Department of Soil Science
Post Graduate Institute
Mahatma Phule Krishi Vidyapeeth,
Rahuri-413722, Dist. Ahilyanagar (MS)

Preamble

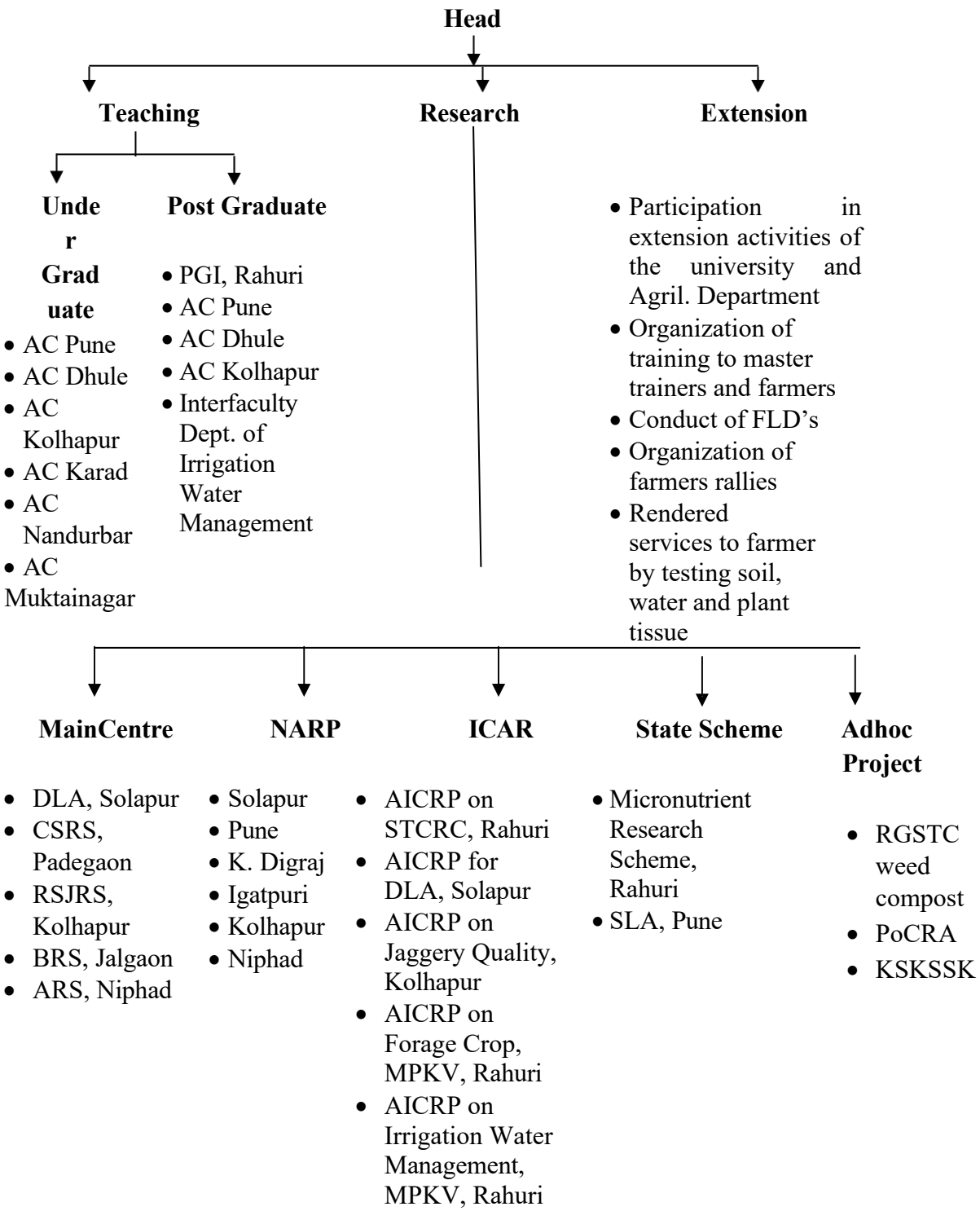
The Department of Soil Science and Agricultural Chemistry has its origin as Agricultural Chemistry section at the College of Agriculture, Pune which was established in 1905 under leadership of Dr. A. A. Meggit followed by Dr. H. S. Mann, Dr. D. L. Sahasrabudhe, Dr. J. A. Daji and Dr. Narayana. The Department was established in 1968 which was shifted to Central Campus, Rahuri during the year 1972. The department was renamed as the Department of Soil Science and Agricultural Chemistry in 2006.

The Department of Soil Science and Agricultural Chemistry, Mahatma Phule Krishi Vidyapeeth, Rahuri has been entrusted with the major responsibilities of teaching, research and extension in the field of Soil Science and Agricultural Chemistry specifically in the jurisdiction of Western Maharashtra through colleges and research stations.

Mandate

- To offer courses in the disciplines of Soil Science for the undergraduate degree programmes in the faculties of Agriculture, Horticulture, Agricultural Engineering and Agri-business management.
- To offer courses in the disciplines of Soil Science for M.Sc. (Agri.) and Ph.D. degree programmes.
- To undertake fundamental and applied research programme through post graduate students in Soil Science.
- To enhance the departmental research activities by developing soil based technologies to solve the farmers problems.
- To exchange information with other scientists and extension staff engaged in Soil Science research through field trials, training, group discussions, seminars, symposia, workshops, conferences and scientific, technical and extension publications.
- To provide advisory service to both Government and public sector through analysis of soil, plant, irrigation water, manure and fertilizer samples along with respective recommendations.
- To render technical advice to farmers on specific problems of soil, plant and irrigation water.
- To collaborate with national, international and other research organizations and fertilizer, pesticide and sugar industries for undertaking research programme.
- To participate in extension activities organized by MPKV and Department of Agriculture, Maharashtra.

Organization Setup



Faculty

S.N.	Name	Designation	Location
	Post Graduate Institute, MPKV, Rahuri		
1	Dr. B.M. Kamble	I/C Head and Professor	Rahuri
2	Dr. M.R. Chauhan	Professor	Rahuri
3	Dr. Ritu S. Thakare	Associate Professor	Rahuri
4	Dr. V.S. Patil	Associate Professor	Rahuri
5	Dr. S.R. Shelke	Associate Professor	Rahuri
6	Vacant	Associate Professor	Rahuri
7	Dr. S.M. Todmal	Assistant Professor	Rahuri
8	Dr. Sheetal R. Tatpurkar	Assistant Professor	Rahuri
	College of Agriculture, Pune		
9	Dr. A.B. Gosavi	I/C Professor and Associate Professor	Pune
10	Dr. D.H. Phalke	Associate Professor	Pune
11	Dr. P.C. Bhosale	Assistant Professor	Pune
12	Dr. Dipti S. Waghdhare	Assistant Professor	Pune
13	Dr. Vrushali N. Ghorpade	Assistant Professor	Pune
14	Vacant	Assistant Professor	Pune
15	Vacant	Assistant Professor	Pune
16	Vacant	Assistant Professor	Pune
17	Vacant	Assistant Professor	Pune
18	Shri. S.U. Deshmukh	Sr. Res. Asstt.	Pune
19	Vacant	Jr. Res. Asstt.	Pune
20	Vacant	Jr. Res. Asstt.	Pune
	College of Horticulture, Pune		
21	Dr. S.V. Wable	Assistant Professor	Pune
	College of Agriculture, Kolhapur		
22	Prof. V.R. Gaikwad	I/C Professor and Assistant Professor	Kolhapur
23	Vacant	Associate Professor	Kolhapur
24	Vacant	Associate Professor	Kolhapur
25	Dr. V.N. Nale	Assistant Professor	Kolhapur
26	Dr. D.S. Potdar	Assistant Professor	Kolhapur
27	Dr. Kranti B. Patil	Assistant Professor	Kolhapur
28	Vacant	Assistant Professor	Kolhapur
29	Vacant	Assistant Professor	Kolhapur
	College of Agriculture, Dhule		
30	Dr. V.P. Bhalerao	I/C Professor and Associate Professor	Dhule

31	Dr. Y.J. Patil	Associate Professor	Dhule
32	Prof. K.B. Patil	Assistant Professor	Dhule
33	Vacant	Assistant Professor	Dhule
34	Vacant	Assistant Professor	Dhule
	College of Agriculture, Nandurbar		
35	Vacant	Associate Professor	Nandurbar
36	Vacant	Assistant Professor	Nandurbar
37	Vacant	Assistant Professor	Nandurbar
38	Vacant	Jr. Res. Asstt.	Nandurbar
	College of Agriculture, Karad		
39	Dr. K.D. Kale	Associate Professor	Karad
40	Dr. A.S. Tathe	Assistant Professor	Karad
	College of Agriculture, Muktainagar		
41	Vacant	Assistant Professor	Muktainagar
42	Vacant	Assistant Professor	Muktainagar
	College of Agriculture, Halgaon		
43	Dr. P.U. Bhosale	Associate Professor	Halgaon
	College of Horticulture, Kashti, Malegaon		
44	Dr. A.D. Jagdhani	Associate Professor and Dean	Malegaon
	Agril. Technology School, Puntamba		
45	Vacant	Jr. Res. Asstt.	Puntamba
	Agril. Technology School, Manjari Farm, Pune		
46	Vacant	Sr. Res. Asstt.	Pune
	Soil Test Crop Response Correlation Project, MPKV, Rahuri		
47	Dr. A.B. Jadhav	Soil Chemist	Rahuri
48	Dr. Shubhangi R. Kadam	Sr. Research Assistant	Rahuri
49	Vacant	Sr. Research Assistant	Rahuri
	Micronutrient Research Scheme, MPKV, Rahuri		
50	Dr. S.M. Todmal	I/C Analytical Chemist	Rahuri
51	Vacant	Jr. Res. Asstt.	Rahuri
	AICRP on Irrigation Water Management, MPKV, Rahuri		
52	Dr. A.V. Patil	Sr. Scientist (Soil)	Rahuri
	Integrated Farming System, MPKV, Rahuri		
53	Dr. I.R. Bagwan	Jr. Soil Chemist	Rahuri
	AICRP on Forage Crop, MPKV, Rahuri		
54	Vacant	Jr. Res. Asstt.	Rahuri
	Interfaculty Department of Irrigation Water Management, MPKV, Rahuri		
55	Dr. S.K. Ghodke	Assistant Professor	Rahuri

	AICRP on Citrus, MPKV, Rahuri		
56	Vacant	Sr. Res. Asstt.	Rahuri
	Zonal Agriculture Research Station, Solapur		
57	Dr. N.J. Ranshur	Chief Scientist and Asso. Director of Research	Solapur
58	Dr. A.S. Takate	Soil Scientist NARP	Solapur
59	Vacant	Soil Physicist (AICRP on DLA)	Solapur
60	Dr. A.B. Pawar	Soil Chemist, NARP	Solapur
61	Vacant	Soil Physicist NARP	Solapur
62	Vacant	Soil Engineer	Solapur
63	Vacant	Sr. Res. Asstt.	Solapur
64	Vacant	Jr. Res. Asstt.	Solapur
65	Vacant	Jr. Res. Asstt.	Solapur
66	Vacant	Jr. Res. Asstt.	Solapur
	Agriculture Research Station, K. Digraj		
67	Vacant	Professor	K. Digraj
68	Dr. S. D. Kale	AssistantProfessor	K. Digraj
	Agriculture Research Station, Niphad		
69	Vacant	Assistant Professor	Niphad
70	Vacant	Sr. Res. Asstt.	Niphad
	Agriculture Research Station, Igatpuri		
71	Dr. J.S. Chaure	Assistant Professor	Igatpuri
	Banana Research Station, Jalgaon		
72	Prof. Anjali R. Mendhe	Assistant Professor	Jalgaon
73	Dr. N.R. Satpute	Sr. Res. Asstt.	Jalgaon
	Central Sugarcane Research Station, Padegaon		
74	Dr. D.D. Sawale	Soil Physicist	Padegaon
75	Vacant	Sr. Res. Asstt.	Padegaon
76	Vacant	Jr. Res. Asstt.	Padegaon
	NARP, Ganeshkhind, Pune		
77	Dr. R.U. Nimbalkar	Assistant Professor	Pune
	BNF, Pune		
78	Vacant	Sr. Res. Asstt.	Pune
	NARP, Kolhapur		
79	Vacant	Associate Professor	Kolhapur
80	Dr. P.N. Gajbhiye	Assistant Professor	Kolhapur
	Regional Sugarcane & Jaggery Research Station, Kolhapur		
81	Vacant	Associate Professor	Kolhapur

Academic programme

Annual intake capacity of M.Sc. (Agri.) and Ph.D. students

Name of campus	Intake capacity	
	M.Sc.(Agri.)	Ph.D.
PGI, MPKV, Rahuri	18	04
College of Agriculture, Pune	06	-
College of Agriculture, Dhule	04	-
College of Agriculture, Kolhapur	06	-
Total	**34**	**04**

M.Sc. (Agri.) Course Layout (As per Academic Rules and Regulations 2022-23)
Minimum Credit Requirements

Sr. No.	Subject	Minimum credit(s)
1.	Major	**20**
2.	Minor	**08**
3.	Supporting	**06**
4.	Common Courses (PGS)	**05**
5.	Seminar	**01**
6.	Research	**30**
	Total Credits	**70**

Sr. No.	Course Number	Course Title	Credits
A)	**Major subjects (Min. 22 credits)**		
	Soil-501	Soil Physics	2+1=3
	Soil-502	Soil Fertility and Fertilizer Use	2+1=3
	Soil-503	Soil Chemistry	2+1=3
	Soil-504	Soil Mineralogy, Genesis and Classification	2+1=3
	Soil-506	Soil Biology and Biochemistry	2+1=3
	Soil-508	Soil, Water and Air Pollution	2+1=3
	Soil-510	Analytical Techniques and Instrumental Methods in Soil and Plant Analysis	0+2=2
	Soil-511	Management of Problematic Soils and Water	1+1=2
B)	**Minor Subjects (Min. 09 credits)**		
	Agron-513	Principles and Practices of Organic Farming	2+1=3
	PP-501	Principles of Plant Physiology I Plant Water Relationship and Mineral nutrition	2+1=3

	Micro 505	Soil Microbiology	2+1=3
C)	**Supporting Subjects (Min. 07 credits)**		
	Biochem-501	Basic Biochemistry	3+1=4
	Stat-511	Experimental Design	2+1=3
D)	**Seminar (1 credit)**		
	Soil-591	Master Seminar	0+1=1
E)	**Master's Research (30 credits)**		
	Soil-599	Master's Research	0+10=10
	Soil-599	Master's Research	0+20=20
F)	**Non Credit Compulsory Courses**		
	PGS-501	Library and Information Services	0+1=1
	PGS-502	Technical Writing and Communications Skills	0+1=1
	PGS-503	Intellectual Property and its Management in Agriculture	1+0 =1
	PGS-504	Basic Concepts in Laboratory Techniques	0+1=1
	PGS-505	Agriculture Research, Research Ethics and Rural Development Programmes	1+0 =1

Ph.D. Course Layout (As per Academic Rules and Regulations 2022-23)
Minimum Credit Requirements

Sr. No.	Subject	Minimum credit(s)
1.	Major	**12**
2.	Minor	**06**
3.	Supporting	**05**
4.	Common courses (PGS)	*
5.	Seminar	**02**
6.	Research	**75**
	Total Credits	**100**

* Ph.D. students have to complete 05 credits common (PGS) if he/she has not completed during Master's degree programme

Sr. No.	Course Number	CourseTitle	Credits
A)	**Major subjects (Min. 15 credits)**		
1.	Soil-601	Advances in Soil Physics	2+0=2
2.	Soil-602	Advances in Soil Fertility	2+0=2
3.	Soil-603	Physical Chemistry of Soils	2+0=2
4.	Soil-604	Soil Genesis and Micropedology	2+0=2
5.	Soil-605	Biochemistry of Soil Organic Matter	2+0=2
6.	Soil-606	Land Use Planning and Watershed Management	2+0=2
7.	Soil-607	Soil Resource Management	3+0=3
8.	Soil-691	Doctoral Seminar-I	0+1=1
9.	Soil-692	Doctoral Seminar-II	0+1=1
B)	**Minor Subjects (Min. 08 credits)**		
1.	Agron-604	Advances in Crop Growth and Productivity	2+1=3
2.	PP-605	Climate Change and Crop Growth	2+0=2
3.	IWM-626	Soil, Water and Air Pollution	2+1=3
C)	**Supporting Subjects (Min. 06 credits)**		
1.	Agron-602	Crop Ecology	2+0=2
2.	MICRO-604	Current Topics in Soil Microbiology	2+0=2
3.	Agron-607	Integrated Farming System for Sustainable Agriculture	2+0=2
D)	**Seminar (02 credit)**		
		Doctoral Seminar I	0+1=1
		Doctoral Seminar II	0+1=1
E)	**Doctoral Research (45 credits)**		
		Doctoral Research	0+45=45
F)	**Non Credit Compulsory Courses**		
1.	PGS-501	Library and Information Services	0+1=1
2.	PGS-502	Technical Writing and Communications Skills	0+1=1
3.	PGS-503	Intellectual Property and its Management in Agriculture	1+0=1
4.	PGS-504	Basic Concepts in Laboratory Techniques	0+1=1
5.	PGS-505	Agriculture Research, Research Ethics and Rural Development Programmes	1+0=1
6.	PGS-506	Disaster Management	1+0=1

Laboratories and Instruments

There are four well equipped laboratories with sophisticated equipments. These laboratories not only used for teaching purpose but also render the advisory services to farmers by analyzing samples of Soil – Water – Plant and Fertilizers at the nominal charges.

Instruments

- X-ray diffraction system
- Soil CO_2 flux system
- ARC, GIS software
- Pressure membrane apparatus
- Inductively Coupled Plasma Mass Spectrometer
- TOC analyzer
- Atomic Absorption Spectrophotometer
- Microwave digestion system
- Biological oxygen demand (BOD) Incubator
- Spectrophotometer
- Flame Photometer
- Automatic Nitrogen analyzer
- Soil moisture meters
- Muffle furnace
- High Speed Centrifuge machine
- Advanced Leaf area meter

Research

- Generated dry land technologies for soil and water conservation and nutrient management for field crops.
- Developed 53 yield targeting equations for 36 different field crops and 25 recommendations are given for fertilizer use.
- Developed integrated nutrient management strategies for dry land crops and recommendations are given.
- Evolved the package of reclamation technologies for saline/sodic soil.
- Advocated the use of saline water through drip irrigation for vegetables and use of pressurized irrigation for fertigation.
- Developed integrated nutrient management system for higher sugarcane productivity and sugar recovery.

- Developed technology for good quality jaggery.
- Delineated the micronutrient deficient areas of Western Maharashtra and given recommendations of micronutrients for various crops.
- Developed the technology for enhancing the nutrient use efficiency for rice.
- Identified dominance of iron rich beidellite species of smectite in Shrink-swell soils of Maharashtra.
- Developed the technology for one time controlled application of post biomethanted spent wash as a liquid manure.
- Research work done on use of Diatomaceous earth as a source of silicon in cotton, tomato, onion, banana and pomegranate crop of Maharashtra.
- Sugarcane trash management technology.

Linkages

- Indian Council of Agricultural Research (ICAR), New Delhi
- National Bureau of Soil Survey and Land Use Planning (NBSS and LUP), Nagpur
- Department of Agriculture and Co-operation, Govt. of India
- Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad
- Indian Institute of Soil Science (IISS), Bhopal
- Indian Agricultural Research Institute (IARI), New Delhi
- Department of Science and Technology (DST), New Delhi
- Fertilizer Association of India (FAI), New Delhi
- Rashtriya Chemical and Fertilizers (RCF), Mumbai
- Potash Research Institute, Gurgaon, New Delhi
- National Information Centre (NIC), Pune

Ongoing research activities

- Development of IPNS based fertilizer equations for field crops.
- Carbon sequestrations
- Enhancement to nutrient use efficiency
- Fertigation based on STCR equations for different crops
- Integrated nutrient management
- Nutrition of horticultural crops
- Enhancing and sustaining soil quality

- Utilization of agro-industrial wastes
- Soil mineralogical studies
- Soil biology
- Research on micronutrients
- Soil Quality assessment and improvement

Extension Programmes

Workshop/ seminars conducted:

Sr. No.	Workshops/ seminars	Period	No. of beneficiaries
1.	State Level Seminar on "Soil Management for Sustainable Agriculture and Livelihood Security" was organized by the Rahuri Chapter of ISSS, Department of Soil Science, M.P.K.V., Rahuri	9-10 January, 2025	225
2.	One day workshop on "Standardizing Conservation Agriculture and Soil Nutrient Management Strategies for Enhancing Resource Productivity and Climate Resilience in Major Cropping Systems of Maharashtra"	29 September, 2026	--

Training conducted

Sr. No.	Workshops/ training/ seminars	Period	No. of beneficiaries
1.	Five days training programme on "Analytical Techniques in Soil and Water Testing"	4-8 August, 2025	25
2.	Five days training programme on "Analytical Techniques in Soil and Water Testing"	19-23 January, 2026	25

Guest Lectures

Sr. No.	Date	Name of speaker & designation	Topic of the lecture
1.	22.5.2026	Dr. M.C. Kasture, Head, Department of Soil Science, Dr. BSKKV, Dapoli	Chemistry of Submerged Soil
2.	23.6.2026	Dr. Syed Ismail, Former Dean (Agriculture), Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani	Beneficial Microbes for Sustainable Agricultural Production and Soil Health Enhancement

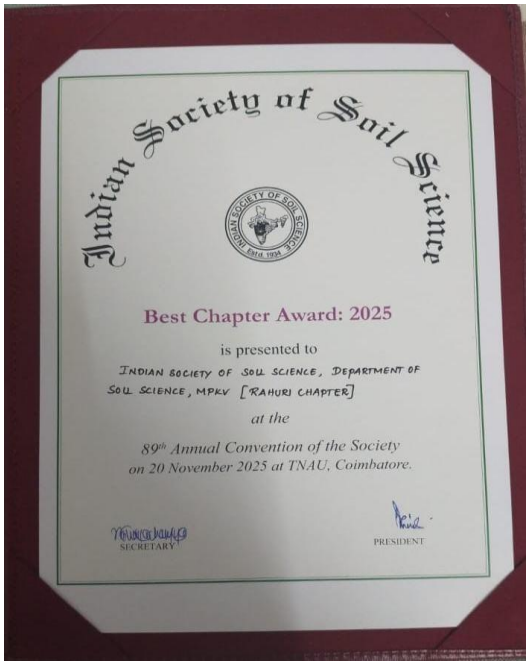
Memorial lectures organized by Rahuri Chapter of Indian Society of Soil Science

31st Dr. D.P. Motiramani Memorial Lecture on September 29, 2025 delivered lecture in "**Multifunctional Clay Minerals in Soil–Plant System: Mechanisms, Modifications and Applications"** by Dr. K.M. Manjaiah, Former Principal Scientist and Associate Dean, Division of Soil Science and Agricultural Chemistry, ICAR-IARI, New Delhi

Chapter Award (Indian Society of Soil Science)

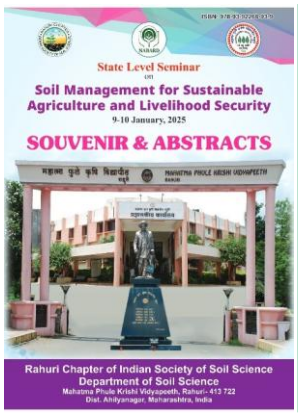


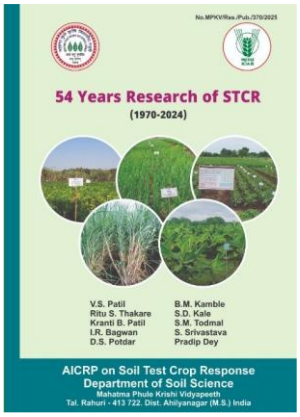
Best Chapter Award : 2024

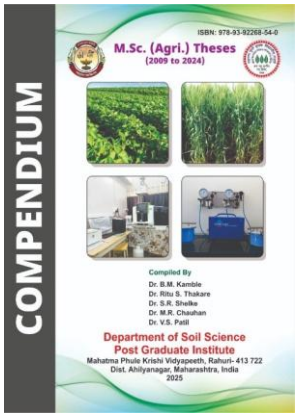


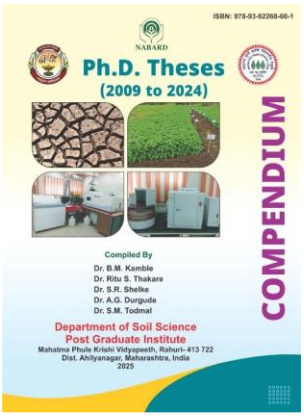
Best Chapter Award : 2025

Publications





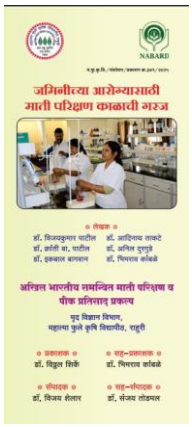


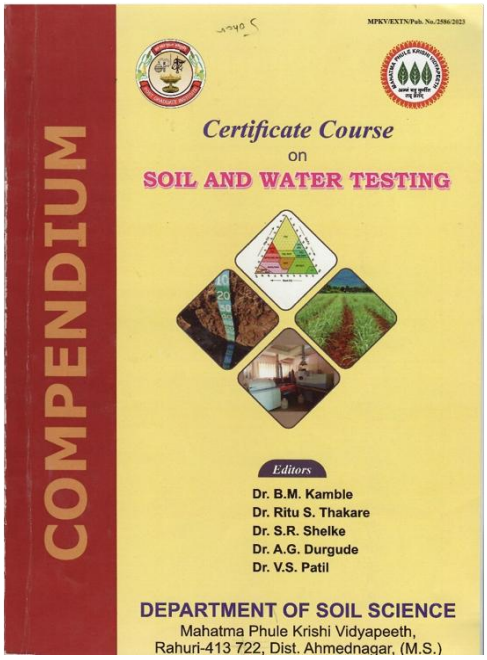


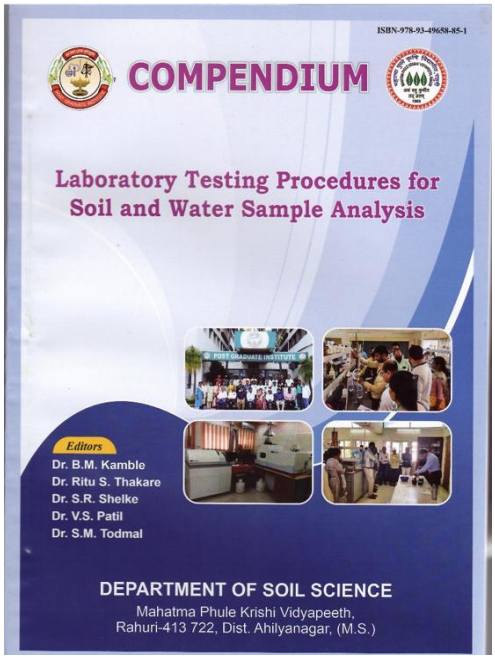












Contact Details

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