

# Department of Soil Science & Agricultural Chemistry

College of Agriculture, Gwalior (MP)

## Profile

The College was established in 1950, as only the Agriculture College of Madhya Bharat State. In the existing department of soil science & Agriculture Chemistry post graduate classes were started in 1957 under the then Professor and Head Dr. D.P. Motiramani and four students were admitted. The first batch passed out in 1959. Since then over 187 students have been awarded M.Sc. degree pre irrigation soil survey was started in 1956, and detailed survey of area to be covered under Chambal command Area was carried out. In the same year soil testing scheme was also initiated at the behest of U.S.A.I.D. Programme.

All above projects and schemes were transferred to J.N.K.V.V. in October 1964, and continued under the V.C. of J.N.K.V.V. till August 2008, the time when R.V.S.K.V.V. was established since 2008 the department is working under the administrative control of R.V.S.K.V.V.

Ph.D. courses were started in July 2009 one student has already been awarded Ph.D. degree in 2012-13 sessions by RVSKVV. At present student intake capacity of PG and PhD programmes are 9 and 6 respectively.

## Mission

The mission of the department is to develop human resource in the subject of soil science and agriculture chemistry, nutrient management of field crops and soil health improvement

## Mandate

- ) To serve as a centre of basic research in the field of soil science and Agriculture Chemistry and to maintenance of soil health to ensure productivity, profitability and food security.
- ) To serve as a centre of teaching in the field of Soil Science and Agriculture Chemistry including allied sciences.
- ) Soil/plant/water testing to assess the relative nutrient supplying power of soil to Predict profitable responsiveness of soil to added fertilizers, lime, gypsum and other amendments for optimum and economical crop production.

## Faculty Position

S.N.	Name	Designation	Specialization
1	Dr. S.K. Verma	Professor & Head	Soil Physics & Water management
2	Dr. S.K. Trivedi	Professor	Soil Fertility
3	Prof. P.S.Tomar	Associate Professor	Soil Fertility

4	Dr. Akhilesh Singh*	SMS	Soil & Water conservation
5	Dr. Shashi S. Yadav*	SMS	Soil Survey & Pedology
7	Mr. D.S. Bhadoria	F.E.O.	M.Sc.( Ag)
8	Sh. Parmal Singh	Peon	

\* Dr. Akhilesh Singh SMS (soil water engg.) and a Dr.(SmtMT.) Shashi S.Yadav SMS (soil science) attached from Directorate of Extension .

### U.G. Courses offered by Department

#### I<sup>st</sup> Semester

S.N.	Title of Courses	Credits	Teacher	Class
1	Introduction to soil science	2+1	Dr. S.K. Trivedi & Dr. Shashi S. Yadav	I <sup>st</sup> year

#### II<sup>nd</sup> Semester

1	Chemistry of soil fertility & nutrient management	2+1	Pro. P.S. Tomar	I <sup>st</sup> year
2	Manures, Fertilizers & Agro Chemical	2+1	Dr. S.K. Trivedi	II <sup>nd</sup> Year
3	Rawe (Plant Clinic)	0+4	Dr. S.K. Trivedi	IV <sup>th</sup> Year
4	Soil management	1+3	Dr. S.K. Verma	IV <sup>th</sup> Year
5	Remote sensing GIS & land use planning	1+2	Dr. Akhilesh Singh*	IV <sup>th</sup> Year

### P.G. Courses offered by Department

#### Ist Semester

S.N.	Title of Courses	Number	Credit hrs	Teacher
1	Soil Chemistry	Soils -503	2+1	Dr. S.K. Verma
2	Soil mineralogy, Genesis, classification and Survey	Soils -504	2+1	Dr. Shashi S. Yadav
3	Soil Biology and Biochemistry	Soils -506	2+1	Dr. P. A. Khambalkar
4	Remote sensing and GIS techniques for soil and crop studies	Soils -510	2+1	Dr Akhilesh Singh

## IInd Semester

S.N.	Title of Courses	Number	Credit	Teacher
1	Soil fertility and fertilizers	Soils -502	3+1	Prof. P.S. Tomar
2	Soil physics	Soils -501	2+1	Dr. S.K. Trivedi
3	Soil water and air pollution	Soils -509	2+1	Dr. P. A. Khambalkar
4	Basic concepts in laboratory techniques	PGS – 504	0+1	Dr. Shashi S. Yadav

## Ph. D. Courses offered by Department

### Ist Semester

S.N.	Title of Courses	Number	Credit	Teacher
1	Biochemistry of soil Organic matter	Soils 605	2+0	Dr. S.K. Singh
2	Advances in soil fertility	Soils 602	2+0	Dr. S.K. Trivedi
3	Physical chemistry of soils	Soils 603	2+0	Dr. S.K. Verma

### IInd Semester

S.N.	Title of Courses	Number	Credit	Teacher
1	Soils genesis and Micropedology	Soils 604	2+0	Dr. Shashi S. Yadav
2	Advances soil physics	Soils 601	2+0	Dr. S.K. Verma
3	Land use planning and water shed management	Soils 606	2+0	Dr. Shashi S. Yadav
4	Soil erosion and conservation	Soils 505	2+1	Dr. Akhilesh Singh
5	Basic concept in lab tech	PGS 504		Dr. Shashi S. Yadav

## Number of P.G. & Ph.D. Students admitted and awarded during last 5 Years

Degree Years	PG		Ph.D.	
	Admitted	Awarded	Admitted	Awarded
2009-10	08	05	03	00
2010-11	08	06	01	00

2011-12	08	02	03	01
2012-13	08	01	00	00
2013-14	09	-	02	00
2014-15	08	-	01	-
Total	49	14	10	01

## List of Research Projects

### A. Completed Projects:

1. Scheme of strengthening of chemistry department
2. Pre irrigation soil survey/Post irrigation soil survey
3. Agriculture Research Lab
4. Project of Pollution Board
5. Small experiments financed by Godrej India limited for testing Urea coating material (Nimin) for N economy  
National fertilizer limited Vijaypur – Testing on CAN  
Union carbide Limited – for finding out the usefulness of their bi- product as a source of micronutrient particularly manganese for crop production.
6. Preparation of Soil Health Card–(2010-12) under RKVY by Department of Farmers Welfare and Agriculture Development, Bhopal' (Total Budget Rs. 408lakhs)
7. National Project on Organic Farming.2008-2012 with total budget of 185lakhs.
8. Occurrence of native rhizobium status in nontraditional legumes in M.P. with total budget of 12.30 lakhs.
9. Promotion and awareness of organic farming in M.P. with total budget of 358 lakhs.
10. Identification of efficient integrated Modules for sustainable management ravines (Chambal) and Carbon Sequent for climate residence in Madhya Pradesh. Under NICRA sponsored by ICAR, New Delhi.(2011-12 to 2013-14 with total budget of 200lakhs).

### B. On Going Project:

1. Soil Testing Scheme – Non Plan
2. Fodder Research Scheme – State Plan
3. Niche Area of Excellence (NAE) in Management of Soil Health and Degraded Lands for sustainable Agriculture sponsored by Deputy Director Education, ICAR, New Delhi. (2011-12 to 2015-16 with total budget of 461lakhs).

**Publications:**

<b>Particulars</b>	<b>National</b>	<b>International</b>	<b>Total</b>
<b>Research Papers</b>	<b>102</b>	<b>08</b>	<b>110</b>
<b>Popular Articles</b>	<b>27</b>	<b>-</b>	<b>27</b>
<b>Books &amp; Books Chapter</b>	<b>4</b>	<b>-</b>	<b>4</b>
<b>Manuals</b>	<b>3</b>	<b>-</b>	<b>3</b>
<b>Others- Annual Reports</b>	<b>7</b>	<b>-</b>	<b>7</b>
<b>Others (symposia papers)</b>	<b>21</b>	<b>3</b>	<b>24</b>

**Thesis Submitted and degree awarded**

<b>1</b>	<b>Master Degree</b>	<b>187</b>
<b>2</b>	<b>Doctoral Degree</b>	<b>01</b>