



CENTRE OF ADVANCED FACULTY TRAINING IN HORTICULTURE (FRUITS)
DEPARTMENT OF HORTICULTURE,
MAHATMA PHULE KRISHI VIDYAPEETH,
RAHURI, AHMEDNAGAR- 413 722

The Department of Horticulture activities started at the Main Central Campus, in 1972-73. The significant contribution made by Department of Horticulture in respect of education, research and extension from in separation this department in last five decades is summarized in the abridged form hereunder. The more than 120 Technical Staff starts from Technical Assistant to Head of the department are working in this department at central campus and various locations of MPKV., Rahuri.

I. EDUCATION

Department of Horticulture imparts at Central Campus the post-graduate teaching to M.Sc. and Ph.D. students under Vth Dean's recommended semester system. This department have three well equipped laboratories, one each for Fruit Science, Vegetable Science and Post Harvest Technology, one Seminar Hall, three Lecture Hall and one Tissue Culture Laboratory. At present 22 M.Sc. and 08 Ph.D. students are on roll every year. Till date 560 M. Sc. and 107 Ph. D. students have completed their degrees. College of Horticulture, Pune with intake capacity of 32 students and Hi-tech Floriculture and Vegetable Project, Pune. Department is imparting Experiential Learning Programme at College of Agriculture, Pune, Dhule, Kolhapur, Karad, Nandurbar and Mukatinagar. Various courses (under graduate-31 & post graduate-34) are taught by this Department. In this department 232 ha land is available. Out of this 150 ha area is under various fruit crops i.e. mango, sapota, fig, custard apple, ber, aonla, jamun, pomegranate, guava, khagzi lime, sweet orange, grapes germplasm of each and every fruit crop. This department is conducting research trials on meadow orchard and high density planting in guava. Nursery of this department propagate 8-10 lakh planting material per year and provided more than 1,86,20,565 planting material to the farmers and other institutes till today. Mali Training programme regularly conducted by Department of Horticulture to strengthen the manpower at Central Campus, Rahuri and at Regional Fruit Research Station, Ganeshkhind, Pune. Total eight AICRP and sixteen state funded schemes on different Horticultural Crops are being implemented under this department where the major research work on production technology, post harvest management and processing is in progress. As well as various product testing trials on plant growth regulators, weedicides, fungicides and pesticides are also conducted in this department. The research farm of these various schemes are being utilized the for post graduate research of students.

II. RESEARCH

The research activities are carried out in four major aspects viz., Fruit Science, Vegetable Science, Floriculture, Landscape Architecture and Post Harvest Technology at various research schemes.

There are eight ICAR funded schemes and sixteen state funded schemes.

Details of schemes are listed below

ICAR

- AICRP on Fruits, MPKV, Rahuri
- AICRP on Arid Zone Fruits, MPKV, Rahuri
- AICRP on Vegetable Crops, MPKV, Rahuri.
- AICRP on Medicinal Aromatic Plants and Betelvine, MPKV, Rahuri
- AICRP on Banana, Jalgaon
- AICRP on Floriculture, Ganeshkhind, Pune
- AICRP on Potato, Ganeshkhind, Pune
- AICRP on Custard Apple and Fig, Jadhavwadi, Dist Pune

State

- Tomato Improvement Project, MPKV, Rahuri
- Scheme for Research on Onion Storage, MPKV, Rahuri
- Instructional Farm and Nursery (G-1), MPKV, Rahuri
- Brining Labour on Regular Establishment (BLG), MPKV, Rahuri
- Pomegranate Research and Technology Transfer Centre, Lakhmapur, Dist. Nasik
- Onion Research Station, Pimpalgaon Baswant, Dist. Nasik
- Grape Research Station, Pimpalgaon Baswant, Dist. Nasik
- Regional Fruit Research Station, Ganeshkhind, Pune
- Vegetable Research Scheme, Ganeshkhind, Pune
- Mali Training Centre, Ganeshkhind, Pune
- Zonal Agriculture, Research, Ganeshkhind, Pune
- Papaya Breeding Scheme, Ganeshkhind, Pune
- National Agricultural Research Project, Pune, Kolhapur, Solapur and Igatapuri
- National Agricultural Research Project, Mahabaleshwar
- Turmeric Research Station, Kasabe Digraj, Dist. Sangali
- Pomegranate Research and Technology Transfer Centre, Lakhmapur, Dist. Nasik

The facilities of above schemes as well as expertise from other departments like Genetics and Plant Breeding, Plant Pathology, Entomology, Soil Science and Agril. Chemistry, Economics, Biochemistry and Agriculture Engineering are utilized for training in Centre of Advanced Faculty Training.

Department of Horticulture since inception has developed 93 new varieties/hybrids and 532 agro-techniques of different fruit, vegetable, flower and spices crops for enhancing

productivity and production of horticultural crops.

Objectives of CAFT

1. To strengthen the PG teaching and research activities by providing infrastructure facilities and scientific equipments.
2. To become national leader to elevate the standard of horticultural education in fruit crops.
3. To provide leadership at the national level in development of course curriculum design and development of the instructional material.
4. To develop human resources by imparting training to the teachers and scientists of various SAU's and ICAR institutes at national level on scientific advancement in fruit crops including hi-tech horticulture.
5. To organize national level training programmes for improving the competence of the faculty.
6. To bring out scientific (research)/technical publications from the CAFT funded project.
7. To strengthen the departmental library by purchasing new quality books.

Expert Faculties

The faculties from Department of Horticulture, MPKV, Rahuri working in Post Graduate Institute and various Under Graduate colleges as well as working in different research projects were utilized for CAFT Programme.

Faculty Strength/Expertise in Horticulture at Central Campus MPKV, Rahuri (as on 31.01.2020)

Sr. No.	Name	Designation	Specialization
1.	Dr. S.A. Ranpise	Head, Department of Horticulture, MPKV, Rahuri	Fruit Science
2.	Dr. B. B. Dhakare	Professor, Department of Horticulture, MPKV, Rahuri	Vegetable Science
3.	Vacant	Professor, Department of Horticulture, MPKV, Rahuri	Fruit Science
4.	Dr. S. S. Kulkarni	Horticulturist, AICRP on AZF, MPKV, Rahuri	Fruit Science
5.	Dr. V.K. Garande	Horticulturist, AICRP on Fruits, MPKV, Rahuri	Fruit Science
6..	Dr. S. B. Jadhav	Horticulturist, AICRP on Fruits, MPKV, Rahuri	Fruit Science
7.	Dr. (Mrs.) S.S. Dighe	Assistant Professor of Horticulture, MPKV, Rahuri	Fruit Science
8..	Prof. P. S. Pawar	Assistant Professor of Horticulture, MPKV, Rahuri	Fruit Science

Sr. No.	Name	Designation	Specialization
9.	Prof. A. L. Palande	Assistant Professor of Horticulture, MPKV, Rahuri	Fruit Science
10.	Prof. M. H. Gawade	Assistant Professor of Horticulture, MPKV, Rahuri	Fruit Science
11.	Prof. (Mrs.) S. B. Deore	Assistant Professor of Horticulture, MPKV, Rahuri	Fruit Science
12.	Dr. P. D. Dalve	Assistant Professor of Horticulture, MPKV, Rahuri	Fruit Science
13.	Dr. M. N. Bhalekar	Sr. Vegetable Breeder, AICRP on Vegetables, MPKV, Rahuri	Vegetable Science
14.	Dr. V. R. Joshi	Onion Breeder, MPKV, Rahuri	Vegetable Science
15.	Dr. K. G. Kadam	Associate Professor of Horticulture, MPKV, Rahuri	Vegetable Science
16.	Dr. D. B. Kshirsagar	Associate Professor of Horticulture, MPKV, Rahuri	Vegetable Science
17.	Vacant	Associate Professor of Horticulture, (PGI) MPKV, Rahuri	Fruit Science
18.	Prof. V. S. Bharmal	Assistant Professor of Horticulture, MPKV, Rahuri	Vegetable Science
19.	Prof. (Smt.) D. D. Patil	Assistant Professor of Horticulture, MPKV, Rahuri	Vegetable Science
20.	Dr. (Smt.) S. R. Shinde	Assistant Professor of Horticulture, Medicinal Aromatic Plants and Betelvine, MPKV, Rahuri	Vegetable Science
21.	Dr. (Smt.) K. N. Dahatonde	Assistant Professor of Horticulture, (ATIC) MPKV, Rahuri	Vegetable Science
22.	Dr. A. V. Chandanshive	Assistant Professor of Horticulture, Tomato Improvement Scheme MPKV, Rahuri	Vegetable Science
23.	Vacant	Assistant Professor of Horticulture, (AICRP on Vegetable Crops) MPKV, Rahuri	Vegetable Science

Faculty Strength/Expertise with their specialization in Horticulture at different Agril. Colleges and Research Stations, MPKV, Rahuri

A) Professor of Horticulture

Sr. No.	Name of Scientist	Place	Specialization
1.	Dr. S. D. Masalkar	College of Horticulture, Pune	Post Harvest Technology & Vegetable Science
2.	Dr. V. S. Supe	National Agriculture Research Project, Ganeshkhind, Pune-5	Vegetable Science
3.	Dr. S. N. Ambad	College of Agriculture, Kolhapur	Vegetable Science
4.	Vacant	College of Agriculture, Dhule	Fruit Science
5.	Vacant	College of Agriculture, Pune	Fruit Science

B) Associate Professor of Horticulture

Sr. No.	Name of Scientist	Place	Specialization
1.	Dr. S. M. Katwate.	AICRP on Floriculture, National Agriculture Research Project, Ganeshkhind, Pune-5	Floriculture
2.	Prof. R. M. Birade	College of Agriculture, Nandurbar	Vegetable Science
3.	Dr. A. B. Kamble	College of Agriculture, Karad	Fruit Science
4.	Dr. N. B. Shaikh	Banana Research Station, Jalgaon	Vegetable Science
5.	Dr. S. V. Sawant	National Agriculture Research Project, Kolhapur	Vegetable Science
6.	Dr. C. V. Pujari	College of Agriculture, Dhule	Fruit Science
7.	Dr. S. G. Bhalekar	College of Agriculture, Pune-5	Vegetable Science
8.	Dr. B. V. Gondhali	National Agriculture Research Project, Ganeshkhind, Pune-5	Fruit Science
9.	Dr. M. B. Shete	Floriculturist, AICRP on Flower Crops, Ganeshkhind, Pune-5	Floriculture
10.	Dr. J. K. Dhemre	Agril. Research Station, Pimpalgaon, Baswant, Dist. Nasik	Post Harvest Technology
11.	Dr. K. G. Shinde	College of Agriculture, Pune-5	Vegetable Science
12.	Dr. S. D. Patil	College of Agriculture, Dhule	Vegetable Science

Sr. No.	Name of Scientist	Place	Specialization
13.	Dr. B. T. Patil	Principal, Agril. Tech. School, Kasbe Digras, Dist. Sangali	Vegetable Science
14.	Dr. S. S. Dhumal	College of Agriculture, Kolhapur	Fruit Science
15.	Vacant	Agril. Research Station, Pimpalgaon, Baswant, Dist. Nasik	Vegetable Science
16.	Vacant	National Agriculture Research Project, Ganeshkhind, Pune-5	Fruit Science
17.	Vacant	National Agriculture Research Project, Igatpuri, Dist. Nasik	Fruit Science
18.	Vacant	National Agriculture Research Project, Igatpuri, Dist. Nasik	Vegetable Science
19.	Vacant	Agril. Research Station Kasbe Digras, Dist. Sangali	Fruit science

C) Assistant Professor of Horticulture

Sr. No.	Name of Scientist	Place	Specialization
1.	Dr. P. B. Pachankar	College of Agriculture, Muktainagar, Dist. Jalgaon	Fruit science
2.	Dr. U. S. Shinde	College of Agriculture, Kolhapur	Fruit Science
3.	Dr. S. K Chavan	College of Horticulture, Pune	Floriculture
4.	Dr. B. B .Patil	College of Agriculture, Karad, Dist. Satara	Fruit Science
5.	Dr. M. R. Deshmukh	AICRP on Potato, NARP, Ganeshkhind, Pune	Floriculture
6	Dr. G. M. Idhate	AICRP on Custard Apple and Fig, Jadhavwadi Dist. Pune.	Fruit Science
7.	Dr. M. S. Patil	National Agriculture Research Project , Solapur	Floriculture
8.	Dr. C.D. Badgujar	National Agriculture Research Project, Ganeshkhind, Pune-5	Vegetable science
9.	Prof. B. B. Meher	College of Agriculture, Pune	Vegetable science
10.	Prof .S. P. Gaikwad	National Agriculture Research Project, Ganeshkhind, Pune-5	Vegetable science

Sr. No.	Name of Scientist	Place	Specialization
11.	Prof. R. V Patil	College of Agriculture, Dhule	Vegetable science
12.	Prof. N. R. Dalal	College of Agriculture, Pune	Vegetable science
13.	Prof. D.B. Ahire	College of Agriculture, Nandurbar	Fruit Science
14.	Prof. A. B. Bhosale	College of Horticulture, Pune	Vegetable science
15.	Prof S. B. Desale	College of Agriculture, Dhule	Vegetable science
16.	Prof .S. K. Marbal	College of Horticulture, Pune	Vegetable science
17.	Dr. S. A. Hire	Pomegranate Research and Technology Transfer Centre Lakhmapur Dist. Nasik	Fruit Science
18.	Prof. (Smt.) V. M. Raje Nimbalkar	National Agriculture Research Project, Ganeshkhind, Pune-5	Vegetable science
19.	Dr. M. D. Mali	Termeric Research Station Kasbe Digras, Dist. Sangali	Vegetable science
20.	Dr. S. M. Jogdand	College of Agriculture, Pune	Fruit Science
21.	Prof. S. V. Chalak	National Agriculture Research Project, Ganeshkhind, Pune-5	Fruit Science
22.	Prof. S. A. Sarvade	College of Agriculture, Kolhapur	Floriculture
23.	Prof. S. G. Rajput	College of Agriculture, Nandurbar	Vegetable science
24.	Dr. D. S. Kadam	RWRRS, Mahabaleshwar, Dist. Satara	Fruit Science
25.	Vacant	RWRRS, Mahabaleshwar, Dist. Satara	Vegetable science
26.	Vacant	College of Agriculture, Kolhapur	Vegetable Science
27.	Vacant	National Agriculture Research Project, Kolhapur	Fruit Science
28.	Vacant	Regional Extension Center, Kolhapur	Fruit Science

Faculty members from the other supporting Department like Genetics and Plant Breeding, Plant Pathology, Entomology, Soil Science and Agril. Chemistry, Economics, Biochemistry and Agriculture Engineering etc from Central Campus, Mahatma Phule Krishi Vidyapeeth, Rahuri as per course, syllabus are invited for delivering lectures during training period. The expertise available at various ICAR institutes and other SAU's in Maharashtra are also invited for delivering special lectures on their specialized field.

Human Resource Development

At this department CAFT Programme was sanctioned in 1996. The total twenty nine, 21 days National training programme under CAFT where conducted to upgrade education, research and extension personals from various ICAR institutes and other SAU's in India were trained during last three decades. During academic year 2017-18 to 2019-20 around 3 training programme where conducted and details are given below.

Sr. No.	Name of the Programme	Period	No. of Participants		
			Internal	External	Total
1.	Recent Advances in Improvement and Production Technology of Arid Zone Fruit Crops	01.11.2017 21.11.2017	06	14	20
2.	Advances in Production Technology and Post Harvest Management in Fruit Crops.	14.11.2018 04.12.2018	07	16	23
3.	Problems and Constraints in Fruit Crops	14.11.2019 04.12.2019	06	17	23
	Total		19	47	66

Infrastructure development (equipments etc.)

There was no funds allotted for infrastructure development. Hence there was no infrastructure development during 2017-18 to 2019-20.

Excellence Award: Nil

Renovation of Lecture Room/Laboratories: Nil

Library upgraded

Books purchased : Fifty books comprising text books, reference books from horticulture as well as from supporting departments amounting to Rs. 69,482.00 (Rs. Sixty nine thousand four hundred and eighty two only) were purchased from funds received from CAFT in Horticulture (Fruits) and kept in department library for post graduate students as well as Faculty and some text books are also distributed to libraries of under graduate Horticultural Colleges of MPKV., Rahuri.

Awards/Recognitions

Dr. V. K. Garande, Horticulturist and Incharge AICRP on Fruits, MPKV, Rahuri. Awarded **Outstanding Scientist Award** instituted by The Society of Tropical Agriculture, New Delhi for **2017**.

Publication

• Scientific Publication (52)

1. Patil B.T., V.R. Rode, M.N. Bhalekar and K.G. Shinde Studies on genetic variability heritability and genetic advance in okra (*Abelmoschus esculentus* L. Moench.) Int. J. Agril. And Env. Res. (IJAER) 2017 Pp 197-201 3 (2)
2. KG Shinde, MN Bhalekar, PK Pawar and BT Patil Effect of organic sources of plant nutrients on yield, quality and nutrient uptake in onion Vegetable Science 201744 (1) : PP. 128-130
3. C.B. Bachkar, M.N. Bhalekar and R.A. Yumlembam Integrated Management of Fusarium Wilt of Cucurbit (Muskmelon) Trends in Biosciences 2017 10 (3) : pp. 1040-1043
4. R.P. Kharde, S.A. Ranpise and M.N. Bhalekar Effect of Fertigation and Irrigation Scheduling Studies on Growth and Yield of Brinjal (*Solanum melongena* L.) Cv. Phule Arjun Trends in Biosciences 201710 (3) : pp. 1053-1056
5. Garande V. K., U. B. Palghadmal, D. R. Patgaonkar, P. N. Sonawane, S. S. Dhumal and R. D. Pawar. Performance of Bottle Gourd Selections under Sub-Montane Zone of Maharashtra, India International Journal of Current Microbiology and Applied Sciences ISSN: 2319-7706. <https://doi.org/10.20546/ijcmas.2017.611.411> 2017, 6 (11): 2319-7706
6. Kaur Manpreet, S.S. Dhumal, V.K. Garande, D.R. Patgaonkar, A.G. Bhoite and S.S. Patil. Effect of Modified Atmosphere Packaging on Headspace Gas Concentrations Including Volatiles and Sensorial Attributes of Fresh-Cut Lettuce International Journal of Current Microbiology and Applied Sciences ISSN: 2319-7706. 2017, 6(11): 2142-2148.
7. Dhumal, S.S., Manpreet Kaur, V.K. Garande, D. R. Patgaonkar, R. V. Kulkarni, G.G. Khot and S.S. Patil. Changes in Headspace Gas Concentration Including Volatiles as Affected by Post-Harvest Treatments in Packaged Fresh-Cut Lettuce International Journal of Current Microbiology and Applied Sciences ISSN: 2319-7706 2017, 6 (11):3491-3498
8. Argade, M. B., J. H. Kadam, V. K. Garande, A. G. Bhoite and M. R. Shewale Effect of shading intensities on physico-chemical behavior of cherry tomato International Journal of Tropical Agriculture 2017, 35(4): 8577-864
9. Mahajan, R. D., D. R. Patgaonkar, V. K. Garande, R. D. Pawar and P. N. Sonawane Response of coriander cultivars under different shade net intensities during summer The Asian Journal of Horticulture 2017, 2 (2): 211-217
10. A.V.Kshirsagar, S.S. Kulkarni and S.D. Magar 2017. Effect of different beheading levels on initial growth parameters of Mango under high density planting cv. Keshar and Vanraj. Journal of Pharmacognosy and Phytochemistry.,6(5):2075-2077
11. S.S. Kulkarni, S.S. Patil and S.D. Magar 2017. Effect of plant growth regulators on yield and quality of mango (*Mangifera indica*) cv. Keshar. Journal of Pharmacognosy and Phytochemistry.,6(5):2309-2313
12. Game B.C., Deokar C.D. and More P.E 2017. Efficacy of Newly Developed Microbial Consortium for Composting of Rural and Urban Wastes. *Int. J. Curr. Microbiol. App. Sci* 6(6) 626-633 (NAAS Rating-5.38)

13. Varpe, S. N. Walunj, A. R. and Damame, S. V. (2017). Biochemical changes due to bioagents due to bioagents used for the control of root knot nematode in pomegranate sapling under nursery .AGRES- (6): 33-37
14. Walunj, A. R. Supe V.S. Joshi V.R. and D.D. Patil (2017). Seasonal incidence of sucking pests on pomegranate AGRES- (6)2 : 383-386
15. Ambhore S.N., B.G.Barahate and V.R.Joshi Status of microflora of Bt and non Bt cotton Journal of Plant Disease Sciences 2017 6(3)
16. Dipankar Sarkar, Barahate B.G. and V. R.Joshi Studies on leaf spot of chilli International journal of plant protection 2017 10(2)
17. Ranpise P. S.,Patil B. T and V. R.Joshi Character association studies for traits of economic importance in okra. Vegetable science 2017 44(2)
18. Walunj A. R., Supe V. S., V. R. Joshi Seasonal incidence of pest complex on pomegranate AGRES-International e journal of plan 2017 6(2)
19. Gulve C. M. and V. R. Joshi Effect of Agrotechniques on pollen viability and fruit set in custard apple.cv.Balanagar Journal of Pharmacognosy and Phytochemistry 2017 6(5)
20. Ranpise P. S., Joshi V.R and B. T. Patil Diversity studies in okra Journal of Pharmacognosy and Phytochemistry 2018 7(1)
21. MN Bhalekar, KG Shinde, DH Rathod, BT Patil Studies on Integrated Nutrient Management for Yield and Nutrient Uptake in Onion (*Allium cepa* L.)Journal of Allium Research 2018 1 (1) : 78-80
22. MN Bhalekar, KG Shinde, DH Rathod, BT Patil Impact of Sources and Levels of Sulphur Application on Growth, Yield and Quality parameters of Onion (*Allium cepa* L.) Journal of Allium Research 2018 1 (1) : 71-77
23. CB Bachkar, MN Bhalekar, SA Pawar Control of *Alternaria porri* Causing Purple Blotch of Onion during Kharif Season Journal of Allium Research 2018 1 (1) : 57-59
24. Pawar S.A., Ingale A.G., Bhalekar M.N., Datkhile R.V. Evaluation of management strategies against pests of chilli (*Capsicum annum* Linn.) 201826 (2) : 256-259
25. Shinde KG, Bhalekar MN, Damse DN, Patil BT Effect of herbicides and mulches on production of onion (*Allium cepa* L.) in western Maharashtra Vegetable Science 2018 45 (1) : 131-133
26. Pawar S.A., Bhalekar M.N., Wale S.D., Datkhile R.V. Evaluation of management modules against pest of Tomato Annals of Plant Protection Sciences 2018 26 (1) : 48-51
27. BH Nadkarni, MN Bhalekar and AG Durgude Effect of nutrient scheduling on flowering, fruit set and yield of pomegranate (*Punica granatum* L.) Cv. Phule Bhagwa Super International Journal of Chemical Studies 2018 6 (6) : 759-761.
28. BH Nadkarni, MN Bhalekar, VS Supe, MB Shete and VR Joshi Effect of nutrient scheduling on fruit retention, yield and quality of pomegranate (*Punica granatum* L.) Cv. Phule Bhagwa Super International Journal of Chemical Studies 2018 6 (6) : 762-764
29. KM Muthal, MN Bhalekar, SA Ranpise, AM Musmade and SS Kulkarni Combining ability studies for earliness and yield in pumpkin (*Cucurbita moschata*) in kharif season International Journal of Chemical Studies 2018 6 (4) : 2440-2444

30. KM Muthal, MN Bhalekar, SA Ranpise, AM Musmade and KG Shinde Combining ability studies for earliness and yield in pumpkin (*Cucurbita moschata*) in summer season International Journal of Chemical Studies 2018 6 (4) : 2445-2449
31. DN Damse, MN Bhalekar, PK Pawar and KG Shinde Effect of sulphur application on garlic bulb production Res. Journal of Agri. Sci. 2018 9 (2) : 468-470
32. Garande, V. K. and R. S. Patil. (2018). Studies on retention of bio-chemical constituents of tomato puree during storage Contemporary Research in India 2018, Special volume III, pp.329- 334
33. Bichkule, C. V., S.V. Sawant, V. K. Garande and P.B. Mohite Performance of Off-Season Cauliflower (*Brassica oleracea* var. *botrytis* L.) for Curd Initiation, Maturity and Incidence of Diamond Back Moth as Influence by Shading Intensities and Mulching. Trends in Biosciences ISSN 0974-8431 2018, 11(5): 609-612
34. Padekar, V.J., V.K. Garande, S.S. Dodake, S.V. Sawant, U.S. Shinde, P.N. Sonawane, R.D. Pawar and Dhumal, S. S Effect of IBA, types of Cutting and Rooting Media on Sprouting, Survival Percentage and Growth of Cuttings of Kartoli (*Momordica dioica* Roxb.) Int.J.Curr.Microbiol.App.Sci. 2018, 7(10): 1246-1260.
35. Dhumal, S. S., Kaur, M., Dalve, P. D., Garande, V. K., R. D. Pawar and S. N. Ambad Regulation of growth and flowering in Tuberose with application of bio-regulators. Int. J. Curr. Microbiol. App. Sciences 2018, 7(9):1622-1626
36. Gade P. R., B. J. Shete and D. B. Kshirsagar Effect of Sources and Levels of Silicon on Availability of Major Nutrients and Silicon in the Experimental Field of Garlic Ind. J. Pure App. Biosci. 2019 7(6), 284-290
37. Garande, V. K., P.D. Raut, U. S. Shinde, S. S. Dhumal, P. N. Sonawane and S. V. Sarvade Studies on storage behavior of primary processed leafy vegetables under different storage conditions Int. J. Curr. Microbiol. App. Sciences 2019, 8(6): 2249-2272
38. Whankate, R. A., V. K. Garande, U. S. Shinde, S. S. Dhumal, P. N. Sonawane, S. A. Sarvade and S. N. Am,bad Growth and yield performance of French Bean uindere Western Maharashtra Legume Resrach – An International Journal 2019, under publication.....
39. Garande, V. K., P.D. Raut, U. S. Shinde, S. S. Dhumal, P. N. Sonawane and S. V. Sarvade Studies on storage behavior of primary processed leafy vegetables under different storage conditions Int. J. Curr. Microbiol. App. Sciences 2019, 8(6): 2249-2272
40. Sandepa Knaetkar, Medha Kulkarni, S.S. Kulkarni, B. Garad and V. M. Raut (2019) Effect of Bioplin (*Azotobacter* SP) liquid biofertilizer on yield and quality of Thompson Seedless grapes. Pestology, XLIII No.2 pp. 23-29.
41. Sandepa Knaetkar, Medha Kulkarni, S.S. Kulkarni, B. Garad , Meghraj Kadam and V. M. Raut (2019) Influence of Phosfet(*Azotobacter* + *Bcillus*)liquid biofertilser (PSB) on quality and yield of Thompson Seedless grapes (*Vitis vinefera*L.), Pestology,XLIII, No.5 pp. 36-42.

42. V.S. Mandlik, S.S. Kulkarni and S.P. Pawaskar (2019) Effect of different growth retardants on fruit maturity and yield of mango (*Mangifera indica* L.) cv. Keshar. *International Journal of Chemical Studies*;7(2) 2010-2014.
43. A.R.Walunj¹, V.B.Akash², V.R.Joshi³ and J. D. Jadhav⁴ Development and validation of Forewarning model for fig stem borer (*Batocera rufomaculata* De Geer) in Maharashtra. *Journal of Agrometeorology (In process)*
44. A.R.Walunj and P.E. Papade (2019) Evaluation of different ber genotype against pest complex on ber. e. *Journal AGRES*, 8(3) : 205-208.
45. G. H. Jagdev, N. L. Mhase and A. R. Walunj (2019) Seasonal incidence of root knot nematode, *Meloidogyne incognita* infesting fig under field condition. *Bioinfolet (Paper Accepted)*.
46. G. H. Jagdev, N. L. Mhase and A. R. Walunj (2019) Survey of root knot nematode (*Meloidogyne incognita*) incidence on fig in Aurangabad and pune district. *Bioinfolet (Paper Accepted)*.
47. P.E.More, C.D.Deokar and B.C.Game (2019) Effect of meteorological factors on rust severity of pea at Rahuri, Maharashtra. *Journal of Agrometeorology* , 21 (1): 110-111.
48. S.D.Jagtap B.C.Game and P.E.More (2019) Correlation of environmental factors with powdery mildew disease intensity on sesamum (*Sesamum indicum* L.). *International Journal of Recent Scientific Research*, 10 (11A) 35772- 35775.
49. G.U.Waychal, B.C.Game and P.E.More (2019) Influence of environmental factors on incidence and intensity of powdery mildew disease on Okra. *Multilogic in Science (Paper Accepted)*.
50. P.A.Mane and P.E.More (2019) Screening of ber cultivars/germplasm against *Oidium erysiphoides f.sp.ziziphi*, causing powdery mildew. *Journal of Pharmacognosy and Phytochemistry. (Paper Accepted)*
51. P.E.More, C.D.Deokar and B.M.Ilhe (2019) Effect of leaf humidity and soil temperature on peas rust development caused by *Uromyces viciae fabae* (Pers.) de Bary. *Journal of Agrometeorology (In process)*.
52. P.S. Hivare, B.V. Deore, Y.S. Saindane and S.B. Deore (2019) Bioefficacy of selected insecticides against tomato fruit borer, *Helicoverpa armigera* (Hubner) *International Journal of Chemical Studies*

Book/Books published

Dr. S. A. Ranpise and Dr. V. K. Garande : Production Technology of Fruit Crops(2018).

Training Manual: Three CAFT Compendium

Following three CAFT Compendium alongwith ISBN number were published.

- | | | |
|---|---|---------|
| 1 | Recent Advances in Improvement and Production Technology of Arid Zone Fruit Crops | 2017-18 |
| 2 | Advances in Production Technology and Post Harvest Management in Fruit Crops. (Under Publish) | 2018-19 |
| 3 | Problems and Constraints in Fruit Crops. (Under Publish) | 2019-20 |

Following books were purchased from CAFT grants during 2017-18 to 2019-20 (50)

Sr. No.	Author	Title	Copies.
1.	Ramchandra	Breeding of fruit crops	2
2.	Sarswati	Post Harvest Management of Horticulture crops.	2
3.	P. Singh	Essentials of Plant Breeding	2
4.	S. Pandey	Post Harvest Management of Horticultural Crops	2
5.	B.D. Singh	Fundamentals of Genetics	2
6.	Chathopadhyaya	Text book of Pomology Vol-III	2
7.	Abraham	Fruit Breeding	2
8.	Kannaiya	Intellectual Property Rights in Horticulture.	2
9.	S.P. Singh	Principles of vegetable production.	2
10.	Haldvanekar	Vegetable - Production technology	3
11.	N. Kumar	Introduction to spices and plantation corps	2
12.	J.S. Pruthi	Plantation crops	2
13.	Hari Har Ram	Vegetable Breeding : Principal and Practices	2
14.	P.Hazara	Vegetable Science	2
15.	Thamburaj	Text Book Vegetable Science	2
16.	Rajarathanam S.	Advances in preservation and processing technologies of fruits and Vegetables.	1
17.	Peter K.V.	Basic of Horticulture	1
18.	Saroj P.L	Dry land Horticulture	1
19.	Bal J.S.	Fruits Sciences Culture & Technology: Vol. 1 Basic Aspects & Practices	1
20.	Bal J.S.	Fruits Sciences Culture & Technology: Vol. 2 Basic Aspects & Practices	1
21.	Bal J.S.	Fruits Sciences Culture & Technology : Vol. 3 Basic Aspects & Practices	1
22.	Bal J.S.	Fruits Sciences Culture & Technology : Vol. 4 Basic Aspects & Practices	1
23.	Rana M.K.	Fundamental of Vegetables Production	1
24.	Jatav M.K.	Good Management Practice for Horticulture	1
25.	Ghosh	Greenhouse Technology	1

Sr. No.	Author	Title	Copies.
26.	Tyagi	Hi Tech Horticulture: Vol. No.2 Organic farming and sustainable Development Technology.	1
27.	Rajan S.	Propagation of Horticulture Crops : Vol. 6	1
28.	Singh D.K.	Protected cultivation of Horticulture Crops	1
29.	Patil R. T. Desh Beer Singh	Post Harvest Management of Horticultural Produce: Recent Trends.	1
30.	Chadha, Kusum Lata	Shaping the future of Horticulture	1
31.	Chadha, Kusum Lata	Doubling Farmers Income Through Horticulture	1
		Total Books	50

ANY OTHER

TECHNICAL PUBLICATIONS (5)

1. Garande, V. K., D. R. Patgaonkar, R. D. Pawar, P. N. Sonawane and S. S. Dhumal Effect of size grading of shelf life and quality of sapota IInd International Conference of Agril. Economics o MPKV, Rahuri 10 to 11th February, 2017 pp. 204
2. Garande, V. K., Padekar, V. J., Dodake, S. S., Patgaonkar, D. R., Sonawane, P. N., Dhumal, S. S. and Ambad, S. N Propagation Techniques in Kartoli (*Momordica dioica* Robx). International Symposium on “Horticulture: Priorities and Emerging Trends” IIHR, Bangalore 05 to 08th September, 2017 Abstract No. S3O21 A698, pp. 59
3. Dhumal, S. S., A. R. Karale, U. D. Chavan, S. B. Jadhav, **V. K. Garande** and C. A. Nimbalkar Effect of pretreatments and modified atmosphere packaging on the physicochemical, microbial, sensorial attributes and postharvest life of minimally processed pomegranate arils cv. Bhagwa stored at 4-8 deg C International Symposium on “Horticulture: Priorities and Emerging Trends IIHR, Bangalore 05 to 08th September, 2017 Abstract No. S4O3 A700, pp.84
4. Manpreet Kaur, S. S. Dhumal, V. K. Garande and S. S. Patil. Effectiveness of postharvest treatments and modified atmosphere packagings on fresh-cut lettuce. International Symposium on “Horticulture: Priorities and Emerging Trends” IIHR, Bangalore 05 to 08th September, 2017 Abstract No. S4O36 A 244, pp.106
5. Raut, P. D., Garande, V. K., U. S. Shinde, R. D. Pawar, P. N. Sonawane and S. N. Ambad. Studies on storage behavior of primary processed leafy vegetables. 8th International Food Convention CFTRI, Mysore 12 to 15 December, 2018 Ab. No. FVTE-045, pp: 298.

EXTENSION PUBLICATIONS (7)

1. Walunj, A. R. (2017). Integrated Pest management in Pomegranate. Souvenir, Dalimb Margdarshika 201-204. Nat. Seminar at Pune.
2. Walunj, A. R. and S.S.Kulkarni (2017). Hasta Baharatil Dalimb kid Vaivsthapan. Shri Sugi : pp. 42-46
3. Dr.A.R. Walunj delivered lecture on “Pest management in kharif crops and pomegranate” at Kangar Rahuri on 27 June, 2019
4. Dr.A.R.Walunj delivered lecture in farmers rally on Integrated pest management in pomegranate and beekeeping at Hangewadi under TAO, Shrigonda, Ahmednagar on 22 July, 2019
5. Dr. P.E. More delivered lecture on Climate based pomegranate disease management in training under Horticultural (Pomegranate) Crops Pest & Disease surveillance, Advice, and Management Project during 3rd to 4th Sept.2019
6. Dr. P.E. More perform duty as a member of Pune Division Fruit Nursery Checking Committee for pomegranate and citrus nursery checking.
7. Dr. P.E. More perform duty as a member of Taluka farmer Grievance Committee, Sangamner to solve farmers complaints about papaya seedlings

Book Chapters (16)

Sr. No.	Title of Book chapters	Name of Scientist	Vegetable crop Science
1.	Maca	S.A. Ranpise and Chandanshive Aniket Vilas	M. K. Rana (Ed.) (2018)
2.	Tannia	K.B. Jagtap and Chandanshive Aniket Vilas	CRC Press
3.	Stuffing Cucumber	M.K. Rana and Chandanshive Aniket Vilas	Taylor & Francis
4.	Broad bean	M.K. Rana and Chandanshive Aniket Vilas	Group 2018
5.	Romanesco Broccoli	S.K. Dhankhar and Chandanshive Aniket Vilas	ISBN 9781138035218
6.	New Zealand Spinach	S.K. Dhankhar and Chandanshive Aniket Vilas	
7.	Scarlet Runner Bean	M.K.Rana and Chandanshive Aniket Vilas	
8.	Arrowroot	M.K. Rana and Chandanshive Aniket Vilas	
9.	Oca	M.K. Rana and Chandanshive Aniket Vilas	
10.	Florence Fennel	M.K. Rana and Chandanshive Aniket Vilas	
11.	Rice Bean	M.K. Rana, P. Karthik Reddy and Chandanshive Aniket Vilas	

12.	Kokum	Ranpise S. A. and J. K. Dhemre	Underutilized Fruit Crops: Importance and Cultivation. Part –I 2017, Jaya Publishing House, New Delhi PP : 667-693 ISBN 978-93-86110-09-1
13.	Fig.	Dalal R.P.S., S.K. Sehrawat and S.A. Ranpise	
14.	Fruit Production in India : Issues & Challenges	Ranpise S.A.	Post Harvest Management In Dryland Fruit Crops 2019, Daya Publishing House ,Astal International Pvt Ltd., New Delhi 110012 ISBN No.978-093-88982-12-2
15.	Recent Advances in Pre-harvest factors to enhance postharvest quality of custard apple	Patil S.D. Ranpise S.A. & Dhakare B.B.	
16.	Recent Advances in Pre-harvest factors to enhance postharvest quality of Fig	Patil S.D. Ranpise S.A. & Dhakare B.B.	

Financial out lay and utilization of funds (Rs.)

Sr. No.	Head	Year					
		2017-18		2018-19		2019-20	
		Allocation (Rs.)	Utilization (Rs.)	Allocation (Rs.)	Utilization (Rs.)	Allocation (Rs.)	Utilization (Rs.)
1.	Organizing one/two training courses	6,56,500	4,007,981	6,56,500	4,43,506	6,56,500	5,49,075
2.	Renovation of laboratory	-	-	-	-	-	-
3.	Recurring contingency	4,00,000	3,91,599	4,00,000	3,98,028	4,00,000	3,48,850
4.	TA/DA of staff	50,000	23,564	50,000	38,222	50,000	1580
5.	Books/Journals	35,000	-	35,000	34,872	35,000	34610
6.	Non-recurring contingency	-	-	-	-	-	-
	Total	11,41,500	8,23,144	11,41,500	9,14,628	11,41,500	9,34,115*

***Till 30.01.2020**