisheries Research Station, JAU, Okha)

Animal Science

1. **Effect of supplementing magnesium oxide on butter fat composition in Gir cows**

   a) Analyze the magnesium content of the feeds and fodders to rule out any deficiency of magnesium in the ration.

   (Action: Research Scientist, Cattle Breeding Farm, JAU, Junagadh)

2. **Impact of herd composition on herd performance traits in Gir Cattle**

   a) Consider the effect of year over the period of study.

   (Action: Research Scientist, Cattle Breeding Farm, JAU, Junagadh)

3. **Effect of non genetic factors on lactation and reproductive performance of Gir cow**

   a) Extend the study for three years period and also include the time taken for uterine involution as one of the parameters.

   (Action: Research Scientist, Cattle Breeding Farm, JAU, Junagadh)

4. **Breeding and lactation efficiencies of Gir cows and Jaffrabadi buffaloes**
(Action: Research Scientist, Cattle Breeding Farm, JAU, Junagadh)

5. **Morbidity and mortality pattern in Gir cattle and Jaffrabadi buffalo herds**
(Action: Research Scientist, Cattle Breeding Farm, JAU, Junagadh)

The details of new varieties/recommendations and new technical programmes were presented, discussed and approved during the various technical session of seventh combined joint AGRESCO meeting of SAUs.

Sr. No.	Name of Sub-Committee	Varieties*/Recommendations				New Technical programme	
		Faming community		Scientific community			
		Proposed	Approved	Proposed	Approved	Proposed	Approved
1.	Crop Improvement	7+1	**6*+1@**	-	**-**	01	**01**
2.	Crop Production	17	**16**	05	**05**	31	**26**
3.	Horticulture & Agro-forestry	04	**04**	01	**01**	06	**06**
4.	Plant Protection	05	**05**	-	**-**	21	**21**
5.	Basic Science	01	**-**	-	**-**	10	**10**
6.	Agril. Engineering	05	**05**	01	**01**	10	**10**
7.	Social Science	-	**-**	-	**-**	08	**08**
8.	Animal Science	-	**-**	-	**-**	05	**05**
9.	Fisheries Science	02	**02**	02	**01**	07	**07**
	Total	**7+35**	**6*+32**	**09**	**08**	**99**	**94**

* Released varieties
@ Pre release proposal

Junagadh
Dt.24.06.2011

Director of Research & Dean, P.G. Studies
Junagadh Agricultural University
Junagadh