



COLLEGE OF HORTICULTURE

Anand Agricultural University

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Principal & Dean

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No. AAU/CoH/ 49 / 2023

Dt. 05-04-2023

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

Sub.: 19th Annual Report for research chapter-4 (2022-23)-Reg.

I am attaching herewith the separate word file regarding 19th Annual Report for research chapter-4 (Performa A & B) of College of Horticulture for the year 2022-23 as per the format.

Principal & Dean

College of Horticulture
Anand Agricultural University, Anand
19TH ANNUAL REPORT OF THE YEAR 2022-23
Research Chapter 4
Performa: A (Part I)

1. Importance of Research Centre / Department along with work carried out during 2022- 23 (in brief):

The prime mandate of College of Horticulture is to impart education in the field of horticulture science coupled conducting research on various disciplines like fruit, vegetable, flower as well as on postharvest technology. During the year 2022-23 following experiments were conducted under different departments of College of Horticulture:

Fruit Science Dept.:

- i. Effect of time and length of pruning on yield and quality of custard apple (*Annona squamosa* L.) under middle Gujarat conditions

Vegetable Science Dept.:

- i. Effect of integrated nutrient management on growth, yield and quality of onion
- ii. Effect of different time of transplanting and spacing on growth and yield of Knol-khol under middle Gujarat conditions

Floriculture and Landscape Architecture Dept.:

- i. Effect of spacing and nitrogen on growth, flowering, yield and shelf life of desi rose under middle Gujarat conditions
- ii. Effect of seed treatment on germination of foxtail palm (*Wodyetia bifurcata*)
- iii. Effect of different growing condition and media on growth and flowering of orchid.

Post Harvest Technology Dept.:

- i. Development of Production Technology for Bottle Gourd based Carbonated Beverage
- ii. Production of premium quality powder with maximum retention of essential oil using cryogenic grinding of dill seed.

Plant Protection Dept.:

- i. Evaluation of organic inputs against aphid infesting broccoli (*Brassica oleracea* var. *italica* L.)
- ii. Evaluation of eco-friendly inputs against sucking pests of potato
- iii. Bio-efficacy of ready mix fungicides against powdery mildew of fenugreek
- iv. Bio-efficacy of ready mix fungicides against powdery mildew of coriander

- v. Efficacy of nano-particles against powdery mildew of coriander (Feeler Trial)

Natural Resource Management Dept.:

- i. Evaluation of nutrient management modules in okra + cowpea - cabbage + fenugreek intercropping system
- ii. Effect of integrated nutrient management on growth and yield of potato (*Solanum tuberosum* L.)

Social Science Dept.:

- i. Growth in Area Production and Productivity of Vegetable Crops in Gujarat
- ii. Growth in Area, Production and Productivity of Spices and Flower Crops in Gujarat

Basic Science Dept.:

- i. Detection of late blight and early blight diseases of potato using deep learning
2. Research recommendations with photographs (2021-22):

I. Department of Plant Protection:

Management of aphid in coriander through insecticidal seed treatments and bio-pesticides

Recommendation for farmers:

Application of two sprays of *Lecanicillium lecanii* 1.15% WP (1 x 10⁹ cfu/g) 40 g per 10 litre of water mixed with sticker 0.1% (10 ml/ 10 litre of water) first at initiation of aphid and second at 15 days after first spray found effective against aphid infesting broccoli.



T3: *Lecanicillium lecanii* 1.15% WP



Control

II. Department of Post-Harvest Technology:

a. Development of Production Technology for Bottle Gourd based Carbonated Beverage

Recommendation for Entrepreneurs:

The entrepreneurs interested in the production of bottle gourd based carbonated beverage inclusive of pineapple and lime juices are advised to adopt processing technology developed by the Anand Agricultural University, Anand. The technology involves the formulation of the beverage at 12.50 ml of bottle gourd juice, 3.30 ml of pineapple juice, 4 ml of lime juice and 70 ml of sugar syrup followed by thermal processing at 95 °C with no hold and carbonation at 120 psi. The developed beverage can be stored safely in PET bottles for 90 days at the ambient condition.



Overview of Experiment

b. Production of premium quality powder with maximum retention of essential oil using cryogenic grinding of dill seed:

Recommendation for Entrepreneurs:

Entrepreneurs and agro-processing units involved in grinding of spices are advised to use the technology of cryogenic grinding developed by Anand Agricultural University, Anand for superior quality dill seed powder with higher retention of essential oil. For higher retention (2.10%) of essential oil, the cryogenic grinding of fennel seed at temperature of -60°C, sieve size of 0.8 mm and feed rate of 6 kg/h is recommended. Cryo-ground sample

stored in aluminum laminated zip lock pouch at refrigerated ($7\pm 1^{\circ}\text{C}$) condition retained higher (1.86%) essential oil.



Overview of Experiment

3. Output during 2022-23 [No. of trials allotted (new / ongoing) and conducted successfully]

No. of ongoing trails : 13

No. of new trails : 06

4. Salient achievements during the year with photographs and information (Other than approved recommendation): NIL

5. Variety/ Breed/ Machinery etc. Released / developed with brief information and photographs.: NIL

6. For breeding: Generation wise detail and new crosses made during the year: NIL

7. Seed production information:

Department of Floriculture and Landscape architecture

Planting materials production (2022-23)

| Planting material | Target (Nos.) | Production(No s.) | Selling (Nos.) |
|---|---------------|-------------------|----------------|
| Rooted cuttings, Grafts, Seedlings, Potted Plants etc | 90950 | 114550 | 82751 |

| Sr.No. | Flowers and Ornamental plants (Rooted cuttings, Grafts, Seedlings, Potted Plants etc) | Target (2022-23) (Nos.) | Selling (2022-23) (Nos.) |
|--------|---|-------------------------|--------------------------|
| 1 | Rose (Deshi) | 5000 | 1267 |
| 2 | Mogra | 2500 | 1315 |
| 3 | Ixora | 1000 | 794 |
| 4 | Bogainvella | 2000 | 1581 |
| 5 | Chrysenthemum | 500 | 2587 |
| 6 | Hibiscus | 2500 | 1874 |
| 7 | Palm | 100 | 156 |
| 8 | Climbers | 1500 | 944 |
| 9 | Seasonal flower plants | 2000 | 1655 |

| | | | |
|----|---|--------------|--------------|
| 10 | Ornamental plants | 25000 | 15072 |
| 11 | Forest trees | 5000 | 2816 |
| 12 | Ornamental potted plants (big size earthan pot) | 500 | 316 |
| 13 | Ornamental potted plants (medium size earthan pot) | 250 | 603 |
| 14 | Ornamental potted plants (small size earthan pot) | 500 | 363 |
| 15 | Hanging Basket | 100 | 29 |
| 16 | Ornamental plants (large Poly bag) | 500 | 404 |
| 17 | Chrysanthemum seedling | 5000 | 3650 |
| 18 | Marigold seedling | 15000 | 12450 |
| 19 | Gaillardia seedling | 2000 | 8950 |
| 20 | Other seasonal flower seedlings | 20000 | 25925 |
| | Total ornamental plants (Nos.) | 90950 | 82751 |

8. Project title and financial outlay under projects of:

Budget: 12987-16

| Year | Recurring | | | Non- Recurring | | |
|---------|----------------|-------------|---------|----------------|-------------|---------|
| | Sanction grant | Expenditure | Balance | Sanction grant | Expenditure | Balance |
| 2022-23 | 54,00,000/- | 53,90,738/- | 9262/- | 7,50,000/- | 7,42,392/- | 7,608/- |

Budget: 12712-02

| Year | Recurring | | | Non- Recurring | | |
|---------|----------------|-------------|---------|----------------|-------------|---------|
| | Sanction grant | Expenditure | Balance | Sanction grant | Expenditure | Balance |
| 2022-23 | 13,00,000/- | 12,96,022/- | 3978/- | ----- | ----- | ----- |

9. Awards / Honors etc. information with photographs:

Got Uttam Lekh Award in the month of October-2022, in the discipline of Dairy, Food Processing and Home Science subject titled “Kel Pakma Processing ane Mulyavardhan” for the year 2021-22 to writing in reputed AAU magazine krushi Govidya, 74(7), pp:36-39.

10. Important events

10 A. Seminar / Symposia / Conference / Training organized: Appendix - 1

10 B. University teachers who have participated in Seminar/Symposia/Conference /Training: Appendix - 2

10 C. Names and Details of dignitaries visited: NIL

**College of Horticulture
Anand Agricultural University, Anand
19TH ANNUAL REPORT OF THE YEAR 2022-23
Research Chapter 4
Performa: A (Part II)**

11. List of Research paper published during the year 2022-23:

| | | |
|--|-----------------------|----|
| No. of research papers published in scientific journal 2022-23 | International Journal | 04 |
| | National Journal | 19 |

Research Paper list:

i. International journal:

1. **Chaudhari G. R.**, Patel D. A., Parmar D. J., Patel K. C., Kumar S. (2023). Combining ability, heterosis and performance of grain yield and content of Fe, Zn and protein in bread wheat under normal and late sowing conditions, *PeerJ*, 11(1):14971.
2. **Chaudhari G. R.**, Patel D. A., Kalola A. D., Kumar S. (2023). Use of graphical and numerical approaches for diallel analysis of grain yield and its attributes in bread wheat (*Triticum aestivum* L.) under varying environmental conditions, *Agriculture*, 13(1):171.
3. Hebsale V. K., Panigrahy S. R., Nayak A. K., Pundir R. S., **Kumari P.** (2023). Factors influencing the knowledge level of fish consumers: An Explanatory Analysis, *Sustainability*, Accepted.
4. **Chaudhari G. R.**, Patel D. A., Kalola A. D., Kumar S. (2022). Graphical and numerical analysis of the components of gene effect on the quality traits of bread wheat (*Triticum aestivum* L.) under varying environmental conditions, *Agriculture*, 12(12):2055.

ii. National journal:

1. Warang O. S. and **Shah N. I.** (2022). Effect of round the year pruning and fertilizer doses on physico-chemical parameters of phalsa cv. Local. *The Pharma Innovation Journal*, 11(9):584-587.
2. Chaudhary H. L., **Shah N. I.** and Panchal B. (2022). Influence of organic sources on growth and yield of sapota cultivar kalipatti. *Scientist*, 1(3):2935-2941.
3. Magar S. D., **Shah N. I.** and Kshirsagar A.V. (2022). Effect of pre harvest bunch covers on post-harvest quality of banana (*Musa paradisiaca* L.) cv. Grand Naine. *Scientist*, 1(3):4578-4582.

4. Mahida S. V., **Shah N. I.** and Patel H. T. (2022). Influence of double pruning in a year and fertilizer application time on yield and quality parameters of phalsa (*Grewia asiatica* L.) cv. Local, *International Journal of Chemical Studies*, 10(3): 8-10.
5. Mahida S. V., **Shah N. I.** and Bhatt A. H. (2022). Effect of Time and Number of Pruning on Growth, Flowering and Fruitng Behaviour of Phalsa (*Grewia asiatica* L.) cv. Local, *Current Journal of Applied Science and Technology*, 41(18): 1-5.
6. Bhatt A. H., Arbat S. S., Raj D., Sitapara H. H. and **Shah N. I.** (2022). Standardization of 'Bhagwa' Pomegranate (*Punica granatum* L) Nectar. *Current Journal of applied science and technology*, 41(27): 1-10.
7. **Prajapati H. N.** and **Barad A. H.** (2022). Bio-efficacy of agrochemicals against bacterial canker (*Xanthomonas citri* pv. *citri*) in citrus. *The Pharma Innovation Journal*, 11(12):3978-3983.
8. Dodiya R. D., Bhatt N. A., **Barad A. H.**, and. Sisodiya D. B. (2022). Report of *Anisopteromalus calandrae* (Howard) (Hymenoptera: Pteromalidae) as a potential biocontrol agent of cigarette beetle, *Lasioderma serricorne* (Fabricius) (Coleoptera: Anobiidae) infesting tobacco seeds under storage condition from Gujarat, India. *Insect Environment*, 25 (3):459-461.
9. Dodiya R. D., and **Barad A. H.** (2022). Effectiveness of biopesticides against *Spodoptera litura* infesting groundnut under field condition. *The Pharma Innovation Journal*, 11(8):1601-1605.
10. Raval A. T., and **Barad A. H.** (2022). Population dynamics of mustard aphid, *Lipaphis erysimi* Kaltenbach infesting radish under middle Gujarat condition. *The Pharma Innovation Journal*, 11(8):1710-1713.
11. **Kumari P.**, Parmar D. J., M. Sathish Kumar, Lad Y. A. and Mahera A. B (2022). An artificial neural network approach for predicting area, production and productivity of Banana in Gujarat. *The Pharma Innovation Journal*, 11(4):816-821.
12. **Kumari P.**, Parmar D. J., M. Sathish Kumar, Lad Y. A. and Mahera A. B (2022). Forecasting area, production and productivity of mango in Gujarat by using an artificial neural network model, *The Pharma Innovation Journal*, 11(4):822-826.
13. **Kumari P.**, Parmar D. J., M. Sathish Kumar, Mahera A. B and Lad Y. A. (2022). Prediction of area, production and productivity of total fruit crops in Gujarat, *The Pharma Innovation Journal*, 11(5): 750-754.

- 14. Kumari P.,** Parmar D. J., M. Sathish Kumar, Mahera A. B and Lad Y. A. (2022). Evaluation of linear statistical models for predicting area, production and productivity of Sapota in Gujarat, *The Pharma Innovation Journal*, 11(5): 755-759.
- 15. Kumari P.,** Parmar D. J., M. Sathish Kumar, Mahera A. B and Lad Y. A. (2022). Comparison of Statistical Models for Prediction Area, Production and Yield of Citrus in Gujarat, *Biological Forum – An International Journal*, 14(2): 540-545.
- 16. Kalariya R. P. and Dudhat B. L.** (2022). Comparative Economics of Organic and Inorganic Turmeric Farmers In Middle Gujarat, *International Journal of Agriculture Sciences*, 14(15):11959-11962.
- 17. Solanki S. K., Patel H. K., Raval C. H. and Patel H. K.** (2022). Response of integrated nutrient management on irrigated wheat, *International Journal of Plant and Soil Sci.*, 34 (22):55-60.
- 18. Parmar M. R.** (2022). Effect of supercritical process parameters on phenolic compound, *Journal of Scientific Research and Reports*, 28(11):1-9.
- 19. Parmar M. R.** (2022). Effect of traydrying conditions on the bioactive compound of the papaya leave, *Current Journal of Applied Science and Technology*, 41(36):1-11.

12. List of research paper/abstract presented at seminar / symposium / conference etc. for 2022-23:

| | |
|---|----|
| In International level seminar/symposium/conference | 00 |
| In National level seminar/symposium/conference | 03 |

Paper/abstract list:

I. International journal: NIL

II. National journal:

- a. Dodiya R.D. and **Barad A. H.** (2022). Effectiveness of biopesticides against *Spodoptera litura* infesting groundnut under field condition. A paper was presented (poster) in the **National Conference** on “Natural farming for Sustainable Agriculture and National prosperity” held at SDAU, Sardarkrushinagar, Dantiwada. During 11-13 Nov., 2022.
- b. **Prajapati H. N., Barad A. H.,** Parmar R. G., and Litoriya N. S. (2022). Bio-efficacy of solvent based phytoextract against powdery mildew infesting fenugreek. A paper was presented (poster) in the IPS west zone symposium on “Current trends in plant disease detection, diagnosis and management” held at NAU, Navsari, during 16-17, Nov.2022,

- c. **Prajapati H. N. and Barad A. H. (2022).** Bio-efficacy of agrochemicals against bacterial canker (*Xanthomonas citri* pv. *citri*) in citrus. A paper was presented (orally) in the Fourth national conference on “Recent advances in Agriculture and allied sciences and pharmaceuticals and environmental sciences” held at B.V. David foundation, Chennai during 1, Oct., 2022.

i. Popular articles published for the year 2022-23:

1. **Gajera R. R.** and Ravani A. (2022). Ghauma Processing, Bakery Udyog, *Krushvi Govidya*, 75 (07), pp. 17-19.
2. **Gajera R. R.** (2022). *Krushvi Pakoma Processing ane Mulyvardhan*, *Krushvi Govidya*, 75 (05), pp. 24-37.
3. **Gajera R. R.** (2022). *Soyabean nu Processing ane Mulyavardhan*, *Krushvi Govidya*, 75 (02), pp. 28-32.,
4. Rajput R. L., **Gajera R. R.** (2022). *Papaiyama Mulyavardhan*, *Gujarat Bagayat Vikas*, 87: pp.14-18.
5. **Gajera R. R.** , Rajput R. L. (2022). *Jamfalma Mulyavardhan*, *Gujarat Bagayat Vikas*, 87: pp.70-73.
6. **Gajera R. R.** (2022). *Kelma Mulyavardhan*, *Gujarat Bagayat Vikas*, 87, pp 52-55.
7. **Gajera R. R.** (2022). *Naliyerima Mulyavardhan*, *Gujarat Bagayat Vikas*, 87, pp. 74-77.
8. **Gajera R. R.** (2022). *Falma Canning dwara Mulyavardhan*, *Gujarat Bagayat Vikas*, 87, pp. 80-82.
9. **Gajera R. R.** (2022). *Falmathi Juice dwara Mulyavardhan*, *Gujarat Bagayat Vikas*, 87: pp. 83-84.
10. **Gajera R. R.** (2022). *Soyabean nu Processing ane Mulyavardhan*, *Krushvi Govidya*, 75 (02), pp. 28-32.
11. **Chaudhari G. R.** (2022). *Breeding for Quality Traits in Castor. Agriculture & Food, E- Newsletter*, 179-182.
12. **Chaudhari G. R.**, Patel S, Ragi S. (2022). *Sex Expression in Castor. Agriculture & Food, E- Newsletter*, pp. 4-8.
13. **Chaudhari G. R.**, Patel, S., Ragi, S. (2022). *Radiation Induced Mutation Breeding in Papaya (Carica papaya L.)*, *Biotica Research Today*, 4 (1), pp. 074-076.
14. **Chaudhari G. R.** (2022). *Pesticide Pollution in Agriculture. Agriculture & Food, E- Newsletter*, pp. 214-216.

15. **Chaudhari G. R.** (2022). Chemical Mutagens. Agriculture & Food, *E- Newsletter*, pp. 6-8.
16. **Chaudhari G. R.** (2022). DUS Testing. Agriculture & Food, *E- Newsletter*, pp. 214-217.
17. **Chaudhari G. R.** (2023). Molecular Biology of Abiotic Stress Responses – Heat and Cold. Agriculture & Food, *E- Newsletter*, 193-195.
18. Dodiya, R.D., J.V. Italiya., and **Barad, A.H.** (2023). *Falpakoma falmakhi nu Sanklit vyavasthapa, krushi Jivan*, (7), pp.22-25.

13. Books / Book chapters published (2022-2023):

i. Books/ Booklets:

| Sr. No. | Name of Book | Name of Authors | Name of Publisher |
|---------|---|---|--|
| 1. | Book on “Fal ane Shakbhajinu Parirakshan” (EXT-5:49:2022:1000, PP: 01-200) | R. L. Rajput, R. R. Gajera , N. I. Shah , P. C. Patel, S. A. Sipai | Director of Extension Education, Anand Agricultural University, Anand. |
| 2. | Book on “Gunda, Khati Amla, Bijoru, Kerda ane Rayan ni Sanklit pak vyavstha” No. 88 July-Sep-2022 | K. P. Kikani, B. N. Satodiya , A. H. Bhatt and H. S. Sitapara | Gujarat Bagayat Vikash Parishad, Anand. |

ii. Book chapter:

| Sr. No. | Name of Book | Book Chapter | Name of Authors | Name of Publisher |
|---------|---|--|--|--|
| 1 | “Fal ane Shakbhajinu Parirakshan” pp 7-10 | Fal ane shakbhaji ni agatyata | Shah N. I. Rajput R. L. | Director of Extension Education, Anand Agricultural University, Anand. |
| 2 | | Fal ane Shakbhajima Rasayanik Padhatithi Parirakshan | R.L.Rajput, R.V. Prasad, R. R. Gajera | |
| 3 | | Fal ane Shakbhajima Enzyme dwara Parirakshan. | R. R. Gajera , R.L.Rajput | |
| 4. | | Fal ane Shakbhajima Athavan dwara Parirakshan | R. R. Gajera , J.S.Doshi | |
| 5. | | Shakbhaji ane Falonu Freezing dwara Parirakshan | J. S. Doshi, R. R. Gajera | |
| 6. | | Vatana, Tuver ane Fansima Parirakshan | A. Ravani, R. R. Gajera , | |

| | | | | |
|-----|---|--|---|--|
| | | | S. Anadani | |
| 7. | | Juice, Squash and Cordial jevi Banavato dwara Falu ane Shakhajinu Parirakshan | R.L. Rajput, R. R. Gajera , N.V.Soni | |
| 8. | Advances in biological sciences and biotechnology | Forward and Reverse Genetic Approaches in Molecular Biology | Shridhar Ragi, Sheetal Patel, Gita R. Chaudhari | Integrated Publications New Delhi |
| 9. | | Unleashing Meiotic Crossover Frequency in Crops and Its Application in Plant Breeding | Gita R. Chaudhari , Shridhar Ragi | |
| 10. | Emerging Trends in Agriculture Sciences | Wheat Sowing Patterns | Gita R. Chaudhari | |
| 11. | Glimpses of Innovative Research in Life and Plant Sciences | Biosafety Issue in Genetic Engineering | Gita R. Chaudhari , Pooja P. Parmar, Shridhar Ragi | |
| 12. | Essentials of Plant Biotechnology | Production of Golden Rice using Genetic Engineering | Gita R. Chaudhari , Divya Chavda, Shridhar Ragi | AkiNik Publications |
| 13. | Advances in Agricultural Biotechnology | Protein Bio- Synthesis/Translation in Prokaryotes & Eukaryotes | Gita R. Chaudhari , Sheetal Patel, Shridhar Ragi, Krishna Prakash | |
| 14. | Pests and Disease Management of HORTICULTURAL CROPS (2023) | Diseases of Papaya and their Integrated Management | R. Vaghasiya H. N. Prajapati S. Banik N.K. Adhikary A. H. Barad | Biotech Books, New Delhi |
| 15. | Changing Face of Agriculture, Agri- Business, Agriculture Marketing and Organic Farming- Innovation and Strategies (Vol.-I) | Major Diseases of Citrus and Their Management | N. Jyothi H. N. Prajapati A. H. Barad C. S. Maiti N. K. Adhikary | Iterative International Publishers |

APPENDIX-1**Seminar / Symposia / Conference / Training organized 2022-23:**

| Name of events | Duration | Organize/Sponsored agency |
|---|--------------------------|--------------------------------------|
| 12 Week Certificate Course on "Data Analytics using Python" | 06-08-2022 to 22-10-2022 | ICAR, New Delhi and NHAEP-CASST, AAU |

APPENDIX-2**University teachers who have participated in Seminar/Symposia/Conference Training during the year 2022-23:**

| Sr. No. | Name of Teacher/ Scientist | Participated | Duration | |
|---------|---|--|------------|------------|
| | | | From | to |
| 1. | Dr. D. R. Paradva, Dr. B. L. Dudhat and Dr. C. H. Raval | One day Seminar "Prakuratic Kheti ma pak sanrakshan" Jointly Organized by PPAG and AAU, Anand at AAU, Anand | 05-04-2022 | 05-04-2022 |
| 2. | Dr. Prity Kumari and Dr. B. L. Dudhat | Two days Seminar "Satellite Farming" Webinar Organized by NAHEP and AAU, Anand at AAU, Anand | 09-05-2022 | 10-05-2022 |
| 3. | Dr. B. L. Dudhat | One day Seminar "Agro-Ecology and Biodiversity Conservation" Jointly Organized by Department of Seed Science, AAU, Anand and GEER at AAU, Anand | 31-05-2022 | 31-05-2022 |
| 4. | Dr. B. N. Satodiya | State level workshop " Bayat Pakoma Nursery Vyavasthapan" organized by College of Horticulture, AAU, Anand, Horticulture Department, Gandhionagar, Alumni Association COH, AAU Anand | 07-06-2022 | 07-06-2022 |
| 5. | Dr. B. L. Dudhat | Two days Seminar "Organic Farming – Production and Marketing Strategies for Rural Youth" Organized by MANAGE and NAU, Bharuch | 27-07-2022 | 29-07-2022 |
| 6. | Dr. Prity Kumari | Two Days National Seminar on "Modelling Techniques for Agricultural Applications" organized by the Center for Agricultural Market Intelligence under NAHEP-CAAST, AAU, ANAND in collaboration with the Department of Basic Sciences and Humanities, BACA, AAU, Anand | 05-08-2022 | 06-08-2022 |
| 7. | Dr. H. N. Prajapati | Fourth national conference on "Recent advances in Agriculture and allied sciences and pharmaceuticals and | 01-10-2022 | 01-10-2022 |

| | | | | |
|-----|--|---|------------|------------|
| | | environmental sciences at B.V. David foundation, Chennai | | |
| 8. | Dr. B. L. Dudhat, Dr. A. H. Barad, Dr. H. N. Prajapati, Mr. Urmil Chaudhari and Mr. P. A. Maheriya | 21 days “Role of Science and Technology in Sustainable Agriculture, Horticulture, Animal Husbandry and Allied Sector: A Retrospective and Prospective Approach” Organized by ICAR-IGFRI Palampur and NADCL J & K | 09-11-2022 | 29-11-2022 |
| 9. | Dr.B. N. Satodiya | National Conference on “ Natural Farming for Sustainable Agriculture and Prosperity organized by Sardar Krishinagar Dantiwada Agricultural University,Akshay Krishi Parivar, Kukma,Kachchh and Royal Association for Science-Led Socio Cultural Advancement,New Delhi | 11-11-2022 | 13-11-2022 |
| 10. | Dr. A. H. Barad | IPS west zone symposium on Current trends in plant disease detection, diagnosis and management at NAU, Navsari | 16-11-2022 | 17-11-2022 |
| 11. | Dr. C. H. Raval | ICAR sponsored 21 days winter school on “Water productivity enhancement in scarcity zones: Approaches and Applications at SDAU, S.K.Nagar (Gujarat) | 18.01.2023 | 07.02.2023 |
| 12. | Dr. A. H. Barad Dr. H. N. Prajapati and Dr. C. H. Raval | Statae level seminar on “ <i>Khetima Aatma nirbharta mate Prakrutik kheti</i> ” organized by GASS & Gujarat Vidhyapith, Ahemedabad, Gujarat | 02-02-2023 | 02-02-2023 |
| 13. | Dr. C. H. Raval | Two day workshop on value addition and marketing of millets by NAHEP , AAU, Anand (Gujarat) | 20.02.2023 | 21.02.2023 |
| 14. | Dr. A. H. Barad Dr. H. N. Prajapati and Dr. C. H. Raval | Statae level seminar on “ <i>Jaminjanya rog-jivatonu sanklit niyantran</i> ” organized by PPAG & JAu, Junagadh, Gujarat | 24-02-2023 | 24-02-2023 |

College of Horticulture
Anand Agricultural University, Anand
19TH ANNUAL REPORT OF THE YEAR 2022-23
Research Chapter 4
Performa: B

Name of Unit: College of Horticulture

Details of Seminar/ Symposia/ Conference/ Training attended by the faculties

| | | |
|----------|---|-----------|
| 1 | Total number of national seminar attended by total faculty in the year | 01 |
| 2 | Total number of international seminar attended by total faculty in the year | 00 |
| 3 | Total number of workshop & conferences attended by total faculty in the year | 03 |
| 4 | Total number of research papers presented by faculty at conferences in India & abroad during the year | 03 |
| 5 | Number of research contribution to Scopus till date by permanent faculty | 06 |
| 6 | Number of research contribution to Scopus by permanent faculty | 06 |

| | | |
|----------|---|-----------|
| 7 | Total number of <u>research publications</u> of <u>existing permanent faculty</u> in <u>national journals</u> | 19 |
|----------|---|-----------|

Details of Research Publications (National):

| Name of Faculty Member | Name of the Research Paper | Year of Publi. | Name of the Journal |
|-------------------------------|--|-----------------------|---|
| N. I. Shah | Effect of round the year pruning and fertilizer doses on physico-chemical parameters of phalsa cv. Local | 2022 | The Pharma Innovation Journal |
| | Influence of organic sources on growth and yield of sapota cultivar kalipatti | | Scientist |
| | Effect of pre harvest bunch covers on post-harvest quality of banana (<i>Musa paradisiaca</i> L.) cv. Grand Naine | | International Journal of Chemical Studies |
| | Influence of double pruning in a year and fertilizer application time on yield and quality parameters of phalsa (<i>Grewia asiatica</i> L.) cv. Local | | Current Journal of Applied Science and Technology |
| | Effect of Time and Number of Pruning on Growth, Flowering and Fruitng Behaviour of Phalsa (<i>Grewia asiatica</i> L.) cv. Local | | |
| | Standardization of 'Bhagwa' Pomegranate (<i>Punica granatum</i> L) Nectar | | |

| | | | |
|--|--|----------------------------|---|
| H. N. Prajapati and A. H. Barad | Bio-efficacy of agrochemicals against bacterial canker (<i>Xanthomonas citri</i> pv. <i>citri</i>) in citrus. | 2022 | The Pharma Innovation Journal |
| A. H. Barad | Report of <i>Anisopteromalus calandrae</i> (Howard) (Hymenoptera: Pteromalidae) as a potential biocontrol agent of cigarette beetle, <i>Lasioderma serricorne</i> (Fabricius) (Coleoptera: Anobiidae) infesting tobacco seeds under storage condition from Gujarat, India. | 2022 | Insect Environment |
| | Effectiveness of biopesticides against <i>Spodoptera litura</i> infesting groundnut under field condition | | The Pharma Innovation Journal |
| | Population dynamics of mustard aphid, <i>Lipaphis erysimi</i> Kaltendbach infesting radish under middle Gujarat condition. | | |
| Prity Kumari | An artificial neural network approach for predicting area, production and productivity of Banana in Gujarat | 2022 | The Pharma Innovation Journal |
| | Forecasting area, production and productivity of mango in Gujarat by using an artificial neural network model | | |
| | Prediction of area, production and productivity of total fruit crops in Gujarat | | |
| | Evaluation of linear statistical models for predicting area, production and productivity of Sapota in Gujarat | | |
| | Comparison of Statistical Models for Prediction Area, Production and Yield of Citrus in Gujarat | | Biological Forum – An International Journal |
| C. H. Raval | Response of integrated nutrient management on irrigated wheat | 2022 | International Journal of Plant and Soil Science |
| M. R. Parmar | Effect of supercritical process parameters on phenolic compound | 2022 | Journal of Scientific Research and Reports |
| | Effect of traydrying conditions on the bioactive compound of the papaya leave | | Current Journal of Applied Science and Technology |
| B. L. Dudhat | Comparative Economics of Organic and Inorganic Turmeric Farmers In Middle Gujarat, | 2022 | International Journal of Agriculture Sciences |
| 8. | Total number of <u>research publications</u> of <u>existing permanent faculty</u> in <u>international</u> journals: | | 04 |
| Details of Research Publications (International): | | | |
| Name of Faculty Member | Name of Faculty Member | Year of Publication | Name of the Journal |

| | | | |
|----------------------------|---|------|-----------------------|
| Geeta. R. Chaudhari | Graphical and numerical analysis of the components of gene effect on the quality traits of bread wheat (<i>Triticum aestivum</i> L.) under varying environmental conditions | 2022 | Agriculture |
| | Use of graphical and numerical approaches for diallel analysis of grain yield and its attributes in bread wheat (<i>Triticum aestivum</i> L.) under varying environmental conditions | 2023 | |
| | Combining ability, heterosis and performance of grain yield and content of Fe, Zn and protein in bread wheat under normal and late sowing conditions | | PeerJ |
| Prity Kumari | Factors influencing the knowledge level of fish consumers: An Explanatory Analysis | 2023 | Sustainability |
| 9. | Total number of books published by existing permanent faculty in the year | | 02 |

| Number and value of research projects undertaken by the University with various organization in the year | | |
|---|---|-----------------------|
| Sr. No. | Research Projects | Number / Value |
| 1 | Number of research projects | NIL |
| 2 | Total value of research projects (Rs. Lakhs) | |
| Sr. No. | Consultancy Projects | Number / Value |
| 1 | Number of consultancy projects | 3 |
| 2 | Total value of consultancy projects (Rs. Lakhs) | 14.87 |
| Details about Patent and Intellectual Property Rights (IPRs) filed by the University | | |
| Sr. No. | Patents | Number |
| 1 | No. of Patents Filed | NIL |
| 2 | No. of Patents Published | |
| 3 | No. of Patents Granted | |
| 4 | No. of Patents Licensed | |
| 5 | Intellectual Property Rights (IPRs) | |
| 6 | Total earning from Patents (in Rupees) | |
| Awards / Fellowship | | |
| 1 | Number of prestigious national & international awards received by the permanent faculty | NIL |
| 2 | Total number of permanent faculties received Research awards | |
| 3 | Total number of permanent faculties awarded Emeritus Fellowship | |