

**UNIVERSITY OF HORTICULTURAL SCIENCES,
BAGALKOT, KARNATAKA**



**SELF STUDY REPORT FOR THE
M. Sc. HORTICULTURE IN PLANT PATHOLOGY
COH, BAGALKOT, 2014-15 to 2018-19**

SUBMITTED TO
Indian Council of Agricultural Research,
Krishi Bhavan, New Delhi.

SUBMITTED BY
University of Horticultural Sciences,
Udyanagiri, Bagalkot – 587 104
Karnataka

PREFACE

The growth of Indian agriculture sector has had its moments of glory. The green revolution has been major success story of free India to achieve surplus today, nonetheless frequently plagued by famines and chronic food shortage. From food grain production around 55 million tons at the time of independence, now boast the production of 284.83 million tons of food grains (2017-18). Indian agriculture has witnessed wide variations in growth performance after independence in India. The record horticulture production (306.8 million tonnes estimated) during 2017-18 will mark the sixth straight year of horticulture production outstripping that of food grains. Further, the percentage share of horticulture in agriculture GDP is 33 per cent which is quite impressive. The horticulture sector plays vital role in nutritional security, economic sustainability and employment generation. It was realized only in mid-80s about the importance of horticulture and thus the Government of India recognized Horticulture as a prominent sector. Horticulture appears to be a viable means of diversification for making agriculture more profitable through efficient land use, optimum utilization of natural resources while creating skilled employment for the rural masses. Horticulture has invariably enhanced the economic status of farming community besides, without disturbing invaluable natural resources. In general the growth of horticulture sector has created ripples which consequently resulted in a wide spectrum of processing industries. In this context, quality seed and planting material supply, surge for hi-tech horticulture, better prospects for contract farming as well as cooperative farming, participatory approach in production and marketing have attained magnanimous stature. The higher growth rate in horticulture sector suggests a structural change in Indian agriculture where farmers are increasingly growing perishable commercial crops due to a growing market and a quicker cash flow as these crops require less time from sowing to marketing. Thus, there is a growing awareness about the advantages of the horticultural crop production and this is bound to go up with the improvement in socio-economic status of the people.


In the recent past R & D programmes in horticulture received an impressive support from the government. As a result, the research infrastructure has increased many-fold with the setting up of a number of new institutes, national research centres for

several crops, important both from domestic as well as export point of view. The establishment of educational institutions in the field of horticulture play a pivotal role in developing human infrastructure, which would cater to the needs of the emerging horticulture industry.

To develop the quality human infrastructure in the field of horticulture in general and to cater to the needs of the farmers of Northern Karnataka in particular, the College of Horticulture was established at Bagalkot on 07.07.2008 under the University of Agricultural Sciences, Dharwad. With the establishment of the University of Horticultural Sciences at Bagalkot the college of Horticulture came under the administrative control of the said university from 2009-10. The college offers undergraduate, postgraduate and Ph.D. courses. The college has the admission capacity of about 120 students annually for undergraduate, about 55 students for Master' degree programme and 25 students for Ph.D. programme. The students of this college have excelled not only in studies but also in extra-curricular activities and National level competitive examinations. The college has been making efforts to improve the quality of education offered in this direction. Since the college is due for accreditation, the present self study report provides all the necessary information about the college activities performed during last five years (01-01-2014 to 31-12-2018).

The University Level Task Force and Steering Committee have also been gratefully acknowledged for their help, guidance and suggestions given in preparing the report. The college level Steering Committee and Task Force have done a great job in compiling information and bringing out this report to be submitted to Accreditation Board of ICAR. My heartfelt thanks to all for providing valuable suggestions to improve the quality of presentation.

**College of Horticulture, Bagalkot
March, 2019.**


**Dean
(H.B.Patil)**

CONTENTS

Sl. No.	Title	Page No.
6.4.1.	Brief History of the Degree Programme	1
6.4.2.	Faculty Strength	5
6.4.3.	Technical and Supporting staff	6
6.4.4.	Classrooms and Laboratories	6
6.4.5.	Conduct of Practical and Hands-on-Training	7
6.4.6.	Supervision of students in PG/PhD programmes	8
6.4.7.	Feedback of stakeholders (Students, parents, industries, employers, farmers etc.)	9
6.4.8.	Student intake and attrition in the programme for last five years	12
6.4.9.	ICT Application in Curricula Delivery	12

6.4.1. BRIEF HISTORY OF THE DEGREE PROGRAMME

Bagalkot is hub of many important fruit and vegetable crops like grapes, pomegranate, banana, papaya, brinjal, tomato etc. But there were long standing pathological problems like bacterial blight of pomegranate, downy and powdery mildews of grapes, tip over of banana, koleroga of arecanut, wilt and murda of chilli *etc* which were threatening the farmers to go for the commercial cultivation of these crops. There was urgent need of working out schedule of management practices to be adopted. These problems can well be addressed through post graduation research. At the same time the Dept of Plant Pathology at COH, Bagalkot was fully fledged with good laboratory and equipments along with experienced faculty. More over many graduates of the university were interested to build their career in the field of Plant Pathology. In this context, the university started M. Sc (Hort) post graduate degree programme in Plant Pathology at College of Horticulture, Bagalkot in the year 2013-14.

Objectives

- Human resource development at master's levels having good knowledge of practical Plant Pathology.
- Systematic documentation of diseases, casual organisms and their economic importance in horticultural crops.
- Development of disease forecast models and integrated disease management modules.
- Research and development of eco friendly and low cost technologies for the plant disease management.
- Production and popularization of bio agents.
- Evaluation of newer molecules of fungicides and bactericides.
- Consultancy services to farmers through phone, discussions, demonstrations and field visits.

Research Accomplishments of M. Sc. students

Sl. No.	Name of the student	Year	Title of the thesis	Achievement/ Finding
1	Premchand U	2015	Characterization of Begomovirus Associated With Yellow Mosaic Disease of Ridge Gourd [<i>Luffa acutangula</i> (L.)	Developed a new diagnostic tool, LAMP which helps in early detection of Yellow mosaic virus of ridge gourd

Sl. No.	Name of the student	Year	Title of the thesis	Achievement/ Finding
			Roxb.]	
2	Sanjeev Jakatimath	2016	Etiology and management of root rot of brinjal (<i>Solanum melongena</i> L.) caused by <i>Alternaria alternate</i> , <i>Colletotrichum melongenae</i> and <i>Phomopsis vexans</i> .	1. Genotypes CBB-3 and CBB-26 were found resistant against fruit rot complex of brinjal 2. Fungicides tebuconazole, carbendazim @ 0.1 %, botanicals viz., garlic, onion extracts @ 5 % and <i>Trichoderma harzianum</i> -P and Th-21 strains were found effective in management of fruit rot complex of brinjal
3	Aravinda. L. B.	2016	Molecular characterization of <i>Ceratocystis fimbriata</i> and its associated defence functions in pomegranate during pathogenesis	1. Diversity analysis through DNA markers and ITS analysis of 28 isolates of <i>Ceratocystis fimbriata</i> causing wilt of pomegranate exhibited high level genetic polymorphism (53.23 %). 2. <i>In vitro</i> studies <i>T.harzianum</i> and <i>Pseudomonas. Putida</i> and <i>Bacillus subtilis</i> recorded higher inhibition and among chemicals carbendazim and tebuconazole + trifloxystrobin showed higher inhibition against <i>Ceratocystis fimbriata</i>
4	Ramesh Ippikoppa	2016	Biological management of <i>Xanthomonas oxonopodis</i> pv <i>punicae</i> (Hingorani and Singh) Vauterin et al. Causing Bacterial Blight of Pomegranate (<i>Punica granatum</i> L)	1. A bacterial antagonist, VK-6B (the native isolate of <i>P. fluorescens</i>) and garlic extract were found most effective against <i>Xanthomonas axonopodis</i> pv. <i>punicae</i>
5	Abhishek Gowda	2016	Whole genome sequencing of <i>Ceratocystis fimbriata</i> and validating pathogenicity genes through in plants time course analysis	1. Under field condition foliar application of copper hydroxide and eugenol alternated by <i>Pseudomonas putida</i> + trehalose were found effective and bacterial blight of pomegranate. 2. Gene expression studies of PR proteins and defence related genes showed up regulation when treated with <i>Bacillus subtilis</i> and <i>P. putida</i>
6	Sangmeshwar	2017	Studies on turmeric leaf spot caused by <i>Colletotrichum capsici</i> , (Syd.)	1. Early sown turmeric (May 1st week) showed least disease incidence of leaf spot. 2. Carbendazim was found effective

Sl. No.	Name of the student	Year	Title of the thesis	Achievement/ Finding
			Butler and Bisby	@ 0.1% with highest rhizome yield against turmeric leaf spot.
7	Chetankumar K	2016	Studies on citrus canker caused by <i>Xanthomonas citri</i> subsps citri in kagzi lime (<i>Citrus aurantifolia</i> Swingle)	1.The bio agents VK-6B and KK- 3A were found effective against citrus canker. 2.Bronphol and <i>Garcinia indica</i> treated plants found effective against citrus canker under nursery condition.
8	Rohan Hundeker N	2017	Epidemiology and management of purple blotch of onion caused by <i>Alternaria porri</i> (Ellis) Cif.	1. Epedemiology study revealed that minimum temperature and wind speed were positively correlated with purple blotch of onion. Weather parameters influenced to the extent of 35-88 % on PDI 2.Two sprays of tebucanazole + trifloxystrobin were found effective @ 0.1 % against purple blotch of onion
9	Madhushri Kerakalamatti	2018	Investigation on association of <i>Ceratocystis fimbriata</i> Ell. and Halst. and <i>Meloidogyne incognata</i> (kofoid and white) chitwood in causing wilt of pomegranate and it's management .	1. Studies on interaction of wilt complex of pomegranate indicated that the simultaneous inoculation of <i>Ceratocystis fimbriata</i> and <i>Meloidogyne incognata</i> gives early symptoms. 2. Application of propiconazole @ 0.2% + phorate @18 g/plant and propiconazole @ 0.2% + neem cake @ 100 g/plant + <i>T. harzianum</i> @100 g/plant at the interval of 15 days for five times was found superior in managing the wilt complex of pomegranate.
10	Anusha A	2018	Epidemiology and management of fig rust caused by <i>Certolium fici</i> (cast.) Arth.	1.Fig varieties viz., Ballari, Conadriya, Dinakar, Excell and Poona were found resistant against rust. 2. Ginger rhizome extract @ 15%, neem oil @ 5%, tebuconazole @ 0.1%, propiconazole @0.1 % and mancozeb @ 0.25 % were found effective in managing fig rust.
11	Praveen Yadav	2018	Effect of elicitors in induction of resistance against bacterial blight and phenyl propanoid pathway in pomegranate.	1. Under green house condition prophylactic application of BABA @ 600 ppm and GABA @ 600 ppm were found effective against BLB of pomegranate, which can be attributed to highest expression of PAL gene. 2. Under field condition <i>Pesudomonas putida</i> 3x10 ⁹ CFU/ml recorded least disease incidence against BLB of

Sl. No.	Name of the student	Year	Title of the thesis	Achievement/ Finding
				pomegranate
12	Jayasudha S M	2017	Optimization and compatibility of effective isolates of bacterial bio agent against <i>Xanthomonas axonopodis</i> pv. <i>punicae</i>	1. Effective bacterial bio-control agents against <i>Xanthomonas axonopodis</i> pv. <i>punicae</i> causing blight in pomegranate were formulated in solid and liquid form. 2. Application of consortium + aerial spray of consortium alternative with streptomycin 500 ppm + COC 0.3% was effective and economical against blight in pomegranate
13	Nagesh K Soude	2017	Etiology and management of black rot of (<i>Diplocarpon rosae</i> Wolf.) and powdery mildew (<i>Sphaerotheca pannosa</i> Walle.) of rose.	1. Genotypes Cherishma showed moderately resistant reaction to black spot of rose. 2. Fungicides viz., difenconazole @0.1 % and propiconazole @ 0.1 % were effective black spot and powdery mildew of rose respectively.
14	Prasad Y P	2017	Studies of foot rot complex of betelvine (<i>Piper betle</i> L.)	1. Application of metalaxyl+mancozeb 78 WP (3 gm/litre @ 2 litre/vine) or enriched with <i>Trichoderma harzianum</i> + <i>Pseudomonas fluorescence</i> was effective in the management of foot rot complex of betelvine.
15	Jagadish Bagevadi	2017	Development of botanical formulation for the management of bacterial blight of pomegranate caused by <i>Xanthomonas axonopodis</i> pv. <i>punicae</i>	1. Ethanol extract of <i>Prosopis juliflora</i> was effective against <i>X. compestris</i> pv <i>punicae</i> . 2. <i>Garcinia indica</i> extract recorded longest shelf life 3. Both the above leaf extracts were compatible with streptomycin @ 500 PPM +copper oxychloride @ 0.3 % to manage BLB of pomegranate
16	Nalina S O	2017	Etiology and management of rhizome rot of ginger (<i>Zingiber officinale</i> Rosc.)	1. Soil application of <i>Trichoderma harzianum</i> 10-15 days before sowing + soil application of neem cake 2 ton/ha + rhizome treated with copper oxychloride 3 gm/litr+ streptomycin 0.5 gm/litr+ metalaxyl MZ 6 gm/litr for 30 minutes was effective for the management of rhizome rot of ginger.
17	Mohammed shareef	2017	Evaluation of pomegranate germplasm and elucidation of role of ethylene in	1. Accession IC-318759 showed lowest severity of bacterial blight in field and green house respectively. 2. PR-1 and PR-4 showed up regulation in cultivar Daru, IC318759 and Bagwa

Sl. No.	Name of the student	Year	Title of the thesis	Achievement/ Finding
			resistance against bacterial blight.	upon ethylene pre treatment, while defence genes viz., CAT, PAL and ACS-2 showed no response to exogenous ethylene application

PG Research Publications

Research papers published in journals having NAAS ratings >4	Research papers published in journals having NAAS ratings < 4
12	17

6.4.2. FACULTY STRENGTH

Sl. No.	Cadre	Sanctioned strength	Faculty in place	Vacant position	Faculty recommended by ICAR*	Deviations from ICAR recommendation*
1.	Professor	1	1	0	1	-
2.	Associate Professor	2	1	1	2	-
3.	Asst. Professor	2	2	0	3	-
Faculty from other directorates and nearby colleges/ stations						
4.	Professor Dean (PGS), UHSB	-	1	-	-	-
5.	Visiting Professor Dr. V.B. Hosagoudar Bio Research Foundation, Bilagi	-	1	-	-	-
6.	Assistant Professor Directorate of Research	-	1	-	-	-
7.	Assistant Professor Directorate of Extension	-	1	-	-	-
8.	Assistant Professor KRCCH, Arabhavi	-	1	-	-	-

*ICAR has recommended Department of Plant Protection (consisting Entomology, Plant Pathology and Nematology) with 1 Professor, 2 Associate Professor and 3 Assistant Professors. At this college total faculty strength put together Plant Pathology and Entomology accounts 1 Professor, 1 Associate Professor and 4 Assistant Professors

6.4.3. TECHNICAL AND SUPPORTING STAFF

Sl. No.	Cadre	Sanctioned strength	In place	Vacant position	Recommended by ICAR	Deviations from ICAR recommendation
1	Laboratory Assistant	1	1	Nil	1	Nil

6.4.4. CLASS ROOMS AND LABORATORIES**Class rooms**

Sl. No.	Class room No.	Area	Seating capacity	Other facilities (LED, projector, Computer, etc.)
1	M. Sc. Class room	26 ft x 23 ft	35	LCD projector, Computer and smart board facility

Laboratories

Sl. No.	Name of the laboratory	Area	Seating capacity
1	Post graduate laboratory	36 ft x 26 ft	35
3	Molecular biology laboratory	26 ft x 20 ft	05
4	Inoculation chamber	10 ft x 10 ft	04
5	Bio control laboratory	25 ft x 25 ft	08

Major equipments

Sl. No.	Name of the equipment	Quantity	Sl. No.	Name of the equipment	Quantity
1	Laminar Air Flow	02No	17	Hot Plate	01 No.
2	Dissection Microscopes	06 Nos	18	Quartz-Bi-Distillation Unit	01 No.
3	Student microscopes	20 Nos	19	Digital S.L.R. Camera	01No.
4	Pressure cookers	02 No	20	Water bath (digital with 12 holes)	01No.
5	Autoclaves	03 Nos	21	Orbital shaking incubator	01 No.
6	Refrigerators	03No	22	Trinocular Microscopes	04 Nos
7	Monocular Microscope	02 Nos	23	Phatomicrography system.	02Nos.
8	Binocular Microscope	02 Nos	24	Microwave ovens	02 No
9	Analytical Balance	01 Nos	25	Automatic weather	01 No.

				station with sensor	
10	LCD Projector	01 No	26	Global Positioning System	01 No.
11	Analytical Balance	01 No	27	Soil Moisture Meter	01 No.
12	Automatic seed moisture analyzer	01 No.	28	Rotary Shaker	01 No.
13	Monocular Microscope	02 No.	29	pH Meter	01 No.
14	Heating Mantle 250 ML	03 No	30	LCD Projector	01 No
15	Colony Counter	01 No.	31	Binocular Microscope	02 Nos
16	Hot Air Oven	01 No			

(Miscellaneous: Filing cabinets (steel 4 drawer), Lab stools, Office tables, Office executive chairs, Assistant tables, , Pigeon hole steel Almeria, Almeria, Glass door Almeria, Slotted angle rack steel, Computers, Printers, Notice board, Hand lens 10x, Lab tables fixed with reagent racks , Glass block board(6X4)(8x4, Wooden key board, Air coolers, Acrylic display stands)

Farm facilities

Sl.No.	Farm Area	Irrigated/ Non-Irrigated	Crops grown
1.	2 Acre	Irrigated	Banana, Ridge gourd, Betelvine, Tomato, Onion, Brinjal, Ginger etc.

Workshops if any—Nil

6.4.5. CONDUCT OF PRACTICAL AND HANDS ON TRAINING

Sl.No.	Course Number and Title	Skills / Method of Hands on training
1.	HPP 501 Principles of Plant Pathology	Isolation of fungi and bacteria by various methods. Inoculation techniques of fungi, bacteria, virus and nematodes. Estimation of phenols and growth regulators. Study of different molecular markers related to resistance.
2.	HPP 502, Mycology	Taking sections in the suspected fungal infected plant parts and identification of fungi based on morphological characters. Preparation of semi-permanent slides of fungi belonging to various classes. Collection of herbarium. Culturing and mass multiplication of various plant pathogenic fungi on various media
3.	HPP- 503 Plant Bacteriology	Identification of bacterial diseases by symptomatology and Ooze-test. Collection and preservation (dry/wet/green) of bacterial disease specimens. Isolation, purification and Preservation of bacterial cultures. Detection and Characterization of bacterial pathogens through

		morphological, biochemical, staining, molecular and serological techniques. <i>In-vitro</i> evaluation of chemicals and Scoring techniques for bacterial diseases.
4.	HPP- 504 Plant Nematology	Identification of nematode diseases by symptomatology and crop damage. Collection and preservation (dry/wet/green) of nematode disease specimens. Extraction of nematodes from soil and host tissues by Cobb's sieving, blending, incubation and Baermann's funnel techniques, and Preservation of nematode cultures by pot inoculation. Nematode picking, killing, handling and fixing, preparation of semi-permanent slides. Detection and Characterization of major plant nematode through morphological –perineal pattern/cone top and molecular techniques. Scoring techniques for plant nematode diseases.
5.	HPP 509 Diseases of fruits, spices and plantation crops.	Identification of various diseases of fruits, spices and plantation crops . study of etiology and Symptomatology. Collection of disease specimens and preserving them by both methods i.e., wet and dry preservation methods.
6.	HPP 510 Diseases of vegetables, flowers, medicinal and aromatic plants	Identification of various diseases of vegetables, flowers, medicinal and aromatic crops. Study of etiology and Symptomatology. Collection of disease specimens and preserving them by both methods i.e., wet and dry preservation methods.
7.	HPP 505 Plant Virology	Indexing for virus diseases Transmission studies <i>Viz.</i> , mechanical transmission, aphid transmission, mite transmission, dodder transmission, graft transmission, ELISA
8.	HPP 511 Chemicals in plant disease management	Study of formulations of fungicides, <i>In vitro</i> evaluation of fungicides, bactericides against fungi and bacteria respectively. Compatibility study of fungicides and insecticides. <i>In vitro</i> evaluation of botanicals against fungi and bacteria.

6.4.6. SUPERVISION OF STUDENTS IN M.SC. PROGRAMMES

For allotment of the research topic and major advisors, the students are encouraged to search literature and come out with the appropriate research areas. The allotment will be made by the HOD/ Dean of the respective colleges.

Advisory Committee of M.Sc. student shall consist of at least four members including Major advisor among whom, two members shall be from outside the major field of specialization. The members from the major field shall be chosen to form a closely knit team in the area of specialization giving a co-ordinated approach to help the student to complete

the research work. At any given time, a PG teacher shall not be a major advisor for more than six PG students.

Student's plan of work shall be decided by the advisory committee taking into consideration of student's research topic. The programme of research of the students is thoroughly discussed by the advisory committee and approved by the Dean (PGS).

Sl. No.	Academic year	Number of PG recognized teachers	Intake of Students	Students : Teachers
1.	2013-14	4+4*	04	1:2
2.	2014-15	4+4*	04	1:2
3.	2015-16	4+4*	06	1:1.33
4.	2016-17	4+4*	06	1:1.33
5.	2017-18	4+4*	05	1:1.6

*Faculty working in nearest stations

The PG recognised faculty available in the campus (including college as well as directorates of research and extension) is sufficient to run the PG classes and to guide the students. In addition to these faculty from neighbouring colleges and research stations are also available to offer the courses. Further the university has made a MoU with Dr. V.B. Hosagoudar Bio Research Foundation, Bilgi, from where a visiting professor has offered a course HPP 502, Mycology for PG students.

6.4.7. FEEDBACK OF STAKEHOLDERS (STUDENTS, PARENTS, INDUSTRIES, EMPLOYERS, FARMERS ETC.)

(Students, parents, industries, employers, farmers etc.)

Sl.No.	Name	Year	Important remarks/feed back	Action taken
1.	Sanjeev Jakatimath	2014-15	Teaching faculty COH comprises good number of teachers and they are unique in their knowledge to excel the students, that boost up the knowledge by multidimensional approaches and give an practical exposure to resolve the problems oriented towards crop diseases	✓
			The field of plant pathology and faculty give an flexibility to the students to implement and expand their innovations and ideology with wonderful interaction with farming community	✓

Sl.No.	Name	Year	Important remarks/feed back	Action taken
			Institution must expand the facility towards the practical experiments. eg: Establishment of net house to conduct virology experiment	The request has been made to university. Shortly the facility is expected.
			As its multidimensional disciplinary master degree program, institution shall provide flexibility to students (as like teaching faculty) to visit the abroad nations as a part of academic carrier in the view of practical and academic exposure	A requisition has made to Dean PGS.
			Extend the vehicle facility to visit the farmer field at least once in a week	The college is providing vehicle with the recommendation of HOD
			Cut down the academic credit hours (Master and Ph.D program) and importance/focus must focus on research	The faculty in the Dept felt that present course work allotted is very much required and justifiable. Hence can not be considered.
			Frame a research committee comprises scientist from interdisciplinary divisions to build up confidence and advise the students over the research constraints till the end of research at least once in a month	As per the existing guidelines the present advisory committee, is multidisciplinary.
2.	Abhishek Gowda	2015-16	Grateful to this university for awarding and providing opportunity to have a successful master degree program	✓
			Department of Plant Pathology has excellent infrastructure and well established laboratory for performing molecular biology experiments	✓
			Department provide opportunity to students to visit the field and helps to understand the field level problems by interacting with farmers	✓
			Department should collaborate with other institutes so that students get exposed to other laboratories	A MOU with Dr. V.B. Hosagoudar Bio Research Foundation, Bilagi, was made and in coming years many such MOUs will be

Sl.No.	Name	Year	Important remarks/feed back	Action taken
				attempted
3.	Jayasudha	2016-17	The lab is well facilitated with all the basic instruments and some of the advanced instrument which are necessary for the conducting good research work. Here the teaching faculty are excellent with good guideline	✓
			There is a need of green house or glass house facility for pot studies	The request has been made to university.
4.	Madhushri	2017-18	A good platform for learning and practical studies where more importance is given for research with well-equipped lab facilities Teaching faculty is excellent with good guidance. Good quality of research which are mainly focus on the recent burning issues which is help full to farmers and learning students.	✓
			For conducting molecular and virology practical's we need Net house and Green houses.	The request has been made to university.
			There is a need of other industries for the collaboration of research studies	The effort is on.
			More emphasis should be given for the linking of students thesis work for research projects which may help full to students financially and academically.	Directorate of research and Directorate of PG studies have mutually agreed to collaborate faculty research and PG research.
5	Anusha	2017-18	It's a place where I learnt and understood the vital things of subject. As of now I didn't felt at any place improvement is needed as I was always satisfied and happy about the Department.	✓

6.4.8. STUDENT INTAKE AND ATTRITION

Academic year	Sanctioned seats	Actual intake	Attrition (No)	Attrition (%)
2013-14	04	04	00	00
2014-15	04	04	00	00
2015-16	06	06	00	00
2016-17	07	07	01	14.3
2017-18	05	05	00	00

6.4.9. ICT APPLICATION AND CURRICULA

In the college the students were paid the fees and registered through Academic Management System (AMS). All PG correspondences like plan of work, programme of research and submission of all PG forms by the students were through AMS. Approvals by the head of the department, chairman and members of the advisory committee, Dean (PGS) and Registrar is processed through on line by using AMS in order to make paperless transactions.

ICT enabled teaching-learning encompasses a variety of techniques, tools, content and resources aimed at improving the quality and efficiency of the teaching-learning process. The very concept is adopted in the Department of Plant Pathology. Teachers will participate in selection and critical evaluation of digital content and resources. They will also be encouraged to develop their own digital resources, sharing them with colleagues and students through the digital repositories. For this each individual staff allotted with high configured Computer System and connected with high speed Internet facilities for sharing digital contents. Teaching will be done by using PPT and smart boards

Internet and Wi-fi facility

The department is having computers with facility of internet to all the faculty and students. Internet facility in the main campus is available through IP based network, through which students and faculty members can browse CeRA and e-resources of the library in hostels and departments.

CeRA, e-books and other online e-resources:

Library is having CeRA facility which is ICAR Consortium of e-resources in Agriculture. This covers more than 3,000 scholarly journals pertaining to the Agriculture and allied sciences which are available in full text. Also library is having access to Springer e-books for the copy right for years 2014-16, which covers nearly 1900 books in virtual format

with full text availability and at a time 25 users can open an e-book. In addition library has access to 200 Indian e-books.

Krishikosh is database of theses submitted to the Agriculture universities and ICAR institutions, The UHS Library is member for Krishikosh and all the theses submitted to the UHS are being uploaded regularly.

Special Achievements of M.Sc. Students

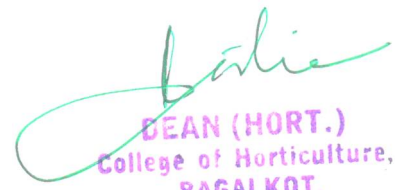
Sl. No.	Name of the student	Name of the award	Date	Title of the paper/research work considered for award	Awarded during/ by/at
1	Mr. Premachand	Mohitsubba Memorial COBACAS Best Master's Thesis Award	29-11-2015	Characterization of Begamovirus association with yellow mosaic disease of ridge gourd	International conference on "Bio resource management for sustenance of ecosystem and livelihood" at West Bengal
2	Mr. Abhishek	Best poster presentation award	15-12-2016	Evaluation of inducers against bacterial blight of pomegranate and associated defence responses	Indian Phyto pathological Society South zone and UAS, Dharwad 2016
3	Mr. Prasad Y.P	Best Poster Award	10-10-2017	Integrated disease management of foot rot complex in Betelvine	Innovative approaches for Detection, Diagnosis and management of plant diseases at UHS Bagalkot, 2017
4	Mr. Madhushri S. Kerakalamatti	Best Poster Award	08-03-2017	Integrated management of wilt complex of pomegranate	Interactive PG poster seminar on Frontier of Post Graduate Research Ares of UHS Bagalkot and Impact on Horticulture Development, at UHS Bagalkot 2017
5	Mr. Madhushri S. Kerakalamatti	Best Poster Award	27-03-2018	Incidence and severity of wilt complex of pomegranate caused by <i>Ceratocystis fimbriata</i> and <i>Meloidogyne incognita</i>	Interactive PG Poster Seminar held at UHS, Bagalkot 2018

6.4.12.

CERTIFICATE

I the Dean, College of Horticulture, Bagalkot hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college and degree awarding university.

Date: March, 2019


DEAN (HORT.)
College of Horticulture,
BAGALKOT.