



RESEARCH REPORT



Research Chapter -4 2021-22

COLLEGE OF HORTICULTURE
ANAND AGRICULTURAL
UNIVERSITY

College of Horticulture
Anand Agricultural University, Anand
18TH ANNUAL REPORT OF THE YEAR 2021-22
Research Chapter 4
Performa: A (Part I)

1. Importance of Research Centre / Department along with work carried out during 2021- 22 (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 2021-22 following experiments were conducted under different departments of College of Horticulture:

Fruit Science Dept.:

- i. Effect of different organic manures and PGPR consortium on growth, yield and quality of sapota (*Manilkara achras L.*) cv. Kallipatti
- ii. 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. Evaluation of vegetables during different seasons under different shade net conditions
- ii. Effect of integrated nutrient management on growth, yield and quality of onion

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*)

Post Harvest Technology Dept.:

- i. Development of Production Technology for Bottle Gourd based Carbonated Beverage
- ii. Standardization of Drying Technology for Guava leaves Powder
- iii. Standardization of Drying Technology for Lime leaves Powder

Plant Protection Dept.:

- i. Bio-efficacy of botanicals against powdery mildew of fenugreek.
- ii. Evaluation of insecticides against aphid infesting in chrysanthemum

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

Natural Resource Management Dept.:

- i. Nutrient management through organics in broccoli
- ii. Evaluation of nutrient management modules in okra + cowpea - cabbage + fenugreek intercropping system
- iii. 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 Fruit Crops in Gujarat
- ii. Growth in Area, Production and Productivity of Vegetable Crops in Gujarat

Basic Science Dept.:

- i. Comparison of different statistical models to forecast the area, production and productivity of major fruit crops of Gujarat
 - ii. Detection of late blight and early blight diseases of potato using deep learning
2. Research recommendations with photographs (2021-22):

I. Department of Fruit Science:

Effect of different organic manures and PGPR consortium on growth, yield and quality of sapota (Manilkara achras L.) cv. Kallipatti

Recommendation for Farmers:

The farmers of middle Gujarat agro climate zone growing sapota organically are recommended to apply basal dose of 110 kg FYM per tree in month of June and 60 kg FYM per tree in the month of October for maintaining soil health with higher yield and net return.

Or

The farmers of middle Gujarat agro climate zone growing sapota organically are recommended to apply 50 kg FYM and 27 kg vermicompost per tree in June and 27 kg vermicompost per tree in the month of October for maintaining soil health with higher yield and higher net return.



Overview of experiment

II. Department of NRMH:

Nutrient management through organics in broccoli (*Brassica oleracea var. italica* L.)

Recommendation for Farmer:

The farmers of middle Gujarat agro-climatic zone growing broccoli cv. Palam Shamrudhi organically are recommended to give 90 kg N/ha through vermicompost (6 t/ha) or castor cake (2 t/ha) at the time of transplanting and apply 1 litre Bio-NP / hectare after 15 days of transplanting with irrigation water for getting higher yield and net return.



Overview of experiment

III. Department of Plant Protection:

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

Recommendation for farmers:

Farmers of Gujarat growing coriander are recommended to treat seeds with imidacloprid 600 FS, 7.5 ml/kg seeds using equal quantity of water and foliar spray of *Lecanicillium lecanii* 1.15 % WP (40 g/ 10 litres water) first at initiation of aphid and second after 10 days of first spray for effective management of aphid.



Seed treatment of imidacloprid 600 FS and foliar spray of Lecanicillium lecanii



Control

b. Evaluation of organic inputs against major diseases of turmeric

Recommendation for Farmers:

The farmers of Gujarat cultivating turmeric are recommended to dip the rhizomes in Beejamrit, 50 litre/100 kg rhizomes for 2 hrs followed by five sprays of liquid Jivamrit, 10% (1 litre in 10 litre of water) OR cow urine, 10% (1 litre in 10 litre of water) for leaf blotch and cow urine, 10% (1 litre in 10 litre of water) for leaf spot/anthracnose along with sticker, 0.1% (10 ml in 10 litre of water) first at initiation of disease and subsequent four sprays at 10 days interval for management of foliar (leaf blotch and leaf spot) diseases in turmeric.



T₃-Rhizome dips treatment with Beejamrit @ 50 liter/ 100 kg rhizomes for 2 hrs. + foliar spray of cow urine @ 10%



T₁₀-Untreated check

IV. Department of Basic Science:

Comparison of different statistical models to forecast the area, production and productivity of major fruit crops in Gujarat (Community)

Recommendation for scientific community:

It is recommended that ARCH/GARCH model can be used to describe the pattern of area, production and productivity of banana crop in Gujarat as the data shows nonlinearity. ARIMA model can be used to capture area and productivity of Mango due to less fluctuations in the data, while ARCH model can be used for Mango production due to possessing non-linear trends in the data. ANN model can be used to describe the pattern of area, production and productivity of Sapota and Citrus crop in Gujarat because the data possess nonlinear pattern as well as outliers.

3. Output during 2021-22 [No. of trials allotted (new / ongoing) and conducted successfully]

No. of ongoing trails : 15

No. of new trails : 04

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 (2021-22)

Planting material	Target (Nos.)	Production (Nos.)	Selling (Nos.)
Rooted cuttings, Grafts, Seedlings, Potted Plants etc	90950	134910	102270

Sr.No.	Flowers and Ornamental plants (Rooted cuttings, Grafts, Seedlings, Potted Plants etc)	Target (2021-22) (Nos.)	Selling (2021-22) (Nos.)
1	Rose (Deshi)	5000	3940
2	Mogra	2500	2165
3	Ixora	1000	1054
4	Bogain vellia	2000	1710
5	Chrysanthemum	500	3788
6	Hibiscus	2500	2798
7	Palm	100	116
8	Climbers	1500	1920
9	Seasonal flower plants	2000	1218
10	Ornamental plants	25000	31880
11	Forest trees	5000	4251

12	Ornamental potted plants (big size earthan pot)	500	631
13	Ornamental potted plants (medium size earthan pot)	250	263
14	Ornamental potted plants (small size earthan pot)	500	582
15	Hanging Basket	100	36
16	Ornamental plants (large Poly bag)	500	268
17	Chrysanthemum seedling	5000	15000
18	Marigold seedling	15000	7050
19	Gaillardia seedling	2000	2375
20	Other seasonal flower seedlings	20000	21225
	Total ornamental plants (Nos.)	90950	102270

8. Project title and financial outlay under projects of:

Budget: 12987-16

Year	Recurring			Non- Recurring		
	Sanction grant	Expenditure	Balance	Sanction grant	Expenditure	Balance
2021-22	45,00,000/-	44,97,459/-	2541/-	2,22,000/-	2,21,307/-	693/-

Budget: 12712-02

Year	Recurring			Non- Recurring		
	Sanction grant	Expenditure	Balance	Sanction grant	Expenditure	Balance
2021-22	14,00,000/-	13,98,696/-	1304/-	53,000/-	52,050/-	950/-

9. Awards / Honors etc. information with photographs: NIL

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

Performa: A (Part II)

11. List of Research paper published during the year 2021-22:

No. of research papers published in scientific journal 2021-22	International Journal	00
	National Journal	12

Research Paper list:

i. International journal: NIL

ii. National journal:

1. Chaudhari M. N., **Satodiya B. N.** and Patel A. P. (2022) Effect of seed storage period and growth regulators on seed germination, growth and survival of jackfruit seedling. *The Pharma Innovation Journal*.11(3):2122-2125.
2. **Dudhat B.L.** and Vyas D.K. (2021). Economics of Solar Pump Irrigation System In Dahod District, Gujarat-A Pilot Study, *International Journal of Agriculture Sciences* 13(15), 10769-10771.
3. **Kumari Prity** and M. Satish Kumar (2021). Forecasting area, production and productivity of citrus in Gujarat-An application of artificial neural network. *International journal of Agriculture Sciences*, 13(10), 10913-10916.
4. M. Satish Kumar **and Kumari Prity** (2021). Artificial neural network model for predicting area, production and productivity of sapota in Gujarat. *International journal of Agriculture Sciences*, 13(10), 10909-10912.
5. **Paradva D. R.**, Patel M. J. and Kacha. H. L.(2021). Response of Quality Attributes of Banana (*Musa paradisiaca* L.) cv. Willium to Post Shooting Spray and Bunch Covering Material. *Current Journal of Applied Science and Technology*, 40(38): 38-45
6. **Paradva D. R.**, Patel M. J. and Kacha. H. L.(2021).Effect of Post Shooting Spray and Covering Material on Banana Bunch on its Yield Attributes and yield. *Journal of AgriSearch*, 8 (4): 364-369
7. **Paradva D. R.**, Patel M. J. and Kacha. H. L.(2021).Influence of Post Shooting Spray and Bunch Bagging on Per Day Productivity and Fruit Quality of Banana (*Musa paradisiaca* L.). *Journal of Scientific Research & Reports*, 27(11): 129-136,
8. **Parmar, A. B.** and Patel, P. C. (2021). Impact of training on adoption level of rose growers regarding rose production technology. *Gujarat Journal of Extension Education*, 32 (2), 11-16.

9. **Parmar, A. B.**, Patel, P. C. & Vaidya, A.C. (2021). Impact of training on knowledge level of rose growers about rose production technology. *Gujarat Journal of Extension Education*, 32 (1), 109-115.
10. Patel N., Thumar R. K., Mohapatra A., **Barad A. H.** and Parmar K. D. (2021). Bio-Efficacy of different bio pesticides evaluated against aphids infesting coriander. *International Journal of Current Microbiology and Applied Science*, 10(3), 2169-2178.
11. Shiyal V., Patel H. K., Rathod P. H., Patel P. M., **Raval C. H.** and Patel A. P. (2021). Integrated Nutrient Management on Fodder Dual Purpose Oat (*Avena sativa* L.). *Journal of Plant & Soil Science*. 33(16): 80-86.
12. Yadav M., Jadav N. J., Kumar Dileep, **Raval C. H.**, Chaudhari D. and Chaudhary N. (2021). Effect of Different Nutrient Management Practices on Growth, Yield Attributes and Yield of Transplanted Pearl Millet (*Pennisetum glaucum* L.) *International Journal of Plant & Soil Science* 33(22): 260-266.

12. List of research paper/abstract presented at seminar / symposium / conference etc. for 2021-22:

In International level seminar/symposium/conference	00
In National level seminar/symposium/conference	01

Paper/abstract list:

I. International journal: NIL

II. National journal:

- a. **Kumari Prity**, Parmar D. J. and M. Satish Kumar (2021). Time series modelling and forecasting of area, production and productivity of fruit crops in Gujarat. A paper was presented (orally) in the **Regional Seminar** on Agricultural Market Intelligence: Prospects & Challenges organized by NAHEP-CAAST AAU in collaboration with Indian Society of Agricultural Economics, Mumbai, during 28-29th Oct., 2021.

i. Popular articles published for the year 2021-22:

1. Acharya M. F., Kannara S. G. and **Barad A. H.** (2021). “*Dungli ane Lasan ni Jivato*” *Pak Sarakshan*. Director of Extension education, AAU, Ananad,2021 (Revised): 172-174.
2. **Barad A. H.** (2021). “*Kel ma jivat ane tenu niyantran*” *Babayan vikash parishad.*, pp:73-76.

3. **Barad A. H.** and Prajapati H. N. (2021). “ *Falpakkoma jivato nu sanklit vyasthapan*” *Fal pakko*. Director of Extension Education, AAU, Ananad, pp: 70-80.
4. Bhatt A. H., **Satodiya B. N.** and Sitapara H.H. (2021). *Kel mate havaman ane jamin. Gujarat Babayat Vikash Parishad*. Pp:6.
5. Chavdhari R.M. , **Barad A. H.** and Thorat S.S. (2022). *Judi judi khet padhatio dvara jivat niyantran.. Krushi Govidya*, 74 (10):27-31.
6. Chavdhari R.M., Thorat S.S. and **Barad A. H.** (2021). Apomixis: An interesting developmental phenomenon. *Reders shelf*, 18 (2):51-55.
7. **Gajera R. R.** (2021). Fal ane Shakhajima Gunavatattane Asar Karta Paribalo Upar Mulyavardhanni Asar ane Tena Upayo, *Krusha Govidya*, 74 (03):44-47.
8. **Gajera R. R.** (2021). Kel Pakma Processing Ane Mulyavardhan, *Krusha Govidya*, 74 (07):36-39.
9. **Gajera R. R.** (2021). Mukhya Masala Pak Marchama Sukavani Dwara Mulyavardhan. *Krishi Jivan*, 53 (11), pp:32-34.
10. **Gajera R. R.** (2021). Mulyavardhani Asar ane tena Upayo; *Gujarat Bagayat Vikas*, 83: pp 67-70.
11. Ghetiya L. V., **Barad A. H.** and Patel H.C. (2021). “ *Limbu ni Jivato*” *Pak Sarakshan*. Director of Extension education, AAU, Ananad, pp: 220-223.
12. H.C.Patel and **Parmar A. B.** (2021). “*Kel ni vaigyanik kheti*”, *Falpako*, pp:125-132.
13. Kotecha A.V., Patel H.C. and **Parmar A.B.** (2021). “*Rayan ni vaigyanik kheti*”, *Falpako*: 2021, pp:253-255.
14. Paradv D. R., Satidiya, B. N and Lodaya, B. P. (2021) *Kelma aachhadan ane bag chadhavavi, Gujarat bagayat Vikash*, pp:44-46.
15. **Parmar A. B.** and Patel H.C. (2021). “*Papayani vaigyanik kheti padhdhati*” *Falpako*: pp: 147-153.
16. **Parmar A. B.**, Masu M.M., Patel H.C. and Lodaya B. (2021). “*Borni vaigyanik kheti*” *Falpako*: pp: 182-191.
17. Patel H. C. and **Parmar A. B.** (2021). “*Dadam ni vaigyanik kheti*”, *Falpako*: pp: 168-174.
18. Patel H.C. and **Parmar A. B.** (2021). “*Falpakonu mahatva*” *Falpako*: pp:09-12.

19. Patel H.C., Shah N.I., and Parmar A. B.. (2021). “Falpakoma piyat vyavastha”, *Falpako*: pp: 29-36.
20. Patel H.C., Shah N.I., Parmar A. B. and Amaliya N. (2021). “Falpakoma bahar ni mavajat”, *Falpako*: pp: 90-92.
21. Patel H.C. and Parmar A. B. (2021). “Mosambi ni vaigyanik kheti”, *Falpako*: pp: 239-241.
22. Prajapati H. N. (2021). “ Kel ma rog ane tenu niyantran”, *Babayat vikash parishad*, pp:73-76.
23. Prajapati H. N. and Barad A. H. (2021). “ Falpakkoma rog niyantran” *Fal pakko*. Director of Extension Education, AAU, Anand, pp:61-69.
24. Satodiya B. N., Bhatt A. H. and Raval C.H. (2021). Kelma Snakalit Posan Vyavastha. Gujarat Babayat Vikash Parishad. Pp:22.
25. Shah N.I., Parekh D.D. and Parmar A.B. (2021). “Safed chandan(Sukhad) ni kheti padhdhati” , *Aushadhiya ane sugandhit pako ni vaigyanik kheti*.,pp: 253-255.
26. Thorat S.S., Barad A. H. and Chavdhari R. M. (2021). Importance of immature stage of insect in agriculture. *Reders shelf*, 18 (1):22-25.

13. Books / Book chapters published (2021-2022):

i. Books/ Booklets:

Sr. No.	Name of Book	Name of Authors	Name of Publisher
1.	Book on “Falpako” (2021) (EXT-5:42:2021:2000, PP: 01-272)	H.C.Patel,N.I.Shah, A.B.Parmar ,P.C.Patel And S. A. Sipai	Director of Extension Education, Anand Agricultural University, Anand.

ii. Book chapter:

Sr. No.	Name of Book	Book Chapter	Name of Authors	Name of Publisher
1	Plant Health management: An insight of conventional and modern approaches (2021)	Citrus canker: An emerging threat to citrus cultivation	Y.M. Suthar P.B. Patel H.N. Prajapati A.H. Barad	Nayan Kishor Adhikary Immortal publications.
2	Plant Health management: An insight of conventional and modern approaches (2021)	Managing Plant viruses through molecular methods	P.B. Patel Y.M. Suthar H.N. Prajapati R. G. Parmar	Immortal publications.

3	Current Topics in Agricultural Sciences (Dec. 2021), Vol 5, Pp 68-78	Forecasting of Losses Due to Pod Borer, Pod Fly and Yield of Pigeonpea (Cajanus cajan) for Central Zone (CZ) of India by Using Artificial Neural Network	Prity Kumari , G. C. Mishra and C. P. Srivastava	B. P. International
4.	Current Topics in Agricultural Sciences, Vol 5, Pp 134-139	Forecasting of Early Maturing Pigeonpea (Cajanus cajan) Yield for Central Zone (CZ) of India	Prity Kumari , G. C. Mishra and C. P. Srivastava	B. P. International

APPENDIX-1

Seminar / Symposia / Conference / Training organized 2020-21:

Name of events	Duration	Organize/Sponsored agency
5 days online training on “Smart Farming: Application of AI, Robotics, IoT & Cloud Computing”	28-02-2022 to 04-03-2022	ICAR, New Delhi and NHAEP-CASST, AAU

APPENDIX-2

University teachers who have participated in Seminar/Symposia/Conference Training during the year 2020-21:

Sr. No.	Name of Teacher/ Scientist	Participated	Duration	
			From	to
1.	Dr. Prity Kumari	Ten days FDP on Data science for all organized by EICT IIT Roorkee, India	12-04-2021	23-04-2021
2.	Dr.B. N. Satodiya	One day international webinar on “Urban Farming- Advances in Hydroponic Cultivation of Floriculture Crops” organized by Dept. of Botany, Sri Venkateswara, University, Tirupati, AP	27-04-2021	27-04-2021
3.	Dr. Prity Kumari	Two Week Online Short term Course on Mobile Application Development for Agricultural World organized by IDP, NAHEP, G. B. P. U. A. & T., Pantnagar, Uttarakhand, India	20-05-2021	02-06-2021
4.	Dr. C. H. Raval	1 day webinar on “Health of mother earth-Conservation of Ecosystem and biodiversity for sustainable development” organized by All India women conference & JAU, Junagadh	04-06-2021	04-06-2021

5.	Dr. Prity Kumari	Three-Week National Online Certificate Course on Google Earth Engine with Python for Climate Smart Agriculture organized by CAAST, NAHEP, MPKV Rahuri, Maharashtra, India	07-06-2021	27-06-2021
6.	Dr. A. H. Barad Dr. A. B. Parmar Dr. D. R. Paravda Dr. H.N. Prajapati	State level webinar on “Madhmakhi Palan” organized by Dept.of Entomology,BACA,AAU,Anand and NAHEP-CAAST AAU, Anand	19-06-2021	20-06-2021
7.	Dr. Prity Kumari	One day webinar on Statistics for food Security & Promoting Sustainable Agriculture organized by Dept. of Ag. Statistics, N. M. College of Agriculture, NAU Navsari, Gujarat	29-06-2021	29-06-2021
8.	Dr. Prity Kumari	One day webinar on “Rural Financial Inclusion and Farmer Producer Organizations in India: Status and Challenges” organized by Agro-Economic Research Centre (Ministry of Agriculture & Farmers Welfare, GOI), SPU, V.V. Nagar, Gujarat	01-07-2021	01-07-2021
9.	Dr.B. N. Satodiya	2 days webinar on “Quality production of pomegranate in arid region during covid-19” organized by AICRP on Arid Zone Fruit Crops,ARS, Bikaner	02-07-2021	03-07-2021
10.	Dr. A. B. Parmar	National webinar on “Adolescent and Women Health Issues” organized by IQAC Initiative, Women Empowerment Cell,P.C.Jabin Science College, Affiliated to karnatak University, Dharwad.	05-07-2021	05-07-2021
11.	Dr. Prity Kumari	Two Week Online FDP on Digital Tools for Writing, Authoring and Reviewing Manuscripts organized by EICT IIT Roorkee, jointly organized with IIT Guwahati, NIT Patna, MNIT Jaipur, IIT Kanpur, IIITDM Jabalpur. India	12-07-2021	23-07-2021
12.	Dr. A. H. Barad Dr. C. H. Raval	International webinar on Role of Legumes and pulses in sustainable cropping system of Hot arid zone organized by NAU & NAHEP	17-7-2021	17-7-2021
13.	Dr.B. N. Satodiya	2 days webinar on “Canopy Architecture Management in Perennial Commercial Horticultural Crops” organized by College of Horticulture, Bidar (University of Horticultural Sciences, Bagalkot, Karnataka)	19-7-2021	20-7-2021
14.	Dr. A. H. Barad Dr. D. R. Paravda Dr. C. H. Raval	1 day webinar on “ <i>Polyhouse na pakoma rog- jivat vyavashthapan</i> ” organized by BACA & NAHEP	23-7-2021	23-7-2021

	Dr. H.N. Prajapati			
15.	Dr. D. R. Paravda	Webinar on Recent Advances in Spices Production, Quality and Exports organized by Directorate of Research, Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan	27-07-21	27-07-21
16.	Dr. A. H. Barad Dr. C. H. Raval Dr. H.N. Prajapati	1 day webinar on “ <i>Mass awareness campaign on organic farming</i> ” organized by IIFSR (UP) and SDAU	05-08-2021	05-08-2021
17.	Dr. A. B. Parmar	Webinar on “Analysis of pesticide residues in food and agricultural commodities” organized by AINP on Pesticide Residues, ICAR, Unit-9, AAU, Anand and NAHEP-CAAST AAU, Anand	27-08-2021	27-08-2021
18.	Dr. Prity Kumari	Ten days FDP on Deep Learning Computer Vision in Image & Video Analysis organized by Edulabs in association with IIT Hyderabad, India	08-10-2021	23-10-2021
19.	Dr. R. R. Gajera	Online National Workshop on Intellectual Property Rights & Innovations conducted by IPR cell, Director of Research, Anand Agricultural University, Anand	27-10-2021	27-10-2021
20.	Dr. Prity Kumari	Ten days FDP on Internet of Things (IoT) organized by Edulabs in association with IIT Hyderabad, India	22-11-2021	27-11-2021
21.	Dr. C. H. Raval	5th IAC of Indian Society of Agronomy organized by PJTSAU, Hyderabad, Telangana.	23-11-2021	27-11-2021
22.	Dr. D. R. Paravda	Webinar on Mango Producing is not enough! Wakeup Call on Postharvest Handling, Processing Technology, and Value Chain Management” organized by National Institute of Food Technology Entrepreneurship & Management, Sonapat, Haryana	07-12-21	07-12-21
23.	Dr. A. H. Barad Dr. H.N. Prajapati	Lecture on “Impact programmes and overall view of agriculture system in the USA”. organized by BACA, AAU, Anand	18-12-2021	18-12-2021
24.	Dr. A. H. Barad	State level seminar on “Maintenance of the quality and safety of Horticultural and Food crops through biological control of pests and diseases” organized by PPAG & NAU Navsari, Gujarat	30-12-2021	30-12-2021

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	08
4	Total number of research papers presented by faculty at conferences in India & abroad during the year	01
5	Number of research contribution to Scopus till date by permanent faculty	02
6	Number of research contribution to Scopus by permanent faculty	00
7	Total number of <u>research publications</u> of <u>existing permanent faculty</u> in <u>national journals</u>	12

Details of Research Publications (National):

Name of Faculty Member	Name of the Research Paper	Year of Publication	Name of the Journal
A. B. Parmar	Impact of training on adoption level of rose growers regarding rose production technology	2021	Gujarat Journal of Extension Education
	Impact of training on knowledge level of rose growers about rose production technology	2021	
Paradva D. R.	Response of Quality Attributes of Banana (<i>Musa paradisiaca</i> L.) cv. Willium to Post Shooting Spray and Bunch Covering Material	2021	Current Journal of Applied Science and Technology
	Effect of Post Shooting Spray and Covering Material on Banana Bunch on its Yield Attributes and yield	2021	Journal of AgriSearch
	Influence of Post Shooting Spray and Bunch Bagging on Per Day Productivity and Fruit Quality of Banana (<i>Musa paradisiaca</i> L.)	2021	Journal of Scientific Research & Reports
C. H. Raval	Integrated Nutrient Management on Fodder Dual Purpose Oat (<i>Avena sativa</i> L.)	2021	Journal of Plant & Soil Science
	Effect of Different Nutrient Management Practices on Growth, Yield Attributes and Yield of Transplanted Pearl Millet (<i>Pennisetum glaucum</i> L.)	2021	International Journal of Plant & Soil Science

A. H. Barad	Bio-Efficacy of different bio pesticides evaluated against aphids infesting coriander	2021	International Journal of Current Microbiology and Applied Science
B. N. Satodiya	Effect of seed storage period and growth regulators on seed germination, growth and survival of jackfruit seedling	2022	The Pharma Innovation Journal
B. L. Dudhat	Economics of Solar Pump Irrigation System In Dahod District, Gujarat-A Pilot Study	2021	International Journal of Agriculture Sciences
Prity Kumari	Forecasting area, production and productivity of citrus in Gujarat-An application of artificial neural network	2021	International Journal of Agriculture Sciences
	Artificial neural network model for predicting area, production and productivity of sapota in Gujarat		
8.	Total number of <u>research publications</u> of <u>existing permanent faculty</u> in <u>international journals</u> :		00
9.	Total number of books published by existing permanent faculty in the year		01

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	NIL
2	Total value of consultancy projects (Rs. Lakhs)	

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	

