SELF STUDY REPORT FOR POSTGRADUATE DEGREE PROGRAMMES

Submitted by

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(A Government of Puducherry Institution)

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SELF STUDY REPORT

For

M.Sc. Ag.

(Agricultural Economics)

6.4 SELF STUDY REPORT FOR THE PROGRAMME
M.Sc. Ag. (Agricultural Economics)

6.4.1 Brief History of the Degree Programme

Name of the degree programme : M.Sc. Ag. (Agricultural Economics)

Year of start : 2002-03

Objectives :

1. To impart professional education in the field of agriculture with specialization in Agricultural Economics at postgraduate level with high standards.
2. To produce scholars capable of handling different aspects of agricultural economics and marketing of agricultural produce in a comprehensive manner.
3. To take up basic and applied research in field of agricultural economics for PG dissertation
4. To develop their skills for employment or to enter into an advanced training/ degree programme

Vision

- To teach courses in agricultural economics in a comprehensive manner for postgraduate students
- To update the students knowledge through quality education and provide guidance for academic excellence and research expertise to cater the career needs
- To develop strategies for marketing of crop produce so as to meet the requirements of the farming community and to improve the economic status of our nation
- To forecast the prices of agricultural produce and to suggest policies for the Government.

Mission

- To educate students and communities in ways that ensures success in the regional and global economies.
- To develop new knowledge and strategies to benefit society particularly the farmers and other stake holders.
- To offer the most demanding and rigorous education for the betterment of students.

Accomplishments

- The M.Sc. Ag. (Agricultural Economics) programme was started in the year 2002-03 with the main objective of offering specialized courses in agricultural economics and to take up need based research in agricultural economics.
- So far, a total number of **47** M.Sc. students have passed out from the Department successfully and submitted their theses. All the graduates have been placed in different organizations like ARS, SAU's, Banks, State Departments *etc.,* or pursue their Ph.D. programme.
- The Department has well experienced faculties for handling classes and guiding students to take up research on various aspects in agricultural economics.
- Teaching facilities *viz.*, seminar hall, class rooms (with audio visual aids), PG laboratory and computers with internet facility are available.

6.4.2 Faculty strength

The Department has well experienced faculties for handling classes and guiding students to take up postgraduate research on various aspects in agricultural economics (Table 6.4.2a). Many of the faculties have been trained at national level Institutes. Guest speakers/experts are invited periodically from various organizations to deliver special lecture on the recent advancements in the field of agricultural economics.

Table 6.4.2a Faculty strength

Category	Sanctioned strength	Present strength	Vacancy
Professor (Agrl. Economics)	1	2	--
Associate Professor (Agrl. Economics)	1	--	--
Assistant Professor (Agrl. Economics)	5	5	--
Assistant Professor (Mathematics)	1	1	--
Assistant Professor (Comp. Sci.)	1	1	--
Assistant Professor (Statistics)	1	1	--
Total	**10**	**10**	**NIL**

Faculty recognized for teaching the postgraduate students : 9

Faculty recognized for guiding the postgraduate students : 6

M.Sc. Ag. (Agricultural Economics) students are also undergoing minor courses in Mathematics, statistics, computer applications, IPR, disaster management, research ethics and technical writing to fulfill the course requirements. These courses are being handled

by the teachers specialized in these subjects and available both in the department and allied departments.

One guest faculty from Perunthalaivar Kamarajar Institute of Engineering and Technology (PKIET), Karaikal is handling the non-credit course PGS 501 Library and Information Service (0+1) and another guest faculty from RVS College of Education, Karaikal is handling the non-credit course PGS 502 Technical writing and communication skills (0+1).

Guest speakers/experts

- The guest speakers / experts from NABARD, Banking sector, marketing institutions, Insurance companies, SAU's, *etc.* are invited to deliver special lecture on latest developments in the field of agricultural economics.
- The curriculum is mostly aimed to produce quality postgraduates and equip them with the knowledge on the subject.

The Credentials of the faculty handling classes to M.Sc. Ag. (Agricultural Economics) students are furnished in Table 6.4.2b

6.4.3 Technical and Supporting Staff

The college has created and appointed adequate technical/laboratory/supporting staff for catering the needs of the M.Sc. Ag. (Agricultural Economics). The distribution of technical and supporting staff is furnished below

Category of the staff	Present Strength
MTS (General)	2

6.4.4 Classrooms and laboratories

The Department has a long tradition of excellent teaching and the infrastructure provides holistic learning experience to the students. There are two postgraduate lecture halls in the department exclusively meant for the students of M.Sc. Ag. (Agricultural Economics). Each of the lecture halls is provided with the necessary teaching aids such as Black board, LCD projector, internet connectivity, furniture, electrical fittings, podium *etc.* for providing the modern learning experience.

Table 6.4.2b Credentials of the faculty

Discipline	Name of the faculty	Designation	Total years of service	Field of specialization	Awards / Medals/ Fellowships/ Recognitions	Publications			PG students guided	
						Books / chapters	Research articles	Popular articles	Chairman	Member
Department of Agricultural Economics and Agricultural Extension										
Agricultural Economics	Dr. P. Nasurudeen	Prof.	35	Agrl. Marketing mgt.	3	3	112	10	17	20
	Dr. A. Pouchepparadjou	Prof.	27	Environ. & Natural Resource Econ.	6	21	86	11	19	22
	Dr. L. Umamaheswari	Asst. Prof.	18	Environ. & Natural Resource Econ.	4	7	20	6	10	13
	Dr. N. Swaminathan	Asst. Prof.	16	Environmental Economics	8	4	72	5	7	8
	Dr. K.S. Kumaravel	Asst. Prof.	12	Dairy Economics	3	5	18	7	2	-
	Dr. T. Sivasakthidevi	Asst. Prof.	7	Agrl. Econ.	4	4	8	2	-	1
Computer Science	Mr. S. Saravanan	Asst. Prof.	19	Comp. Sci.	-	1	5	-	-	-
Maths	Dr. C. Vidya	Asst. Prof.	7	Maths	1	-	8	-	-	2
Statistics	Mr. K.C. Ayyoob	Asst. Prof.	7	Agrl. Statistics	-	3	13	-	-	9

The faculty members use the right blend of ICT based teaching aids such as LCD projectors and e-resources. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

Number of students in theory class : 5
Number of students in practical class : 5

The Department has a PG lab-cum-library with internet facility for conducting seminar, research and thesis presentations. The PG students utilize the laboratory for data collection and analysis for thesis purpose. The department library also has about 200 books. The instruments/facilities available in the postgraduate laboratory of the department is furnished in Table 6.4.4.

Table 6.4.4 Equipments/facilities available in the postgraduate laboratory

Sl. No.	Name of the Instrument /Teaching aid
1.	Desktop computers
2.	Lap tops
3.	Hybrid lap top
4.	LCD Projector
5.	Internet connectivity

Computer centre

A well-equipped air conditioned (fitted with eight split air conditioners) computer centre is available in the college. The computer centre is equipped with nine All-in-One desktops, eleven number of hybrid laptops and eight number of laptops for the use of staff and students of this institute. All these desktops and laptops are connected with internet for browsing. Since 2012, the computer centre is connected with 24 x 7 10 Mbps Internet Access through NMEICT. This computer centre is used by the PG students for accessing e-journals and other web based resources for the collection of literature. This centre also provides internet connectivity to all the four academic blocks of the institute with Ethernet cable and Wi-Fi is used for the LAN.

6.4.5 Conduct of Practical and Hands-on-Training

The practical syllabus is formulated based on the course needs. Practical classes are conducted in the field/experimental lab in the allotted practical hours by the course teacher. The students are given hands-on-training on various analytical techniques in agricultural economics such as collection and analysis of production data, marketing of agricultural produce, market prices, cost of cultivation of crops, *etc.*

Also, exposure visit to markets, banks, research institutes, processing industries, market committees, insurance companies and farmers' fields are periodically made so as to provide practical exposure to the students. The students are sufficiently benefited with hands-on training during their practical classes. The visits are part of the curriculum and built in the syllabi. During the practical classes, the students are taught on the tools of analysis/process and acquire skills through hands on training regularly.

6.4.6 Supervision of students in PG / Ph.D. programmes

The students are trained to explore the research problem on their own interest as well as they are allowed to take up research on the needs of the farming community of the U.T. of Puducherry. The students are allotted to prepare the research proposal which is approved by the supervisor and the research advisory committee after thorough scrutiny. Periodically, the research work is being monitored and guided by the research advisory committee which consists of a chairman and two advisory committee members. The intake of students is five per year and the PG research supervisors available in the Department is six. The list of theses submitted/on-going by the PG students of this department in the last four years (Table 6.4.6) is furnished.

Table 6.4.6 Thesis submitted / on-going research by the postgraduate students

Year	Title of the thesis	Name of the student	Name of the Chairman
2014-15	Impact of Bt cotton on livelihood of cotton growers in Perambalur district of Tamil Nadu	Jenita J. 2014680401	Dr P.Nasurudeen
	Impact of climate change on farming options in the U.T. of Puducherry	Jennie S. Navaraj D. 2014680402	Dr A. Pouchepparadjou
	Impact of drought on agriculture in Chittoor district of Andhra Pradesh	Raghavendra P. 2014680403	Dr L.Umamaheswarii
	Impact of MGNREGA on rural households – An economic analysis	Shipra Das 2014680404	Dr. A. Pouchepparadjou
	An economic analysis of the effect of industrial effluents pollution on agriculture in Karur district of Tamil Nadu	Vengadesh M. 2014680405	Dr N.Swaminathan

Year	Title of the thesis	Name of the student	Name of the Chairman
2015-16	An economic analysis of crop diversification in Nagapattinam district of Tamil Nadu	Anitha N. 15PAEC01	Dr L.Umamaheswari
	Impact of adoption of sustainable sugarcane initiative (SSI) on sugarcane production in Erode district	Gobika E. 15PAEC02	Dr P.Nasurudeen
	Price discovery of Turmeric in Indian futures market	Nannilavasan G. 15PAEC03	Dr N.Swaminathan
	An economic analysis of system of rice intensification in Cauvery Delta region of Thiruvarur district	Umamageswari G. 15PAEC04	Dr A.Pouchepparadjou
	An economic analysis of groundwater markets in hard rock areas of Hosur Union in Krishnagiri district of Tamil Nadu	Venkatesh M. 15PAEC05	Dr A.Pouchepparadjou
2016-17	Impact of organic farming on livelihood of farmers in Nagapattinam district of Tamil Nadu	Jayapriya R. 16PGA101	Dr P.Nasurudeen
	An economic analysis of productivity and profitability impact of Bt cotton in Anantapur district of Andhra Pradesh	Koeladinne Aswini 16PGA102	Dr N.Swaminathan
	Resource use efficiency under flood and drip irrigation in sugarcane in Villupuram district of Tamil Nadu	Mohanakrishnan K. 16PGA103	Dr A.Pouchepparadjou
	Economic analysis of marine fishery in Karaikal coast of Puducherry U.T.	Priyadharshini M. 16PGA104	Dr L.Umamaheswari
	An economic analysis of cashew supply chain in Cuddalore district of Tamil Nadu	Vijayasarathi R. 16PGA105	Dr K.S.Kumaravel
2017-18	A comprehensive study of PradhanMantriFasalBhimaJojana in Puducherry district of Puducherry U.T. and Cuddalore district of Tamil Nadu	Nirmal Kumar, P. 17PGA101	Dr N.Swaminathan
	Assessment of vulnerability to climate change in coastal district of Tamil Nadu and Puducherry on production of rice	Selva Ganapathy, M. 17PGA102	Dr A. Pouchepparadjou
	An economic analysis of production and marketing of fruit crops in Puducherry district of UTP	Senthamizhselvan, D. 17PGA103	Dr K.S.Kumaravel
	Economics of freshwater fish farming in Puducherry U.T.	Sundariya, M. 17PGA104	Dr L.Umamaheswari
	Impact of urbanization on livelihood of farmers in and around Greater Chennai, Tamil Nadu	Teena Lakshmi, B. 17PGA105	Dr P.Nasurudeen

6.4.7 Feed back of stakeholders (Students, Parents, industries, employers, farmers, *etc.*)

- The faculty usually gets the feedback from the students at the end of the semester about the contents of the course and the teaching skills of the faculty.
- Parents are periodically briefed about the progress of student performance
- During the exposure visits, after the interaction with the farmers, the feedback on the performance of students is obtained from the farmers.
- Students visit industries/banks/financial institutions related to the course curricula. At that time, feedback is received about their active participation and involvement.

6.4.8 Student intake and Attrition in the programme for last five years

The postgraduate degree programme M.Sc. Ag. (Agricultural Economics) was started in the year 2002-03 with an intake capacity of five students per year. In general, the student attrition is very low and the retention of the students is very high in M.Sc. Ag. (Agricultural Economics). The details on the intake capacity, number of students admitted and the student attrition in the last five years is given in Table 6.4.8.

Table 6.4.8 Intake and attrition of students

Academic year	Intake capacity	Number of students admitted	Attrition Number	Attrition %
2014-15	5	5	0	0
2015-16	5	5	0	0
2016-17	5	5	0	0
2017-18	5	5	0	0
2018-19	5	4	0	0

6.4.9 ICT application in Curricula Delivery

During delivery of curricula to the students, ICT tools are effectively used. The postgraduate lecture halls are provided with LCD projectors and internet facility for better delivery of lectures. The faculty use a combination of lectures and power point presentations to make the concepts/policies clearly understandable to the students. The important lectures are taught with videos.

The students are also trained to make use of the facility for presentation of term papers. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt-with in detail to apply the concepts learnt in theory.

Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

A separate computer lab with infrastructure facility is available for the students. The students are being taught about the IT facilities. Sufficient furniture, ventilation and lighting facilities are provided in all the class rooms for comfortable listening and writing of the students. A table, podium, whiteboards/screen, black board with duster are available in each class room for the use of teachers. A common generator facility supplies power to all the classrooms to avoid interruption of the class during power failure.

All communications to the students regarding academic calendar, time table for the courses registered, schedule of examinations, internal marks scored by the students, semester results, *etc.* are sent to the students only in the e-notice board of the college. Internet access of 4 Mbps with static IP is used to give access to e-communication portal across the world. Also, the students register the courses to be taken up in a semester in on-line mode.

The teaching faculty is well updated with the usage of IT enabling gadgets. All the classrooms are well equipped with internet facility to help in proficient delivery of the course contents.

The institute has signed a MOU with National Knowledge Network Portal, through which staff and students would be able to access e-books and journals. The students and staff have 24 hours x 7 days/week free Internet access (10 Mbps) through NME-ICT project.

6.4.12 CERTIFICATE

I, the Dean i/c ***Dr. V. Kanthaswamy*** *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*

Signature of the Dean of the college
with date and seal

SELF STUDY REPORT

For

M.Sc. Ag.
(Agricultural Entomology)

6.4 SELF STUDY REPORT FOR THE PROGRAMME

M.Sc. Ag. (Agricultural Entomology)

6.4.1. Brief History of the Degree Programme

Name of the degree programme : M.Sc. Ag. (Agricultural Entomology)

Year of start : 2000-01

Objectives :

1. To impart technical education in the field of agriculture with specialization in agricultural entomology at postgraduate level with high standards.
2. To produce scholars capable of handling different aspects of crop protection technologies in field and horticultural crops in a comprehensive manner.
3. To take up basic and applied research in field and horticultural crops for PG dissertation
4. To develop their skills for employment or to enter into an advanced training/ degree programme

Vision

- To teach courses in Agricultural Entomology in a comprehensive manner for postgraduate students
- To update the students knowledge through quality education and provide guidance for academic excellence and research expertise to cater the career needs
- To develop crop protection technologies in field and horticultural crops so as to meet the requirements of the farming community and to improve the economic status of our nation
- To develop technologies for efficient use of insecticides and other plant protection chemicals.
- To transfer the developed technologies to farming communities

Mission

- To educate students and communities in ways that ensures success in the regional and global economies.
- To develop new knowledge and technologies to benefit society particularly the farmers and other stake holders.

- To offer the most demanding and rigorous education for the betterment of students.

Accomplishments

- The M.Sc. Ag. (Agricultural Entomology) programme was started in the year 2000-01 with the main objective of offering specialized courses in Agricultural Entomology, and applied aspects of crop protection and to take up need based research in field and horticultural crops.
- So far, a total number of **56** M.Sc. students have passed out from the Department successfully and submitted their theses. All the graduates have been placed in different organizations like ARS, SAU's, Banks, State Departments *etc.,* or pursue their Ph.D. programme.
- The Department has well experienced faculties for handling classes and guiding students to take up research on various entomological aspects.
- The college has well earmarked field of 87.4 acres farm land managed by the Department of Agronomy to facilitate practical classes and to conduct PG research experiments.
- The department has well equipped PG laboratory.
- Teaching facilities *viz.*, seminar hall, class rooms (with audio visual aids), insect repository, PG laboratory and computers with internet facility are available.

6.4.2 Faculty strength

The Department has well experienced faculties for handling classes and guiding students to take up postgraduate research on various aspects in field crops (Table 6.4.2a). Many of the faculties have been trained at national level Institutes.

Table 6.4.2a Faculty strength

Category	Sanctioned strength	Present strength	Vacancy
Professor	1	1	--
Associate Professor	2	--	2
Assistant Professor	4	1+3*	--
Total	**7**	**5**	**2**

* Contract teachers

Faculty recognized for teaching the postgraduate students : 2

Faculty recognized for guiding the postgraduate students : 2

M.Sc. Ag. (Agricultural Entomology) students are also undergoing minor courses in Agronomy, crop physiology, biochemistry, statistics, computer science, IPR, disaster management, research ethics and technical writing to fulfill the course requirements. These courses are being handled by the teachers from the respective departments in the college.

One guest faculty from Perunthalaivar Kamarajar Institute of Engineering and Technology (PKIET), Karaikal is handling the non-credit course PGS 501 Library and Information Service (0+1) and another guest faculty from RVS College of Education, Karaikal is handling the non-credit course PGS 502 Technical writing and communication skills (0+1).

Guest speakers/experts

- Whenever the external examiners or experts from other SAU's/organizations visit this Institute, they are invited to deliver special lecture on latest developments in the field of agricultural entomology.
- The curriculum is mostly aimed to produce quality postgraduates and equip them with the knowledge on management of pests, beneficial insects, pesticides, botanicals, *etc.*

The Credentials of the faculty handling classes to M.Sc. Ag. (Agricultural Entomology) students are furnished in Table 6.4.2b.

6.4.3 Technical and Supporting Staff

The college has created and appointed adequate technical/laboratory/farm staff for catering the needs of the M.Sc. Ag. (Agricultural Entomology). The distribution of technical, supporting and field staff is furnished below

Category of the staff	Present Strength
MTS (General)	2

6.4.4 Classrooms and laboratories

The Department has a long tradition of excellent teaching and the infrastructure provides holistic learning experience to the students.There are two postgraduate lecture halls in the department exclusively meant for the students of M.Sc. Ag. (Agricultural Entomology). Each of the lecture halls is provided with the necessary teaching aids such as

Table 6.4.2b Credentials of the faculty

Discipline	Name of the faculty	Designation	Total years of service	Field of specialization	Awards / Medals/ Fellowships/ Recognitions	Publications			PG students guided	
						Books / chapters	Research articles	Popular articles	Chairman	Member
Department of Agricultural Entomology										
Agricultural Entomology	Dr. K. Kumar	Prof. & Head	18	Insecticide toxicology	3	2	83	54	18	18
	Dr. M. Kandibane	Asst. Prof.	13	Host plant resistance	4	2	92	36	8	6
Cr. Physiol.	Dr. S. Nadaradjan	Asst. Prof.	12	Molecular physiology	6	6	35	2	-	36
Soil Science and Agricultural Chemistry	Dr. R. Sankar	Prof.	27	Soil fertility; problem soils	2	17	116	8	10	16
	Dr. U. Bagavathi Ammal	Prof.	19	Soil fertility	7	13	151	5	6	18
Statistics	Mr. K.C. Ayyoob	Asst. Prof.	7	Agrl. Statistics	-	3	13	-	-	9

Black board, LCD projector, internet connectivity, furniture, electrical fittings, podium *etc.* for providing the modern learning experience.

The faculty members use the right blend of ICT based teaching aids such as LCD projectors and e-resources. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

Number of students in theory class : 5
Number of students in practical class : 5

The postgraduate laboratory is well equipped to conduct the practicals/hands on training to the students. The following laboratory facilities are available for the M.Sc. Ag. (Agricultural Entomology) degree programme.

- Postgraduate Laboratory
- Insect repository
- Farm for taking up field practicals and thesis research work

The instruments/equipments available in the postgraduate laboratory of the department is furnished Table 6.4.4.

Table 6.4.4 Instruments/Equipments available in the postgraduate laboratory

Sl. No.	Name of the Equipment
1.	HPLC
2.	Stainless steel Autoclave
3.	Laminar flow
4.	Glass Bead Sterilizing Unit for tile laminar flow
5.	4KvA Servo Krykard Stabilizer
6.	Beehives
7.	Steel racks for rearing of insects
8.	Stereoscopic microscopes
9.	Double distillation Unit
10.	Insect boxes
11.	Potter's Tower
12.	Work tables
13.	Class room rostrums
14.	LPG stove and cylinder
15.	Soxhlet apparatus
16.	Haemocytometer
17.	Microwave oven

Sl. No.	Name of the Equipment
18.	Pressure cooker
19.	Electric Stove with regulators
20.	Centrifuge
21.	Refrigerated centrifuge
22.	Ocular micrometer and stage micrometer
23.	Dissection microscope
24.	Field cage frames
25.	Compound microscope
26.	Microscope with CCD camera
27.	Insect blow-ups
28.	Insect wooden cages
29.	Insect Flying Tunnel
30.	Television and VCR
31.	Refrigerators
32.	Sericulture video cassette teaching aids
33.	Olfactometer
34.	Five KG balance
35.	Insect vial cabinet
36.	Digital camera
37.	Sony Handycam
38.	Deep freezer
39.	Spectrophotometer
40.	Slide projector
41.	Advanced Plant Growth Chamber SANYO make
42.	Hot water bath
43.	Hot air oven
44.	Microtome
45.	Blender
46.	Electronic balance
47.	Rotary vapour bath
48.	Hot plate
49.	Eppendorf micro centrifuge
50.	PCR instrument
51.	Insect repository
52.	Fixed insect and plant specimens
53.	Insect traps
54.	Different types of sprayers
55.	Sonicator
56.	Screen house
57.	Motic stereozoom microscopes
58.	Insect collection nets
59.	Storage pest monitoring kit
60.	Honey extractor
61.	Insect cabinets

Instructional/Research farm

The college has 87.4 acres of farm land managed by the Department of Agronomy. This farm is used for conducting various field practicals, hands on training to the students and postgraduate research experiments.

Also, a well-equipped air conditioned (fitted with eight split air conditioners) computer centre is available in the college. The computer centre is equipped with nine All-in-One desktops, eleven number of hybrid laptops and eight number of laptops for the use of staff and students of this institute. All these desktops and laptops are connected with internet for browsing. Since 2012, the computer centre is connected with 24 x 7 10 Mbps Internet Access through NMEICT. This computer centre is used by the PG students for accessing e-journals and other web based resources for the collection of literature. This centre also provides internet connectivity to all the four academic blocks of the institute with Ethernet cable and Wi-Fi is used for the LAN.

6.4.5 Conduct of Practical and Hands-on-Training

The practical syllabus is formulated based on the course needs. Practical classes are conducted in the field/experimental lab in the allotted practical hours by the course teacher. The students are given hands-on-training on various techniques in Agricultural Entomology such as insect collection and identification, dissection of insects, pest control methods, pesticide application techniques, plant protection practices in field and horticultural crops, *etc.* The students are also exposed to hands on training in gaining practical experience in field operations, in documenting the biometrical traits of the crops and insects, handling of various equipments in the laboratory and estimation of various parameters based on the course requirement.

Also, exposure visit to fields, research institutes, experimental fields and farmers' fields are periodically made so as to provide practical exposure to the students. The students are sufficiently benefited with hands-on training during their practical classes. The visits are part of the curriculum and built in the syllabi. During the practical classes, the students are taught on the technology/process and acquire skills through hands on training regularly.

6.4.6 Supervision of students in PG./Ph.D. programmes

The students are trained to explore the research problem on their own interest as well as they are allowed to take up research on the field problems faced by the farming community of the U.T. of Puducherry. The students are allotted to prepare the research

proposal which is approved by the supervisor and the research advisory committee after thorough scrutiny. Periodically, the research work is being monitored and guided by the research advisory committee which consists of a chairman and two advisory committee members. The intake of students is five per year and the PG research supervisors available in the Department is two.

The list of theses submitted/on-going by the PG students of this department in the last four years is furnished in Table 6.4.6.

Table 6.4.6 Thesis submitted / on-going research by the postgraduate students

Year	Title of the thesis	Name of the student	Name of the Chairman
2014-15	PG programme suspended		
2015-16	Biodiversity of arthropod fauna in mango (*Mangifera indica* L.) ecosystem	Balaji, R.K. 15PAEN01	Dr. K. Kumar
	Bioefficacy of neem formulation against the major pests of rice [*Oryza sativa* (L.)]	Balasubramaniam, M. 15PAEN02	Dr. K. Kumar
	Evaluation of integrated pest management modules against shoot and fruit borer, *Earias vittella* (Fabricius) and sucking pest complex in okra [*Abelmoschus esculentus* (L.) Moench]	Batchu Srilakshmi Ramani 15PAEN03	Dr. K. Kumar
	Bioecology and management of mango leafhopper, *Idioscopus nitidulus* (Walker) (Cicadellidae: Hemiptera) in Karaikal district, U.T. of Puducherry	Kumar, T. 15PAEN04	Dr. M. Kandibane
	Biology and management of brinjal shoot and fruit borer, *Leucinodes orbonalis* (Guenee) (Pyralidae: Lepidoptera) in Karaikal district, U.T. of Puducherry	Nimmala Sandhya 15PAEN05	Dr. M. Kandibane
2016-17	Studies on parasitic fauna (Parasitica: Hymenoptera) of rice and mango ecosystem	Ashoke, R. 16PGA201	Dr. M. Kandibane
	Exploration of anti insect activities of yellow oleander, *Thevetia peruviana* (Pers.) K. Schum against tobacco leaf caterpillar, *Spodoptera litura* (Fab.) (Noctuidae: Lepidoptera)	Bandaru Surendra Kumar 16PGA202	Dr. M. Kandibane
	Exploration of anti insect activities of bitter apple, *Citrullus colocynthis* (L.) Schrad against tobacco leaf caterpillar, *Spodoptera litura* (Fab.) (Noctuidae: Lepidoptera)	Kosuri Sreesha 16PGA203	Dr. M. Kandibane
	Screening and management of pulse beetle *Callosobruchus maculates* (Fab.) (Coleoptera: Bruchidae) in black gram (*Vigna mungo* L.)	Sachin, K. 16PGA204	Dr. K. Kumar

Year	Title of the thesis	Name of the student	Name of the Chairman
2016-17	Screening and management of Angoumois grain moth, *Sitrotroga cerealella* (Olivier) (Lepidoptera: Gelechidae) in rice (*Oryza sativa* L.)	Thiruvengadam, K. 16PGA205	Dr. K. Kumar
2017-18	Bioefficacy of botanicals against the major pests of rice (*Oryza sativa* L.)	Dhivya, G. 17PGA201	Dr. K. Kumar
	Biodiversity of Odonata in Agricultural and Horticultural ecosystem in Karaikal district, U.T. of Puducherry	Grace George, K. 17PGA202	Dr. K. Kumar
	Biodiversity of Heteroptera in Agricultural and Horticultural ecosystem in Karaikal district, U.T. of Puducherry	Kolavennu V.V. Sai Matha Purnambica 17PGA203	Dr. K. Kumar
	Exploration of anti insect activities of Devil pepper, *Rauvolfia tetraphylla* against tobacco leaf caterpillar, *Spodoptera litura* (Fab.) (Noctuidae: Lepidoptera)	Prakash, D. 17PGA204	Dr. M. Kandibane
	Exploration of anti insect activities of Rosary pea, *Abrus precatorius* against tobacco leaf caterpillar, *Spodoptera litura* (Fab.) (Noctuidae: Lepidoptera)	Thulasi, S. 17PGA205	Dr. M. Kandibane

6.4.7 Feed back of stakeholders (Students, Parents, industries, employers, farmers, *etc.*)

- The faculty usually get the feedback from the students at the end of the semester about the contents of the course and the teaching skills of the faculty.
- Parents are periodically briefed about the progress of student performance
- During the exposure visits, after the interaction with the farmers, the feedback on the performance of students is obtained from the farmers.
- Students visit industries related to the course curricula. At that time, feedback is received about their active participation and involvement.

6.4.8 Student intake and Attrition in the programme for last five years

The postgraduate degree programme M.Sc. Ag. (Agricultural Entomology) was started in the year 2000-01 with an intake capacity of five students per year. In general, the student attrition is very low and the retention of the students is very high in M.Sc. Ag. (Agricultural Entomology). The details on the intake capacity, number of students admitted and the student attrition in the last five years is given in Table 6.4.8.

Table 6.4.8 Intake and attrition of students

Academic year	Intake capacity	Number of students admitted	Attrition Number	Attrition %
2014-15	5	PG suspended	--	--
2015-16	5	5	0	0
2016-17	5	5	0	0
2017-18	5	5	0	0
2018-19	5	5	0	0

6.4.9 ICT application in Curricula Delivery

During delivery of curricula to the students, ICT tools are effectively used. The postgraduate lecture halls are provided with LCD projectors and internet facility for better delivery of lectures. The faculty use a combination of lectures and power point presentations to make the concepts/techniques clearly understandable to the students. The important lectures are taught with videos.

The students are also trained to make use of the facility for presentation of term papers. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt-with in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

A separate computer lab with infrastructure facility is available for the students. The students are being taught about the IT facilities. Sufficient furniture, ventilation and lighting facilities are provided in all the class rooms for comfortable listening and writing of the students. A table, podium, whiteboard/screen, black board with duster are available in each class room for the use of teachers. A common generator facility supplies power to all the classrooms to avoid interruption of the class during power failure.

All communications to the students regarding academic calendar, time table for the courses registered, schedule of examinations, internal marks scored by the students, semester results, *etc.* are sent to the students only in the e-notice board of the college. Internet access of 4 Mbps with static IP is used to give access to e-communication portal across the world. Also, the students register the courses to be taken up in a semester in on-line mode.

The teaching faculty is well updated with the usage of IT enabling gadgets. All the classrooms are well equipped with internet facility to help in proficient delivery of the course contents.

The institute has signed a MOU with National Knowledge Network Portal, through which staff and students would be able to access e-books and journals. The students and staff have 24 hours x 7 days/week free Internet access (10 Mbps) through NME-ICT project.

6.4.12 CERTIFICATE

I, the Dean i/c ***Dr. V. Kanthaswamy*** *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*

Signature of the Dean of the college
with date and seal

SELF STUDY REPORT

For

M.Sc. Ag.
(Agronomy)

6.4 SELF STUDY REPORT FOR THE PROGRAMME

M.Sc. Ag. (Agronomy)

6.4.1 Brief History of the Degree Programme

Name of the degree programme : M.Sc. Ag. (Agronomy)

Year of start : 2000-01

Objectives :

1. To impart technical education in the field of agriculture with specialization in agronomy at postgraduate level with high standards.
2. To produce scholars capable of handling different aspects of crop management and various production technologies of field crops in a comprehensive manner.
3. To take up basic and applied research in field crops for PG dissertation
4. To develop their skills for employment or to enter into an advanced training/ degree programme

Vision

- To teach courses in agronomy in a comprehensive manner for postgraduate students
- To update the students knowledge through quality education and provide guidance for academic excellence and research expertise to cater the career needs
- To develop production technologies in field crops so as to meet the requirements of the farming community and to improve the economic status of our nation
- To develop technologies for efficient use of inputs like manures, fertilizers, water, herbicides, *etc.*
- To transfer the developed technologies to farming communities

Mission

- To educate students and communities in ways that ensures success in the regional and global economies.
- To develop new knowledge and technologies to benefit society particularly the farmers and stake holders.
- To offer the most demanding and rigorous education for the betterment of students.

Accomplishments

- The M.Sc. Ag. (Agronomy) programme was started in the year 2000-01 with the main objective of offering specialized courses in agronomy, crop management and applied aspects of field crop production and to take up need based research in field crops.
- So far, a total number of **68** M.Sc. students have passed out from the Department successfully and submitted their theses. All the graduates have been placed in different organizations like ARS, SAU's, Banks, State Departments *etc.,* or pursue their Ph.D. programme.
- The Department has well experienced faculties for handling classes and guiding students to take up research on various aspects in field crops.
- The Department of Agronomy has well earmarked field of 87.4 acres farm land to facilitate practical classes and to conduct PG research experiments.
- The department has well equipped PG laboratory.
- Teaching facilities *viz.*, seminar hall, class rooms (with audio visual aids), postgraduate laboratory and computers with internet facility are available.

6.4.2 Faculty strength

The Department has well experienced faculties for handling classes and guiding students to take up postgraduate research on various aspects in field crops (Table 6.4.2a). Many of the faculties have been trained at national level Institutes.

Table 6.4.2a Faculty strength

Category	Sanctioned strength	Present strength	Vacancy
Professor	1	6	--
Associate Professor	3	--	--
Assistant Professor	7	3	2
Total	**11**	**9**	**2**

Faculty recognized for teaching the postgraduate students: 8

Faculty recognized for guiding the postgraduate students : 7

M.Sc. Ag. (Agronomy) students are also undergoing minor courses in Soil Science and Agricultural Chemistry, crop physiology, biochemistry, statistics, computer science, IPR, disaster management, research ethics and technical writing to fulfill the course

requirements. These courses are being handled by the teachers from the respective departments in the college.

One guest faculty from Perunthalaivar Kamarajar Institute of Engineering and Technology (PKIET), Karaikal is handling the non-credit course PGS 501 Library and Information Service (0+1) and another guest faculty from RVS College of Education, Karaikal is handling the non-credit course PGS 502 Technical writing and communication skills (0+1).

Guest speakers/experts

- Whenever the external examiners or experts from other SAU's/organizations visit this Institute, they are invited to deliver special lecture on latest developments in the field of agronomy.
- The curriculum is mostly aimed to produce quality postgraduates and equip them with the knowledge on management of crops, soil and climatic conditions for better productivity of the field crops.

The Credentials of the faculty handling classes to M.Sc. Ag. (Agronomy) students are furnished in Table 6.4.2b.

6.4.3. Technical and Supporting Staff

The college has created and appointed adequate technical/laboratory/farm staff for catering the needs of the M.Sc. Ag. (Agronomy). The distribution of technical, supporting and field staff is furnished below

Category of the staff	Present Strength
Lab Attendant	1
Data Entry Operator	1
Field man	3
Field Assistant	3
Helper	2
Agri. Mazdoor	31
Casual labourers	42

Table 6.4.2b Credentials of the faculty

Discipline	Name of the faculty	Designation	Total years of service	Field of specialization	Awards / Medals/ Fellowships/ Recognitions	Publications			PG students guided	
						Books / chapters	Research articles	Popular articles	Chairman	Member
Department of Agronomy										
Agronomy	Dr. R. Poonguzhalan	Prof. & Head	24	Weed Mgt.; soil fertility	2	1	81	28	12	33
	Dr. V. Chellamuthu	Prof.	35	Cropping system; soil fertility	3	1	85	70	25	40
	Dr. AL. Narayanan	Prof.	24	Agro-climatology	3	3	55	70	14	16
	Dr. R. Mohan	Prof.	24	Irrigation mgt; organic farming.	2	8	69	24	12	15
	Dr. C. Susheela	Prof.	19	Crop production	2	-	5	16	2	2
	Dr. S. Mala	Prof.	19	Forage crops; Nutrient mgt.	1	-	5	13	-	5
	Dr. P. Saravanane	Asst. Prof.	13	Weed mgt;	5	2	18	26	-	3
	Dr. V. Sridevi	Asst. Prof.	7	Crop production	2	-	42	2	-	2
Cr. Physiol.	Dr. S. Nadaradjan	Asst. Prof.	12	Molecular physiology	6	6	35	2	-	36
Soil Sci. & Ag. Chemistry	Dr. R. Sankar	Prof.	27	Soil fertility; problem soils	2	17	116	8	10	16
	Dr. U. Bagavathi Ammal	Prof.	19	Soil fertility	7	13	151	5	6	18
Statistics	Mr. K.C. Ayyoob	Asst. Prof.	7	Agrl. Statistics	-	3	13	-	-	9

6.4.4 Classrooms and laboratories

The Department has a long tradition of excellent teaching and the infrastructure provides holistic learning experience to the students.There are two postgraduate lecture halls in the department exclusively meant for the students of M.Sc. Ag.(Agronomy). Each of the lecture halls is provided with the necessary teaching aids such as Black board, LCD projector, internet connectivity, furniture, electrical fittings, podium *etc.* for providing the modern learning experience.

The faculty members use the right blend of ICT based teaching aids such as LCD projectors and e-resources. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

Number of students in theory class : 5
Number of students in practical class : 5

The postgraduate laboratory is well equipped to conduct the practicals/hands on training to the students. The following laboratory facilities are available for the M.Sc. Ag. (Agronomy) degree programme.

- Postgraduate Laboratory
- Agrometeorological observatory
- Farm for taking up field practicals and thesis research work

The instruments/equipments available in the postgraduate laboratory of the department is furnished in Table 6.4.4.

Table 6.4.4 Instruments/Equipments available in the postgraduate laboratory

Sl. No.	Name of the Instrument
1.	Willey Mill
2.	Willey mill (Heavy duty)
3.	Electronic balances
4.	Physical and Chemical balances
5.	Digital conductivity meter
6.	Digital pH meter
7.	Portable water quality analyzer
8.	Spectrophotometer
9.	Flame Photometer
10.	Semi automatic nitrogen analyzer

Sl. No.	Name of the Instrument
11.	GPS meter
12.	Sand bath
13.	Mechanical shaker
14.	Hot air ovens
15.	Muffle furnace
16.	High speed centrifuge
17.	Automatic solvent extraction system
18.	Automatic fibre extraction system
19.	Neutron moisture probe
20.	Leaf area meter
21.	Lux meter
22.	Refractometer
23.	Magnetic stirrer

Instructional/Research farm

The Department has 87.4 acres of farm land. This farm is used for conducting various field practicals, hands on training to the students and postgraduate research experiments. The department of agronomy has adequate number of tractors, farm implements, tools and other machinery for providing hands on training to the students.

Also, a well-equipped air conditioned (fitted with eight split air conditioners) computer centre is available in the college. The computer centre is equipped with nine All-in-One desktops, eleven number of hybrid laptops and eight number of laptops for the use of staff and students of this institute. All these desktops and laptops are connected with internet for browsing. Since 2012, the computer centre is connected with 24 x 7 10 Mbps Internet Access through NMEICT. This computer centre is used by the PG students for accessing e-journals and other web based resources for the collection of literature. This centre also provides internet connectivity to all the four academic blocks of the institute with Ethernet cable and Wi-Fi is used for the LAN.

6.4.5 Conduct of Practical and Hands-on-Training

The practical syllabus is formulated based on the course needs. Practical classes are conducted in the field/experimental lab in the allotted practical hours by the course teacher. The students are given hands-on-training on various techniques in agronomy such as collection and analysis of soil and plant samples, weed control methods, herbicide application techniques, irrigation and fertigation techniques, organic preparations, production practices in field crops, *etc.* The students are also exposed to hands on training in gaining practical experience in field operations, in documenting the biometrical traits of

the crops, handling of various equipments in the laboratory and estimation of various parameters based on the course requirement.

Also, exposure visit to fields, research institutes, experimental fields and farmers' fields are periodically made so as to provide practical exposure to the students. The students are sufficiently benefited with hands-on training during their practical classes. The visits are part of the curriculum and built in the syllabi. During the practical classes, the students are taught on the technology/ process and acquire skills through hands on training regularly.

6.4.6 Supervision of students in PG./Ph.D. programmes

The students are trained to explore the research problem on their own interest as well as they are allowed to take up research on the field problems faced by the farming community of the U.T. of Puducherry. The students are allotted to prepare the research proposal which is approved by the supervisor and the research advisory committee after thorough scrutiny. Periodically the research work is being monitored and guided by the research advisory committee which consists of a chairman and two advisory committee members. The intake of students is five per year and the PG research supervisors available in the Department is seven.

The list of theses submitted/on-going by the PG students of this department in the last five years is furnished in Table 6.4.6.

Table 6.4.6 Thesis submitted / on-going research by the postgraduate students

Year	Title of the thesis	Name of the student	Name of the Chairman
2014-15	Studies on the evaluation of establishment techniques in ragi (SRGi) at Karaikal region.	Alphons Mary, S. 2014680201	Dr. AL. Narayanan
	Studies on the potential utilization of local vegetation as manure for organic rice cultivation in coastal deltaic region of Karaikal.	Giridharan, D. 2014680202	Dr. R. Mohan
	Performance of rice varieties under organic farming to varied levels of vermicompost in coastal deltaic region of Karaikal.	Selvabharathy, V. 2014680203	Dr. R. Mohan
	Studies on agronomic practices to mitigate climate change in aerobic rice during kharif season at Karaikal	Sreelakshmi, V. 2014680204	Dr. AL. Narayanan
	Crop weed competition studies in aerobic rice in the coastal region of Karaikal.	Venkatesan, S. 2014680205	Dr. R. Poonguzhalan

Year	Title of the thesis	Name of the student	Name of the Chairman
2015-16	Evaluation of organic weed management practices in transplanted rice	Anju Thomas 15PAGR01	Dr. R. Poonguzhalan
	Optimization of seed rate and fertilizer dose for dry-seeded irrigated upland rice.	Harishwar, S. 15PAGR02	Dr. V. Chellamuthu
	Studies on the effect of varieties and plant geometry on the performance of barnyard millet in coastal areas of Karaikal	Kamalarani, V. 15PAGR03	Dr. C. Susheela
	Agronomic and physiological measures to enhance the productivity of aerobic rice in coastal deltaic region of Karaikal region.	Nalla Anthony Kiranmai 15PAGR04	Dr. R. Mohan
	Influence of weather factors and seed priming practices in aerobic rice productivity at Karaikal.	Pazhanisamy, S. 15PAGR05	Dr. AL. Narayanan
2016-17	Performance and suitability of irrigated dry (id) crops for Kharif season at coastal deltaic region of Karaikal.	Allen, P. 16PGA301	Dr. R. Mohan
	Performance of various integrated weed management practices in transplanted ragi for coastal region of Karaikal.	Mohammad Rahaman Khan 16PGA303	Dr. AL. Narayanan
	Studies on effect of tillage and seed rate on the yield of direct wet seeded rice at coastal region of Karaikal.	Rajendra Prasath, V. 16PGA304	Dr. V. Chellamuthu
	Influence of crop geometry on growth and seed yield of sunhemp (*Crotalaria juncea*) in the coastal deltaic region of Karaikal.	Sivamani, N. 16PGA305	Dr. C. Susheela
2017-18	Response of fodder maize to different nutrient management strategies in coastal deltaic region of Karaikal.	Anbarasan, S. 17PGA301	Dr. S. Mala
	Studies on the effect of seed priming techniques and crop weather relationship of summer irrigated sesame	Ishwarya, M. 17PGA302	Dr. AL. Narayanan
	Comparative study of organic and inorganic rice-pulse production system in coastal deltaic region of Karaikal.	Priyadharsini, R. 17PGA303	Dr. R. Mohan
	Influence of establishment methods and nitrogen levels on the growth and yield of aerobic rice.	Ramya, K. 17PGA304	Dr. R. Poonguzhalan
	Effect of tillage and weed management on the growth and yield of transplanted rice	Thiripurasundari, K. 17PGA305	Dr. V. Chellamuthu

Year	Title of the thesis	Name of the student	Name of the Chairman
2018-19	Weed management studies in fodder maize	Anantha Siva Bala, N. 18PGA301	Dr. S. Mala
	Crop weather relationship studies in sesame	Deepa Priya, V. 18PGA302	Dr. AL. Narayanan
	Weed management studies in direct seeded rice	Pooja, K. 18PGA303	Dr. P. Saravanane

6.4.7 Feed back of stakeholders (Students, Parents, industries, employers, farmers, *etc.*)

- The faculty usually get the feedback from the students at the end of the semester about the contents of the course and the teaching skills of the faculty.
- Parents are periodically briefed about the progress of student performance
- During the exposure visits, after the interaction with the farmers, the feedback on the performance of students is obtained from the farmers.
- Students visit industries related to the course curricula. At that time, feedback is received about their active participation and involvement.

6.4.8 Student intake and Attrition in the programme for last five years

The postgraduate degree programme M.Sc. Ag. (Agronomy) was started in the year 2000-01 with an intake capacity of five students per year. In general, the student attrition is very low and the retention of the students is very high in M.Sc. Ag. (Agronomy). The details on the intake capacity, number of students admitted and the student attrition in the last five years is given in Table 6.4.8.

Table 6.4.8 Intake and attrition of students

Academic year	Intake capacity	Number of students admitted	Attrition Number	Attrition %
2014-15	5	5	0	0
2015-16	5	5	0	0
2016-17	5	5	1	20
2017-18	5	5	0	0
2018-19	5	3	0	0

6.4.9 ICT application in Curricula Delivery

During delivery of curricula to the students, ICT tools are effectively used. The postgraduate lecture halls are provided with LCD projectors and internet facility for better delivery of lectures. The faculty use a combination of lectures and power point

presentations to make the concepts/techniques clearly understandable to the students. The important lectures are taught with videos.

The students are also trained to make use of the facility for presentation of term papers. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt-with in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

A separate computer lab with infrastructure facility is available for the students. The students are being taught about the IT facilities. Sufficient furniture, ventilation and lighting facilities are provided in all the class rooms for comfortable listening and writing of the students. A table, podium, whiteboard/screen, black board with duster are available in each class room for the use of teachers. A common generator facility supplies power to all the classrooms to avoid interruption of the class during power failure.

All communications to the students regarding academic calendar, time table for the courses registered, schedule of examinations, internal marks scored by the students, semester results, *etc.* are sent to the students only in the e-notice board of the college. Internet access of 4 Mbps with static IP is used to give access to e-communication portal across the world. Also, the students register the courses to be taken up in a semester in on-line mode.

The teaching faculty is well updated with the usage of IT enabling gadgets. All the classrooms are well equipped with internet facility to help in proficient delivery of the course contents.

The institute has signed a MOU with National Knowledge Network Portal, through which staff and students would be able to access e-books and journals. The students and staff have 24 hours x 7 days/week free Internet access (10 Mbps) through NME-ICT project.

6.4.12 CERTIFICATE

I, the Dean i/c ***Dr. V. Kanthaswamy*** *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*

Signature of the Dean of the college
with date and seal

SELF STUDY REPORT

For

M.Sc. Ag.
(Genetics and Plant Breeding)

6.4 SELF STUDY REPORT FOR THE PROGRAMME

M.Sc. Ag. (Genetics and Plant Breeding)

6.4.1 Brief History of the Degree Programme

Name of the degree programme : M.Sc. Ag. (Genetics and Plant Breeding)

Year of start : 1999-2000

Objectives :

1. To impart technical education in the field of agriculture with specialization in Genetics and Plant Breeding at postgraduate level with high standards.
2. To produce scholars capable of handling different aspects of crop improvement technologies in field crops in a comprehensive manner.
3. To take up basic and applied research in the varietal improvement of field crops for PG dissertation
4. To develop their skills for employment or to enter into an advanced training/ degree programme

Vision

- To teach courses in Genetics and Plant Breeding in a comprehensive manner for postgraduate students
- To update the students knowledge through quality education and provide guidance for academic excellence and research expertise to cater the career needs
- To develop crop improvement technologies in field crops so as to meet the requirements of the farming community and to improve the economic status of our nation
- To develop improved cultivars in field crops.
- To transfer the developed technologies to farming communities

Mission

- To educate students and communities in ways that ensures success in the regional and global economies.
- To develop new knowledge and technologies to benefit society particularly the farmers and other stake holders.
- To offer the most demanding and rigorous education for the betterment of students.

Accomplishments

- The M.Sc. Ag. (Genetics and Plant Breeding) programme was started in the year 1999-2000 with the main objective of offering specialized courses in genetics and plant breeding and applied aspects of crop improvement and to take up need based research in field and horticultural crops.
- So far, a total number of **71** M.Sc. students have passed out from the Department successfully and submitted their theses. All the graduates have been placed in different organizations like ARS, SAU's, Banks, State Departments *etc.,* or pursue their Ph.D. programme.
- The Department has well experienced faculties for handling classes and guiding students to take up research on various aspects of crop improvement.
- The college has well earmarked field of 87.4 acres farm land managed by the Department of Agronomy to facilitate practical classes and to conduct PG research experiments.
- The department has well equipped PG laboratories.
- Teaching facilities *viz.*, seminar hall, class rooms (with audio visual aids), various laboratories and computers with internet facility are available.

6.4.2 Faculty strength

The Department has well experienced faculties for handling classes and guiding students to take up postgraduate research on various aspects in field crops (Table 6.4.2a). Many of the faculties have been trained at national level Institutes.

Table 6.4.2a Faculty strength

Category	Sanctioned strength	Present strength	Vacancy
Professor	1	3	--
Associate Professor	2	--	--
Assistant Professor	5	2+1*	2
Total	**8**	**6**	**2**

* Contract teachers

Faculty recognized for teaching the postgraduate students : 5

Faculty recognized for guiding the postgraduate students : 4

M.Sc. Ag. (Genetics and Plant Breeding) students are also undergoing minor courses in Seed Science and Technology, crop physiology, biochemistry, statistics, computer science, IPR, disaster management, research ethics and technical writing to fulfill the course

requirements. These courses are being handled by the teachers from the respective departments in the college.

One guest faculty from Perunthalaivar Kamarajar Institute of Engineering and Technology (PKIET), Karaikal is handling the non-credit course PGS 501 Library and Information Service (0+1) and another guest faculty from RVS College of Education, Karaikal is handling the non-credit course PGS 502 Technical writing and communication skills (0+1).

Guest speakers/experts

- Whenever the external examiners or experts from other SAU's/organizations visit this Institute, they are invited to deliver special lecture on latest developments in the field of genetics and plant breeding.
- The curriculum is mostly aimed to produce quality postgraduates and equip them with the knowledge on management of pests, beneficial insects, pesticides, botanicals, *etc.*

The Credentials of the faculty handling classes to M.Sc. Ag. (Genetics and Plant Breeding) students are furnished in Table 6.4.2b.

6.4.3 Technical and Supporting Staff

The college has created and appointed adequate technical/laboratory/farm staff for catering the needs of the M.Sc. Ag. (Genetics and Plant Breeding). The distribution of technical, supporting and field staff is furnished below

Category of the staff	Present Strength
Attender	3
Field Assistant	1

6.4.4 Classrooms and laboratories

The Department has a long tradition of excellent teaching and the infrastructure provides holistic learning experience to the students.There are two postgraduate lecture halls in the department exclusively meant for the students of M.Sc. Ag.(Genetics and Plant Breeding). Each of the lecture halls is provided with the necessary teaching aids such as Black board, LCD projector, internet connectivity, furniture, electrical fittings, podium *etc.* for providing the modern learning experience.

Table 6.4.2b Credentials of the faculty

Discipline	Name of the faculty	Designation	Total years of service	Field of specialization	Awards / Medals/ Fellowships/ Recognitions	Publications			PG students guided	
						Books / chapters	Research articles	Popular articles	Chairman	Member
Department of Plant Breeding and Genetics										
Plant Breeding and Genetics	Dr. R. Govindarassu	Prof. and Head	30	Rice & Sesame breeding	2	-	85	43	24	51
	Dr. S. Thirumeni	Prof.	26	Molecular breeding	-	-	100	5	18	15
	Dr. V. Krishnan	Prof.	24	Rice breeding	3	15	30	17	10	17
	Dr. V. Vengadessan	Asst. Prof.	7	Molecular breeding	2	3	9	-	3	8
	Mrs. D. Umamaheswari	Asst. Prof.	6	Tissue culture	1	4	8	-	-	1
Cr. Physiol.	Dr. S. Nadaradjan	Asst. Prof.	12	Molecular physiology	6	6	35	2	-	36
Soil Sci. & Ag. Chemistry	Dr. R. Sankar	Prof.	27	Soil fertility; problem soils	2	17	116	8	10	16
	Dr. U. Bagavathi Ammal	Prof.	19	Soil fertility	7	13	151	5	6	18
Statistics	Mr. K.C. Ayyoob	Asst. Prof.	7	Agrl. Statistics	-	3	13	-	-	9

The faculty members use the right blend of ICT based teaching aids such as LCD projectors and e-resources. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

Number of students in theory class : 5
Number of students in practical class : 5

The postgraduate laboratories are well equipped to conduct the practicals/hands on training to the students. The following laboratory facilities are available for the M.Sc. Ag. (Genetics and Plant Breeding) degree programme.

- Postgraduate Laboratory
- Tissue Culture Laboratory
- Molecular Genetics Laboratory
- DNA finger printing laboratory
- Farm for taking up field practicals and thesis research work

The instruments/equipments available in the postgraduate laboratory of the department is furnished in Table 6.4.4.

Table 6.4.4 Instruments/Equipments available in the postgraduate laboratory

Sl. No.	Name of the Equipment
1	Weswox Rotary Microtome
2	NOVEX – Trinocular Microscope
3	NOVEX – Binocular microscope
4	Leica - Trinocular Fluorescent Microscope with photomicrography system
5	Equitron – Vertical Autoclave
6	Dissection microscope
7	Zoom stereo binocular microscope Gentner model GSZ-77
8	Olympus model HAS student monocular microscope
9	Olympus model GB lab monocular microscope
10	Olympus model KICET-I Trinocular microscope
11	Electronic Precision balances
12	Hot Air Oven
13	Flame photometer – CL –360
14	Fuji Compensating Planimeter
15	Elico Agrophotometer
16	Remi Model Rotary Shaker
17	Electrophoresis Unit

Sl. No.	Name of the Equipment
18	Binocular Stereo Microscope
19	Laboratory Mill (Willey type) Mico Make
20	Complete Area Measurement system
21	Milton ray Spectronic 20 Spectrophotometer
22	Vacuum pump
23	Leaf Chamber Analyser (Portable)
24	Lux meter
25	Ausco incubator
26	Remi Centrifuge
27	pH meter
28	Gel Documentation System
29	Thermal Cycler
30	Refrigerated Centrifuge
31	Electrophoresis – PAGE
32	Deep Freezer (- 86°C)
33	Gel Documentation system
34	Spectrophotometer
35	Gradient thermal cycler
36	Microwave oven
37	Neolab water bath
38	Incubator
39	UV trans illuminator
40	pH meter
41	Conductivity meter
42	Seed Germinator
43	BOD incubator
44	Seed moisture analyser
45	Laminar Flow Chamber
46	Thermal Cycler
47	Gel Electrophoresis Unit

Instructional/Research farm

The college has 87.4 acres of farm land managed by the Department of Agronomy. This farm is used for conducting various field practicals, hands on training to the students and postgraduate research experiments.

Also, a well-equipped air conditioned (fitted with eight split air conditioners) computer centre is available in the college. The computer centre is equipped with nine All-in-One desktops, eleven number of hybrid laptops and eight number of laptops for the use of staff and students of this institute. All these desktops and laptops are connected with internet for browsing. Since 2012, the computer centre is connected with 24 x 7 10 Mbps Internet Access through NMEICT. This computer centre is used by the PG students for

accessing e-journals and other web based resources for the collection of literature. This centre also provides internet connectivity to all the four academic blocks of the institute with Ethernet cable and Wi-Fi is used for the LAN.

6.4.5 Conduct of Practical and Hands-on-Training

The practical syllabus is formulated based on the course needs. Practical classes are conducted in the field/experimental lab in the allotted practical hours by the course teacher. The students are given hands-on-training on various techniques in genetics and plant breeding such as emasculation, crossing, germplasm collection and maintenance, tissue culture techniques, molecular plant breeding, DNA finger printing, *etc.* in field crops. The students are also exposed to hands on training in gaining practical experience in field operations, in documenting the biometrical traits of the crops, handling of various equipments in the laboratory and estimation of various parameters based on the course requirement.

Also, exposure visit to fields, research institutes, experimental fields and farmers' fields are periodically made so as to provide practical exposure to the students. The students are sufficiently benefited with hands-on training during their practical classes. The visits are part of the curriculum and built in the syllabi. During the practical classes, the students are taught on the technology/process and acquire skills through hands on training regularly.

6.4.6 Supervision of students in PG./Ph.D. programmes

The students are trained to explore the research problem on their own interest as well as they are allowed to take up research on different aspects of genetics and plant breeding based on the needs of the farming community of the U.T. of Puducherry. The students are allotted to prepare the research proposal which is approved by the supervisor and the research advisory committee after thorough scrutiny. Periodically the research work is being monitored and guided by the research advisory committee which consists of a chairman and two advisory committee members. The intake of students is five per year and the PG research supervisors available in the Department is four.

The list of theses submitted/on-going by the PG students of this department in the last five years is furnished in Table 6.4.6.

Table 6.4.6 Thesis submitted / on-going research by the postgraduate students

Year	Title of the thesis	Name of the student	Name of the Chairman
2014-15	Genetic studies of segregating generation in rice (*Oryza sativa* L.) under salt stress	B. Ayana 2014680802	Dr. K. Paramasivam
	Genetic studies on variability and diversity under water saving irrigation system in rice (*Oryza sativa* L.)	R. Jayaseeli 2014680803	Dr. R. Govindarasu
	Genetic studies in landraces of rice (*Oryza sativa* L.) under drought stress	S. Rajavel 2014680804	Dr. V. Krishnan
	Targeted association mapping for salt tolerance in rice (*Oryza sativa* L.)	C. Vinodha 2014680805	Dr. S. Thirumeni
2015-16	Index based selection in F2 generation of rice (*Oryza sativa* L.)	K. P. Anjana 15PGPB01	Dr. V. Krishnan
	Studies on genetic analysis of rice grain quality traits and validation of molecular markers linked to grain quality traits	Kavuri Kalpana 15PGPB02	Dr. S. Thirumeni
	Study on relative efficiency of selection methods in the early segregation population of rice (*Oryza sativa* L.)	N. N. Keshava 15PGPB03	Dr. R. Govindarasu
	Participatory varietal selection for genetic improvement of salt tolerance in rice (*Oryza sativa* L.)	J. M. Rajalakshmi 15PGPB04	Dr. S. Thirumeni
	Characterization and diversity analysis in landraces of rice (*Oryza sativa* L.)	S. Varija Nandini 15PGPB05	Dr. V. Krishnan
2016-17	Genetic analysis of black gram (*Vigna mungo* (L.) Hepper) for salt tolerance	Arpana Sunil 16PGA401	Dr. S. Thirumeni
	Assesment of gentic gain in F3 families advanced through selection index in rice (*Oryza sativa* L.)	Gaddala Saritha 16PGA402	Dr. V. Krishnan
	Genetic analysis in F4 generation of three crosses in rice (*Oryza sativa* L.)	Shaik Khaja Naimuddin 16PGA403	Dr. R. Govindarasu
	In vitro regeration in blackgram (*Vigna mungo* (L.) Hepper)	Sruthi, E. T. 16PGA404	Dr. V. Vengadessan
	Varietal identification using SSR markers in rice (*Oryza sativa* L.)	S. Vishnupriya 16PGA405	Dr. R. Govindarasu
2017-18	*In vitro* propagation studies in banana (*Musa* sp.)	D. Gokulan 17PGA401	Dr. V. Krishnan
	Phenotypic diversity in rice(*Oryza sativa* L.) under organic management in comparison with conventional and low input managements	K. Kalpana 17PGA402	Dr. S. Thirumeni
	QTL mapping for salt tolerance in rice (*Oryza sativa* L.) in reproductive stage	V. Mathivanan 17PGA403	Dr. S. Thirumeni
	Assessment of genetic variation for drought tolerance in rice (*Oryza sativa* L.)	S. Pavithra 17PGA404	Dr. V. Vengadessan
	SSR marker analysis in Rice (*Oryza sativa* L.)	K. K. Raghuraman 17PGA405	Dr. R. Govindarasu

6.4.7 Feed back of stakeholders (Students, Parents, industries, employers, farmers, *etc.*)

- The faculty usually get the feedback from the students at the end of the semester about the contents of the course and the teaching skills of the faculty.
- Parents are periodically briefed about the progress of student performance
- During the exposure visits, after the interaction with the farmers, the feedback on the performance of students is obtained from the farmers.
- Students visit industries related to the course curricula. At that time, feedback is received about their active participation and involvement.

6.4.8 Student intake and Attrition in the programme for last five years

The postgraduate degree programme M.Sc. Ag. (Genetics and Plant Breeding) was started in the year 1999-2000 with an intake capacity of five students per year. In general, the student attrition is very low and the retention of the students is very high in M.Sc. Ag. (Genetics and Plant Breeding). The details on the intake capacity, number of students admitted and the student in the last five years attrition is given in Table 6.4.8.

Table 6.4.8 Intake and attrition of students

Academic year	Intake capacity	Number of students admitted	Attrition Number	Attrition %
2014-15	5	5	1	20
2015-16	5	5	0	0
2016-17	5	5	0	0
2017-18	5	5	0	0
2018-19	5	2	1	50

6.4.9 ICT application in Curricula Delivery

During delivery of curricula to the students, ICT tools are effectively used. The postgraduate lecture halls are provided with LCD projectors and internet facility for better delivery of lectures. The faculty use a combination of lectures and power point presentations to make the concepts/techniques clearly understandable to the students. The important lectures are taught with videos.

The students are also trained to make use of the facility for presentation of term papers. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt-with in detail to apply the concepts learnt in theory.

Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

A separate computer lab with infrastructure facility is available for the students. The students are being taught about the IT facilities. Sufficient furniture, ventilation and lighting facilities are provided in all the class rooms for comfortable listening and writing of the students. A table, podium, whiteboard/screen, black board with duster are available in each class room for the use of teachers. A common generator facility supplies power to all the classrooms to avoid interruption of the class during power failure.

All communications to the students regarding academic calendar, time table for the courses registered, schedule of examinations, internal marks scored by the students, semester results, *etc.* are sent to the students only in the e-notice board of the college. Internet access of 4 Mbps with static IP is used to give access to e-communication portal across the world. Also, the students register the courses to be taken up in a semester in on-line mode.

The teaching faculty is well updated with the usage of IT enabling gadgets. All the classrooms are well equipped with internet facility to help in proficient delivery of the course contents.

The institute has signed a MOU with National Knowledge Network Portal, through which staff and students would be able to access e-books and journals. The students and staff have 24 hours x 7 days/week free Internet access (10 Mbps) through NME-ICT project.

6.4.12 CERTIFICATE

I, the Dean/c ***Dr. V. Kanthaswamy*** *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*

Signature of the Dean of the college
with date and seal

SELF STUDY REPORT

For

M.Sc. Ag.
(Soil Science and Agricultural Chemistry)

6.4 SELF STUDY REPORT FOR THE PROGRAMME
M.Sc. Ag. (Soil Science and Agricultural Chemistry)

6.4.1 Brief History of the Degree Programme

Name of the degree programme : M.Sc. Ag. (Soil Science and Agricultural Chemistry)

Year of start : 1999-2000

Objectives :

1. To impart technical education in the field of agriculture with specialization in Soil Science and Agricultural Chemistry at postgraduate level with high standards.
2. To produce scholars capable of handling different aspects of soil and crop management technologies in a comprehensive manner.
3. To take up basic and applied research in different aspects of soil and water reclamation and fertilizer management technologies for PG dissertation
4. To develop their skills for employment or to enter into an advanced training/ degree programme

Vision

- To teach courses in Soil Science and Agricultural Chemistry in a comprehensive manner for postgraduate students
- To update the students knowledge through quality education and provide guidance for academic excellence and research expert to cater the career needs
- To develop soil and water management technologies in agriculture so as to meet the requirements of the farming community and to improve the economic status of our nation
- To develop fertilizer recommendation technologies to different crops.
- To transfer the developed technologies to farming communities.

Mission

- To educate students and communities in ways that ensures success in the regional and global economies.
- To develop new knowledge and technologies to benefit society particularly the farmers and other stake holders.
- To offer the most demanding and rigorous education for the betterment of students.

Accomplishments

- The M.Sc. Ag. (Soil Science and Agricultural Chemistry) programme was started in the year 1999-2000 with the main objective of offering specialized courses in Soil Science and Agricultural Chemistry and applied aspects of soil and water management and to take up need based research in various crops.
- So far, a total number of **54** M.Sc. students have passed out from the Department successfully and submitted their theses. All the graduates have been placed in different organizations like ARS, SAU's, Banks, State Departments *etc.,* or pursuing their Ph.D. programme.
- The Department has well experienced faculties for handling classes and guiding students to take up research on various aspects of crop management.
- The college has well earmarked field of 87.4 acres farm land managed by the Department of Agronomy to facilitate practical classes and to conduct PG research experiments.
- The department has well equipped PG laboratories.
- Teaching facilities *viz.*, seminar hall, class rooms (with audio visual aids), PG laboratory and computers with internet facility are available.

6.4.2 Faculty strength

The Department has well experienced faculties for handling classes and guiding students to take up postgraduate research on various aspects in soil and water management (Table 6.4.2a). Many of the faculties have been trained at national level Institutes.

Table 6.4.2a Faculty strength

Category	Sanctioned strength	Present strength	Vacancy
Professor	1	4	--
Associate Professor	2	--	--
Assistant Professor	4	2	1
Total	**7**	**6**	**1**

Faculty recognized for teaching the postgraduate students : 6

Faculty recognized for guiding the postgraduate students : 5

M.Sc. Ag. (Soil Science and Agricultural Chemistry) students are also undergoing minor courses in Agronomy, crop physiology, biochemistry, statistics, computer science, IPR, disaster management, research ethics and technical writing to fulfill the course

requirements. These courses are being handled by the teachers from the respective departments in the college.

One guest faculty from Perunthalaivar Kamarajar Institute of Engineering and Technology (PKIET), Karaikal is handling the non-credit course PGS 501 Library and Information Service (0+1) and another guest faculty from RVS College of Education, Karaikal is handling the non-credit course PGS 502 Technical writing and communication skills (0+1).

Guest speakers/experts

- Whenever the external examiners or experts from other SAU's/organizations visit this Institute, they are invited to deliver special lecture on latest developments in the field of Soil Science and Agricultural Chemistry.
- The curriculum is mostly aimed to produce quality postgraduates and equip them with the knowledge on management of soil, water, manures and agrochemicals *etc.*

The Credentials of the faculty handling classes to M.Sc. Ag. (Soil Science and Agricultural Chemistry) students are furnished in Table 6.4.2b.

6.4.3 Technical and Supporting Staff

The college has created and appointed adequate technical/laboratory/farm staff for catering the needs of the M.Sc. Ag. (Soil Science and Agricultural Chemistry). The distribution of technical, supporting and field staff is furnished below

Category of the staff	Present Strength
Lab Attendant	1
Attender	1

6.4.4 Classrooms and laboratories

The Department has a long tradition of excellent teaching and the infrastructure provides holistic learning experience to the students.There is one postgraduate lecture hall in the department exclusively meant for the students of M.Sc. Ag. (Soil Science and Agricultural Chemistry). The lecture hall is provided with the necessary teaching aids such as Black board, LCD projector, internet connectivity, furniture, electrical fittings, podium *etc.* for providing the modern learning experience.

Table 6.4.2b Credentials of the faculty

Discipline	Name of the faculty	Designation	Total years of service	Field of specialization	Awards / Medals/ Fellowships/ Recognitions	Publications			PG students guided	
						Books / chapters	Research articles	Popular articles	Chairman	Member
Department of Soil Science and Agricultural Chemistry										
Soil Science and Agricultural Chemistry	Dr. K. Omar Hatab	Prof. & Head	31	Soil fertility	1	1	48	10	14	16
	Dr. A. Baskar	Prof.	34	Soil fertility; Irrigation water quality	-	5	144	12	27	23
	Dr. R. Sankar	Prof.	27	Soil fertility; problem soils	2	17	116	8	10	16
	Dr. U. Bagavathi Ammal	Prof.	19	Soil fertility	7	13	151	5	6	18
	Dr. L. Aruna	Asst. Prof.	12	Soil fertility; Irrigation water quality	2	5	42	19	2	10
	Dr. K. Coumaravel	Asst. Prof.	12	Soil fertility	-	3	50	15	-	2
Cr. Physiol.	Dr. S. Nadaradjan	Asst. Prof.	12	Molecular physiology	6	6	35	2	-	36
Statistics	Mr. K.C. Ayyoob	Asst. Prof.	7	Agrl. Statistics	-	3	13	-	-	9

The faculty members use the right blend of ICT based teaching aids such as LCD projectors and e-resources. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

Number of students in theory class : 5
Number of students in practical class : 5

The postgraduate laboratories are well equipped to conduct the practicals/hands on training to the students. The following laboratory facilities are available for the M.Sc. Ag. (Soil Science and Agricultural Chemistry) degree programme.

- Postgraduate Laboratory
- Research lab for PG scholars
- Farm for taking up field practicals and thesis research work

The instruments/equipments available in the postgraduate laboratory of the department is furnished in Table 6.4.4.

Table 6.4.4 Instruments/Equipments available in the postgraduate laboratory

Sl. No.	Name of the Equipment
1	pH meter
2	EC meter
3	N Auto analyser
4	Spectrophotometer
5	Flame Photometer
6	Atomic Absorption Spectro photometer
7	Auto titrator
8	Eppendorf refrigerating centrifuge
9	Hot plates
10	Water baths
11	Hot air ovens
12	Mechanical Shakers
13	All quartz double distillation unit
14	All quartz single distillation unit
15	Minor instruments and equipments required for soil, plant and water analysis

Instructional/Research farm

The college has 87.4 acres of farm land managed by the Department of Agronomy. This farm is used for conducting various field practicals, hands on training to the students and postgraduate research experiments.

Also, a well-equipped air conditioned (fitted with eight split air conditioners) computer centre is available in the college. The computer centre is equipped with nine All-in-One desktops, eleven number of hybrid laptops and eight number of laptops for the use of staff and students of this institute. All these desktops and laptops are connected with internet for browsing. Since 2012, the computer centre is connected with 24 x 7 10 Mbps Internet Access through NMEICT. This computer centre is used by the PG students for accessing e-journals and other web based resources for the collection of literature. This centre also provides internet connectivity to all the four academic blocks of the institute with Ethernet cable and Wi-Fi is used for the LAN.

6.4.5 Conduct of Practical and Hands-on-Training

The practical syllabus is formulated based on the course needs. Practical classes are conducted in the field/experimental lab in the allotted practical hours by the course teacher. The students are given hands-on-training on various techniques in soil science and agricultural chemistry such as handling of laboratory chemicals, glasswares and instruments, soil analysis, water analysis, pesticide analysis, reclamation of problematic soils and water, *etc.* The students are also exposed to hands on training in gaining practical experience in field operations, in documenting the biometrical traits of the crops and various parameters of soil, handling of various equipments in the laboratory and estimation of various parameters based on the course requirement.

Also, exposure visit to fields, research institutes, experimental fields and farmers' fields are periodically made so as to provide practical exposure to the students. The students are sufficiently benefited with hands-on training during their practical classes. The visits are part of the curriculum and built in the syllabi. During the practical classes, the students are taught on the technology/process and acquire skills through hands on training regularly.

6.4.6 Supervision of students in PG./Ph.D. programmes

The students are trained to explore the research problem on their own interest as well as they are allowed to take up research on different aspects of soil science and agricultural chemistry based on the needs of the farming community of the U.T. of

Puducherry. The students are allotted to prepare the research proposal which is approved by the supervisor and the research advisory committee after thorough scrutiny. Periodically, the research work is being monitored and guided by the research advisory committee which consists of a chairman and two advisory committee members. The intake of students is five per year and the PG research supervisors available in the Department is five.

The list of theses submitted/on-going by the PG students of this department in the last five years is furnished in Table 6.4.6.

Table 6.4.6 Thesis submitted / on-going research by the postgraduate students

Year	Title of the thesis	Name of the student	Name of the Chairman
2014-15	Characterization of ground water in Thirunallar Commune of Karaikal District and its impact on soil properties	R. Deepa 201468201	Dr.R. Sankar
	Dynamics of potassium in the form soil of Pandit Jawaharlal Nehru College of Agriculture and Reserah Institute	M. Aditya Kishore 2014682002	Dr. A. Baskar
	Studies on the effect of soil and foliar application of effective micro organism solution on growth and yield of Bhendi (*Abelmoschus esculentus* (L). Moench)	P.M. Nibin 2014652003	Dr.R. Sankar
	Comparative study of potassium chloride and potassium chlorate in aerobic rice	P. Anji Babu 2014682004	Dr. K. Omar Hattab
	Development of fertilizer prescription equation based on STCR for rice in Bahour soil series of Puducherry	L. Venkatakrishan 2014682005	Dr. U. Bagavathi Ammal
2015-16	Studies on integrated management of poor quality irrigation water on the performance of Bhendi	Anisha Thomas 15PSAC01	Dr.R. Sankar
	Dynamics of soil phosphorus and its impact on the yield and uptake of paddy crop in the soils of PAJANCOA&RI soils	Ashna Susan Joseph 15PSAC02	Dr. A. Baskar
	Effect of biochar compost in nutrient management of rice	A. Divyabharathy 15PSAC03	Dr. K. Omar Hattab
	Effect of biochar compost in nutrient management of brinjal (*Solanum melongena* L.)	A. Mathesh 15PSAC04	Dr. K. Omar Hattab
	Development of fertilizer prescription equation based on STCR for rice (ADT 45) in Bahour soil series of U.T. of Puducherry	M. Vetrivel 15PSAC05	Dr. U. Bagavathi Ammal

Year	Title of the thesis	Name of the student	Name of the Chairman
2016-17	Nutrient fixation and release studies for nutrient management of rice soils of Karaikal region	K. Jamunarani 16PGA501	Dr. L. Aruna
	Development of fertilizer prescription equation based on STCR for bhendi (*Abelmoschus esculentus* (L). Moench) in Bahour soil series of U.T. of Puducherry	G.R. Karunaprabu 16PGA502	Dr. U. Bagavathi Ammal
	Transformation of prilled urea and neem coated urea as influenced by soil properties under varying soil moisture regime	A. Kowsalya 16PGA503	Dr. A. Baskar
	Evaluation of different methods of fertilizer recommendations for rice (*Oryza sativa L.*)	C. Krithika 16PGA504	Dr. K. Omar Hattab
2017-18	Studies on the solubility of phosphorus in paddy soils with varying labile and non labile pools as influenced by the moisture regimes and P solubilizing bacteria	K. Ilakkia 17PGA501	Dr. A. Baskar
	Nitrogen management on yield and seed quality of rice	R. Jayaraghavi 17PGA502	Dr. K. Omar Hattab
	Investigations on nutrient release pattern of different levels of NPK and IPNS and its impact on growth, yield and quality of bhendi	V.R. Mageshen 17PGA503	Dr. U. Bagavathi Ammal
	Nitrogen dynamics in organically grown rice soils of coastal deltaic region	N. Sathyabama 17PGA504	Dr. L. Aruna
	Studies on influence of silica on growth and yield of rice	V. S. V. Gopi Naresh 17PGA505	Dr.R. Sankar

6.4.7 Feed back of stakeholders (Students, Parents, industries, employers, farmers, *etc.*)

- The faculty usually get the feedback from the students at the end of the semester about the contents of the course and the teaching skills of the faculty.
- Parents are periodically briefed about the progress of student performance
- During the exposure visits, after the interaction with the farmers, the feedback on the performance of students is obtained from the farmers.
- Students visit industries related to the course curricula. At that time, feedback is received about their active participation and involvement.

6.4.8 Student intake and Attrition in the programme for last five years

The postgraduate degree programme M.Sc. Ag. (Soil Science and Agricultural Chemistry) was started in the year 1999-2000 with an intake capacity of five students per year. In general, the student attrition is very low and the retention of the students is very high in M.Sc. Ag. (Agricultural Entomology). The details on the intake capacity, number of students admitted and the student attrition in the last five years is given in Table 6.4.8.

Table 6.4.8 Intake and attrition of students

Academic year	Intake capacity	Number of students admitted	Attrition Number	Attrition %
2014-15	5	5	0	0
2015-16	5	5	0	0
2016-17	5	4	1	20
2017-18	5	5	0	0
2018-19	5	0	0	0

6.4.9 ICT application in Curricula Delivery

During delivery of curricula to the students, ICT tools are effectively used. The postgraduate lecture halls are provided with LCD projectors and internet facility for better delivery of lectures. The faculty use a combination of lectures and power point presentations to make the concepts/techniques clearly understandable to the students. The important lectures are taught with videos.

The students are also trained to make use of the facility for presentation of term papers. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt-with in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

A separate computer lab with infrastructure facility is available for the students. The students are being taught about the IT facilities. Sufficient furniture, ventilation and lighting facilities are provided in all the class rooms for comfortable listening and writing of the students. A table, podium, whiteboard/screen, black board with duster are available in each class room for the use of teachers. A common generator facility supplies power to all the classrooms to avoid interruption of the class during power failure.

All communications to the students regarding academic calendar, time table for the courses registered, schedule of examinations, internal marks scored by the students, semester results, *etc.* are sent to the students only in the e-notice board of the college. Internet access of 4 Mbps with static IP is used to give access to e-communication portal across the world. Also, the students register the courses to be taken up in a semester in on-line mode.

The teaching faculty is well updated with the usage of IT enabling gadgets. All the classrooms are well equipped with internet facility to help in proficient delivery of the course contents.

The institute has signed a MOU with National Knowledge Network Portal, through which staff and students would be able to access e-books and journals. The students and staff have 24 hours x 7 days/week free Internet access (10 Mbps) through NME-ICT project.

6.4.12 CERTIFICATE

I, the Deani/c ***Dr. V. Kanthaswamy*** *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*

Signature of the Dean of the college
with date and seal

SELF STUDY REPORT

For

M.Sc. Hort.
(Vegetable Science)

6.4 SELF STUDY REPORT FOR THE PROGRAMME

M.Sc. Hort. (Vegetable Science)

6.4.1 Brief History of the Degree Programme

Name of the degree programme : M.Sc. Hort. (Vegetable Science)

Year of start : 2002-03

Objectives :

1. To impart technical education in the field of horticulture with specialization in vegetable science at postgraduate level with high standards.
2. To produce scholars capable of handling different aspects of crop improvement, management and post-harvest technologies of vegetables in a comprehensive manner.
3. To take up basic and applied research in major tropical vegetable crops for PG dissertation
4. To develop their skills for employment or to enter into an advanced training/ degree programme

Vision

- To teach courses on vegetable science in a comprehensive manner for postgraduate students
- To update the students knowledge through quality education and provide guidance for academic excellence and research expertise to cater the career needs
- To develop varieties/hybrids with high yield and quality so as to meet the domestic and international market demand to improve the economic status of our nation
- To develop technologies to enhance the production, to increase the shelf life and value addition to prevent post harvest losses
- To transfer the developed technologies to farming communities

Mission

- To educate students and communities in ways that ensures success in the regional and global economies.
- To develop new knowledge and technologies to benefit society particularly the farmers and other stake holders.
- To offer the most demanding and rigorous education for the betterment of students.

Accomplishments

- The M.Sc. Hort. (Vegetable Science) programme was started in the year 2002-03 with the main objective of offering general horticultural courses and specialized courses in vegetable breeding, crop management and applied aspects of vegetable cultivation and to take up need based research in vegetable crops.
- So far, a total number of **49** M.Sc. students have passed out from the Department successfully. All the graduates have been placed in different organizations like ARS, SAU's, Banks, State Departments *etc.* or pursue their Ph.D. programme.
- The Department has well experienced faculties for handling classes and guiding students to take up research on various aspects in vegetable crops.
- Many of the faculties have been trained at national level institutes in India (IARI, IIVR, IIHR, SAUs, *etc.*).
- The Department of Vegetable crops has well earmarked field of 45.0 acres farm land to facilitate practical classes and to conduct research experiments.
- The department has well equipped PG laboratory.
- Teaching facilities *viz.*, seminar hall, class rooms (with audio visual aids) and computers with internet facility are available.

6.4.2 Faculty strength

The Department has well experienced faculties for handling classes and guiding students to take up postgraduate research on various aspects in vegetable crops (Table 6.4.2a). Many of the faculties have been trained at national level Institutes. Guest speakers/experts are invited periodically from various organizations to deliver special lecture on latest developments in the field of vegetable improvement and management.

Table 6.4.2a Faculty strength

Category	Sanctioned strength	Present strength	Vacancy
Professor	1	4	--
Associate Professor	2	--	--
Assistant Professor	5	2+1*	1
Total	**8**	**7**	**1**

* Contract Teacher

Faculty recognized for teaching the postgraduate students : 6

Faculty recognized for guiding the postgraduate students : 5

M.Sc. Hort. (Vegetable Science) students are also undergoing minor courses in plant breeding and genetics, crop physiology, biochemistry, statistics, IPR, disaster management, research ethics and technical writing to fulfill the course requirements. These courses are being handled by the teachers from the respective departments in the college.

One guest faculty from Perunthalaivar Kamarajar Institute of Engineering and Technology (PKIET), Karaikal is handling the non-credit course PGS 501 Library and Information Service (0+1) and another guest faculty from RVS College of Education, Karaikal is handling the non-credit course PGS 502 Technical writing and communication skills (0+1).

Guest speakers/experts

- Guest speakers /experts are invited periodically from various organizations to deliver special lecture on latest developments in the field of Vegetable improvement and management.
- The curriculum is mostly aimed to produce quality postgraduates and equip them with the knowledge on development of varieties / hybrids and scientific production and post production technologies in vegetable crops.

The Credentials of the faculty handling classes to M.Sc. Hort. (Vegetable Science) students are furnished in Table 6.4.2b.

6.4.3 Technical and Supporting Staff

The college has created and appointed adequate technical/laboratory/farm staff for catering the needs of the M.Sc. Hort. (Vegetable Science). The distribution of technical, supporting and field staff is furnished below

Category of the staff	Present Strength
Lab Attendant	1
Field man	1
Field Assistant	1
Gardener	1
Agri. Mazdoor	21
Casual labourers	11

Table 6.4.2b Credentials of the faculty

Discipline	Name of the faculty	Designation	Total years of service	Field of specialization	Awards / Medals/ Fellowships/ Recognitions	Publications			PG students guided	
						Books / chapters	Research articles	Popular articles	Chairman	Member
Department of Horticulture										
Horticulture	Dr. V. Kanthaswamy	Dean i/c	30	Veg. breeding	15	11	90	26	20	24
	Dr. A. Shanthi	Prof. & Head	22	Veg. production	6	1	36	67	12	7
	Dr. G. Mohammed Yassin	Prof.	30	Veg. production	-	-	35	39	21	10
	Dr. V. Sundaram	Prof.	26	Veg. Breeding	9	16	63	78	6	21
	Dr. J. Sherly	Asst. Prof.	7	Vegetable production	2	1	15	6	-	-
	Dr. M.S. Marichamy	Asst. Prof.	7	Spices and plantations	3	1	36	32	-	-
Cr. Physiol.	Dr. S. Nadaradjan	Asst. Prof.	12	Molecular physiology	6	6	35	2	-	36
Soil Sci. & Ag. Chemistry	Dr. R. Sankar	Prof.	27	Soil fertility; problem soils	2	17	116	8	10	16
	Dr. U. Bagavathi Ammal	Prof.	19	Soil fertility	7	13	151	5	6	18
Statistics	Mr. K.C. Ayyoob	Asst. Prof.	7	Agrl. Statistics	-	3	13	-	-	9

6.4.4 Classrooms and laboratories

The Department has a long tradition of excellent teaching and the infrastructure provides holistic learning experience to the students.There are two postgraduate lecture halls in the department exclusively meant for the students of M.Sc. Horti.(Vegetable Science). Each of the lecture halls is provided with the necessary teaching aids such as Black board, LCD projector, internet connectivity, furniture, electrical fittings, podium *etc.* for providing the modern learning experience.

The faculty members use the right blend of ICT based teaching aids such as LCD projectors and e-resources. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

Number of students in theory class : 5
Number of students in practical class : 5

The postgraduate laboratory is well equipped to conduct the practicals/hands on training to the students. The following laboratory facilities are available for the M.Sc. Hort. (Vegetable Science) degree programme.

- Postgraduate Laboratory
- Poly house for vegetable cultivation and research
- Farm for taking up field practicals and thesis research work

The instruments/equipments available in the postgraduate laboratory of the department is furnished in Table 6.4.4.

Table 6.4.4 Instruments/Equipments available in the postgraduate laboratory

Sl. No.	Name of the Equipment
1.	Water bath
2.	Hot air oven
3.	Sand bath
4.	Hand Refracto meter
5.	Manual Aluminium orange crusher
6.	Deep freezer
7.	Class room projection Microscope
8.	Dissection Microscope
9.	Zoom stereo Microscope + Nitrogen SLR Camera

Sl. No.	Name of the Equipment
10.	Monocular Inclined student microscope
11.	Hand held digital force gauge
12.	Hand held pocket pH meter
13.	Hand held pocket EC, TDS & Temperature meter
14.	Hand held digital Vernier Caliper
15.	Distillation unit
16.	Spectrophotometer
17.	Soxhlet apparatus
18.	Refrigerator
19.	Willey mill
20.	Centrifuge
21.	Leaf area meter
22.	Colony counter
23.	Rotary shaker
24.	Flame photometer

Instructional/Research farm

The Department has 45.0 acres of farm land for horticultural crops. This farm is used for conducting various field practicals, hands on training to the students and postgraduate research experiments. The department of horticulture has adequate number of tractors, farm implements, tools and other machinery for providing hands on training to the students.

Also, a well-equipped air conditioned (fitted with eight split air conditioners) computer centre is available in the college. The computer centre is equipped with nine All-in-One desktops, eleven number of hybrid laptops and eight number of laptops for the use of staff and students of this institute. All these desktops and laptops are connected with internet for browsing. Since 2012, the computer centre is connected with 24 x 7 10 Mbps Internet Access through NMEICT. This computer centre is used by the PG students for accessing e-journals and other web based resources for the collection of literature. This centre also provides internet connectivity to all the four academic blocks of the institute with Ethernet cable and Wi-Fi is used for the LAN.

6.4.5 Conduct of Practical and Hands-on-Training

The practical syllabus is formulated based on the course needs. Practical classes are conducted in the field/experimental lab in the allotted practical hours by the course teacher. The students are given hands-on-training on various techniques in breeding (selfing, emasculation and crossing), precision farming, fertigation, pruning and training of greenhouse vegetables, protected cultivation, vegetable grafting, flower regulation and fruit thinning, DNA Extraction, PCR and Electrophoresis, organic production protocols,

post harvest and seed production technologies *etc.* The students are also exposed to hands on training in gaining practical experience in field operations, in documenting the biometrical traits of the crops, handling of various equipments in the laboratory and estimation of various parameters based on the course requirement.

Also, exposure visit to fields, research institutes, experimental fields, farmers' fields and processing industries are periodically made so as to provide practical exposure to the students. The students are also exposed to temperate vegetable cultivation by taking them on tour to places like Ooty and Kodaikanal.The students are sufficiently benefited with hands-on training during their practical classes. The visits are part of the curriculum and built in the syllabi. During the practical classes, the students are taught on the technology/ process and acquire skills through hands on training regularly.

6.4.6 Supervision of students in PG./Ph.D. programmes

The students are trained to explore the research problem on their own interest as well as they are allowed to take up research on the field problems faced by the farming community of the U.T. of Puducherry. The students are allotted to prepare the research proposal which is approved by the supervisor and the research advisory committee after thorough scrutiny. Periodically the research work is being monitored and guided by the research advisory committee which consists of a chairman and two advisory committee members. The intake of students is five per year and the postgraduate supervisors available in the department is five.

The list of theses submitted/on-going by the PG students of this department in the last five years is furnished in Table 6.4.6.

Table 6.4.6 Thesis submitted / on-going research by the postgraduate students

Year	Title of the thesis	Name of the student	Name of the Chairman
2014-15	Genetic analysis in Cassava (*Manihot Esculenta* Crantz) for variability and diversity	Jibna Annie George 2014683401	Dr.V.Kanthaswamy
	Line x Tester analysis in Bhendi [*Abelmoschus esculantus* (L.) Monech	Karthika, N. 2014683402	Dr. V. Sundaram
	Heterosis Breeding in Brinjal	Kayathri, D. 2014683403	Dr. G. Md. Yassin
	Heterosis breeding in Snake Gourd	Sivasubramanian, K. 2014683404	Dr.V.Kanthaswamy
	Variability studies in hot Chilli	Srividhya, S. 2014683405	Dr. G. Md. Yassin

Year	Title of the thesis	Name of the student	Name of the Chairman
2015-16	Studies on foliar application of humic acid in okra [*Abelmoschus esculentus* (L.) Moench]	Bavithra, B. 15PVSC01	Dr. A. Shanthi
	Crop improvement in Pumpkin (*Cucurbita moschata* Poir)	Dineshkumar, S. 15PVSC03	Dr. A. Shanthi
	Variability studies in Yardlong bean	Divyabharathi, V. 15PVSC04	Dr.V.Kanthaswamy
	Genetical analysis in brinjal	Jayabharathi, J. 15PVSC05	Dr. G. Md. Yassin
2016-17	Variability studies in Tomato	Harini, S. 16PGA601	Dr. G. Md. Yassin
	Genetic analysis in F_2 generation of bhendi	Janarthanan, R. 16PGA602	Dr. V. Sundaram
	Effect of plant growth regulators on growth and yield of okra [*Abelmoschus esculentus* L. (Moench]	Jyothsna, J. 16PGA603	Dr. A. Shanthi
	Stability analysis in Yard long bean	Purushothaman, J. 16PGA604	Dr. G. Md. Yassin
	Evaluation of F1 hybrids of okra for yield and quality	Subasri, V. 16PGA605	Dr.V.Kanthaswamy
2017-18	Studies on combining ability in tomato	Ajeeth Kumar, V. 17PGA601	Dr. G. Md. Yassin
	Diallel analysis in Bhendi	Ayisha Sidhika, M. 17PGA602	Dr. G. Md. Yassin
	Evaluation of F_1 hybrids of chilli for the coastal region of Karaikal	Nandhinidevi, M. 17PGA603	Dr.V.Kanthaswamy
	Influence of seaweed extract (*Sargassum wightii*) on growth, yield and quality improvement of Okra [*Abelmoschus esculentus* (L.) Moench]	Sanjana, M. 17PGA604	Dr. A. Shanthi
	Evaluation of F_3 generation for genetic enhancement of yield in bhendi [*Abelmoschus esculentus* (L.) Moench]	Vinothmani, R. 17PGA605	Dr. V. Sundaram

6.4.7 Feed back of stakeholders (Students, Parents, industries, employers, farmers, *etc.*)

- The faculty usually get the feedback from the students at the end of the semester about the contents of the course and the teaching skills of the faculty.
- Parents are periodically invited and briefed about the progress of student performance
- During the exposure visits, after the interaction with the farmers, the feedback on the performance of students is obtained from the farmers.
- Students visit industries related to the course curricula. At that time, feedback is received about their active participation and involvement.

6.4.8 Student intake and Attrition in the programme for last five years

The postgraduate degree programme M.Sc. Hort. (Vegetable Science) was started in the year 2002-03 with an intake capacity of five students per year. In general, the student attrition is very low and the retention of the students is very high in M.Sc. Horti. (Vegetable Science). The details on the intake capacity, number of students admitted and the student attrition in the last five years is given in Table 6.4.8.

Table 6.4.8 Intake and attrition of students

Academic year	Intake capacity	Number of students admitted	Attrition Number	Attrition %
2014-15	5	5	0	0
2015-16	5	5	1	20
2016-17	5	5	5	0
2017-18	5	5	5	0
2018-19	5	0	0	0

6.4.9 ICT application in Curricula Delivery

During delivery of curricula to the students, ICT tools are effectively used. The postgraduate lecture halls are provided with LCD projectors and internet facility for better delivery of lectures. The faculty use a combination of lectures and power point presentations to make the concepts/techniques clearly understandable to the students. The important lectures are taught with videos.

The students are also trained to make use of the facility for presentation of term papers. For analytical subjects, assignments with challenging problems are given to the students. Case studies are dealt with in detail to apply the concepts learnt in theory. Assignments involving review of journal papers in the respective courses help in keeping track of current developments.

A separate computer lab with infrastructure facility is available for the students. The students are being taught about the IT facilities. Sufficient furniture, ventilation and lighting facilities are provided in all the class rooms for comfortable listening and writing of the students. A table, podium, whiteboard/screen, black board with duster are available in each class room for the use of teachers. A common generator facility supplies power to all the classrooms to avoid interruption of the class during power failure.

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Signature of the Dean of the college
with date and seal