

DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY



Introduction

The department of Soil Science and Agricultural Chemistry came into existence in 1965. The main activities of this department are to impart teaching at under and post graduate level along with research and extension. The departmental staff is doing the departmental research and extension activities as a part of their duties as per the UGC norms. The extension activities includes the transfer of technology to the farmers through lectures in different training programs and by attending the farmers days/ Krushimela and spot visit of farmer's fields when contacted by the farmer. The department is also providing the analytical facilities for soil, water, organic manures and plant analysis to PG students. The department is also analyzing soil, water, organic manure and plant samples received from farmers, govt./private agencies, NGO and departments on paid basis and advising them accordingly. The infrastructure facilities and manpower available in the department are given below with accomplishments of academic, research and extension activities.

ACTIVITY

Major activities of department are to impart teaching in Soil Science and Agricultural Chemistry and biochemistry discipline at under and post graduate level. Apart from this, the faculties are also engaged in departmental research and analysis of soil, water, manures and plant samples received from the farmers/NGO/Private sector/different research units of the University on payment basis. The faculties are also providing guidance to the farmers on the basis of their soil/water/manure test report and by visiting their fields/sites if required.

- To impart the teaching to under and post graduate students (Total **4** UG courses under **5th Dean** and **8** courses under **4th Dean** committee, **21** PG courses in the discipline of Soil Science and Agricultural Chemistry and **18** courses in Biochemistry discipline)

List of UG courses (As per 4th Dean Committee)

Course No.	Course title	Credits
Ag. Chem. 1.1	Introduction to Soil Science	2+1
Ag. Chem. 2.2	Soil Chemistry, Soil Fertility and Nutrient Management	2+1
Bio Chem. 4.1	Biochemistry	2+1
Ag. Chem. 6.3	Manure, Fertilizers and Agrochemicals	2+1
Envs.6.1 (P)	Environmental Science	1+1
Ag.Chem.7.4	Rural Agricultural Work Experience	2+1
Ag.Chem.8.5	Soil Management	1+2
Biochem.8.2	Molecular Diagnostics	1+2

List of UG courses (As per 5th Dean Committee)

Course No.	Course title	Credits
Ag. Chem. 1.1	Fundamentals of Soil Science	2+1
Ag. Chem. 2.2	Manures, Fertilizers and Soil Fertility Management	2+1
Ag. Chem. 3.3	Problematic soils and their Management	2+1
Biochem. 2.1	Fundamentals of Plant Biochemistry	2+1

List of PG courses: Discipline: Soil Science & Agricultural Chemistry (As per 4th Dean Committee)

Course No.	Course Title	Credit
Soils. 501	Soil Physics	2+1
Soils. 502	Soil Fertility and Fertilizer use	3+1
Soils. 503	Soil Chemistry	2+1
Soils 504*	Soil mineralogy genesis, classification and survey	2+1
Soils. 505	Soil Erosion and Conservation	2+1
Soils 506*	Soil Biology and Biochemistry	2+1
Soils. 507	Geomorphology and Geochemistry	2+0
Soils. 508	Radio-isotopes in soil and plant studies	1+1
Soils. 509	Soil, Water and Air pollution	2+1
Soils. 510	Remote sensing and GIS Techniques for soil and crop studies	2+1
Soils. 511	Analytical techniques and instrumental methods in soil land plant analysis	0+2
Soils 512	System approaches in soils and crop studies	2+1
Soils 513	Management of problematic soils and waters	2+1
Soils. 514	Fertiliser Technology	1+0

Soils. 515	Land degradation and Restoration	1+0
Soils 601	Advances in soil physical	2+0
Soils 602	Advances in soil fertility	2+0
Soils. 603	Physical chemistry of soil	2+0
Soils. 604	Soil genesis and micropedology	2+0
Soils 605	Biochemistry of soil organic matter	2+0
Soils. 606	Land use planning and watershed management	2+0

Pre-Requisite Courses offered for Post Graduate Basic Science Student

Course No.	Title of Course	Credit
Ag. Chem. 1.1	Fundamentals of Soil Science	2+1
Biochem. 2.1	Fundamentals of Plant Biochemistry	2+1

List of PG courses: Discipline: Bio Chemistry (As per 4th Dean Committee)

Course No.	Course Title	Credit
Biochem. 501	Basic Biochemistry	3+1
Biochem. 502	Intermediary Metabolism	3+0
Biochem.503	Enzymology	2+1
Biochem. 504	Molecular Biology	2+1
Biochem. 505	Biochemical Techniques	1+2
Biochem. 506	Immuno Chemistry	2+1
Biochem. 507	Plant Biochemistry	3+0
Biochem. 508	Animal Biochemistry	3+0
Biochem. 509	Food and Nutritional Biochemistry	2+1
Biochem. 510	Carbon and Nitrogen Metabolism	2+1
Biochem. 511	Biochemistry of Cereal, Oilseeds and Pluses	2+0
Biochem. 601	Advanced Enzymology	2+0
Biochem. 602	Advanced Molecular Biology	3+0
Biochem. 603	Biochemistry of Biotic and Abiotic Stress	3+0
Biochem. 604	Current Topics in Biochemistry	1+0
Biochem. 605	Functional Genomics and Metabolomics	3+0
Biochem. 606	Biomembranes	2+0
Biochem. 607	Advanced Techniques in Biochemistry	0+2

- To conduct the basic research in soil science, Integrated Nutrient Management (INM), Organic farming, Fertility, Salinity etc., as per the demand of the time
- To provide the advisory services to farmers on the basis of soil, water, manures fertilizers and plants analysis.
- To provide the spot solution to the problems in the farmers fields and other farmers related activities.
- To provide sophisticated (modern) instrumental facilities to PG students for their research work in Central Instrumentation Laboratory.
- To provide training programme to the technical staff engaged in soil testing laboratory.

ACHIEVEMENT

(i) Education:

- (1) Total **7 UG as per 4th Dean and 3 UG courses as per 5th Dean, 21 PG** courses are being taught by this department in the discipline of Soil Science and Agricultural Chemistry
- (2) Total **2 UG as per 4th Dean and 1 UG course as per 5th Dean** are being taught by this department in the discipline of Biochemistry
- (3) So far from the department of Soil Science and Agricultural Chemistry in all **115** students obtained their M. Sc. (Agri.) and **32** Ph. D. degrees (on 18-9-2017) in the discipline of Soil Science and Agricultural Chemistry and Totals **6** Students have obtain M.Sc. (Agri.) degree in the discipline of Biochemistry.
- (4) Presently **21 + 5** students are studding for their M. Sc. (Agri.) and Ph. D. Degree in the discipline of Soil Science and Agricultural Chemistry .
- (5) **Significant Educational success of UG/PG student at National Level**

Year	ARS-NET	JRF	SRF	OTHERS
2012-2013	01	-		ICAR Ph. D. Entrance Exam (1)
2013-2014	04	-	1	INSPIRE fellowship (1) University Gold Medal(1)
2014-2015	01	-	-	-
2015-2016	05	-	2	-
2016-2017	06	05	1	ICAR Ph. D. Entrance Exam (1)

(ii) Research

- (a) At present **9** Departmental/Collobrative experiments are in hand.

Sr. No.	On Going Experiments
1	Effect of organic manure on soil health and nutrient requirement of <i>kharif</i> and summer rice crop sequence. (Collaborative experiment with Agronomy Department N.M.College of Agriculture,N.A.U. Navsari)
2	Impact of different summer green manures on succeeding <i>kharif</i> paddy under integrated nutrient management. (Collaborative experiment with Agronomy Department N.M. College of Agriculture, N.A.U. Navsari)
3	Effect of N, P and K levels on yield and quality of Broccoli.

4	Comparison of different digestion methods for analysis of multi element (P, K, Fe, Mn, Zn, Cu) from plant.
5	Studies on different packages of practices in finger millet (Nagli) under rainfed conditions (Dangs) (Collaborative experiment with RS, HMRS, NAU, Waghai and Programme Co-ordinator, NAU, Dediapada)
6	Study the N and K requirement of beet root grown on coastal soils of South Gujarat. (Collaborative experiment with Associate Research Scientist, Coastal Salinity Research Station, Danti-Umbarhat, N.A.U., Navsari)
7	Optimization of nutrient requirement for different genotype of Niger (Collaborative experiment with Associate Research Scientist, Niger Research Station, N.A.U., Varansi)
8	Evaluation of different phosphorous management practices in <i>Rabi</i> sorghum-summer green gram cropping sequence under South Gujarat condition (in collaboration with MSRS, NAU, Navsari).
9	Effect of boron and zinc application on growth, yield and quality of sugarcane (Collaborative experiment with college Farm, NMCA, NAU, Navsari))

(b) Recommendations for farming community

Recommendation for Individual crop

Paddy

It is recommended to add 90 P₂O₅ /ha along with either molasses or press mud in low land paddy IR-22 grown in clay soils of South Gujarat having marginal value of available phosphorus. Farmers of Agro ecological situation –III of South Gujarat heavy Rain fall zone following paddy (*kharif*)-Paddy (summer) cropping sequence are advised to incorporate paddy straw @ 5 t/ ha along with 80 kg N/ha(50% or 75 % basal) with a common dose of 30 kg P₂O₅/ha for getting higher yield It saves 20 %N and increase availability of organic carbon , P₂O₅and K₂O in soil

The Farmers of South Gujarat Heavy Rainfall Zone AES –III growing *kharif* and summer rice var. Jaya are advised to apply 50 % of N and 100% of P₂O₅ of recommended dose (100-30 NP kg/ha for *kharif* and 120-30 NP kg/ha for summer) through urea and SSP, respectively by spot application at 7-10 DATP along with castor cake or neem cake @ 5 q /h and remaining half dose of nitrogen should be applied in two equal splits at tillering and panicle initiation stage for getting higher yield and economic return.

Sorghum

The farmers of South Gujarat Zone –I growing sorghum (var. GJ-36) as late *kharif* are advised to apply nitrogen fertilizers in two splits i.e. 60 and 20 kg N/ha at the time of sowing at knee height stage beside the recommended dose of P₂O₅ and K₂O. The fertilizers are to be applied 5 cm below the soil.

Mustard

The farmers of South Gujarat Agro climatic Zone AES-III growing mustard (GM-1) are advised to fertilize the crop with 10 T FYM+75 kg N +25 kg P₂O₅/ha. Whole quantity of P₂O₅ and 50% N as basal and remaining 50% N after one month from sowing to obtain higher yield as well as net monetary returns.

Sugar Cane

The farmers of South Gujarat heavy rain fall zone AES-III, planting sugarcane (November-March) are advised to follow either green manuring practice with sun hemp two months prior to sugarcane planting or FYM @ 10 t/ha + castor cake @ 0.5 t/ha besides the RDF for securing economical higher production of plant and ratoon (Co. N 91132) as well as to maintain soil fertility.

Nagli

The farmers of South Gujarat Agro climatic Zone (AES-I) growing Nagli (GN-3) are advised to apply N @ 40 kg/ha alongwith the application of bio fertilizers @ 4.0 kg/ha (Azospirillum + Phosphobacteria or Phosphobacteria alone for getting about 45 percent more net income than application of N alone.

Recommendation for crop sequence

Sequence	Nutrient management package	
Option: I for realizing higher net income based on soil test values		
1. Paddy-Paddy	Paddy:120-30-00	Paddy:120-30-00 NPK kg/ha
2. Paddy-Indian Bean	Paddy:120-30-00	Bean: 20-40-00 NPK kg/ha
3. Paddy-Groundnut	Paddy:120-30-00	G.Nut: 25-50-00 NPK kg/ha

Option: II for improving soil fertility

1. Paddy-Paddy	Paddy: FYM 6.0 + Poultry manure 1.5 t/ha + 60 kg N/ha Paddy: FYM 6.0 + Poultry manure 1.5 t/ha + 60 kg N/ha
2. Paddy-Indian Bean	Paddy: FYM 6.0 + Poultry manure 1.5 t/ha + 60 kg N/ha Bean: FYM 1.0 + Poultry manure 250 t/ha + 10.0 kg N/ha
3. Paddy-Groundnut	Paddy: FYM 6.0 + Poultry manure 1.5 t/ha + 60 kg N/ha G.Nut: FYM 1.25 t/ha + Castor cake 150 kg/ha + 12.5 kg N/ha or FYM 5.0 t/ha

- The farmers of South Gujarat heavy rainfall zone are recommended to adopt following nutrient management package for *kharif* paddy based cropping sequences for realizing higher yield and income.

Sequence	Nutrient management package		
Option: I for realizing higher net income based on soil test values			
Paddy- sugarcane N:P:K: kg/ha	Paddy 110 : 30 : 00	Sugarcane(Plant) 280 : 125 : 45	Sugarcane (Ratoon) 310 : 125 : 75
Option: I for improving soil fertility and net income			
Paddy-Sugarcane	FYM 6.0 + 1.5 t/ha Poultry manure + 60 kg N/ ha	FYM 12.5 + 3.125 t/ ha Poultry manure + 125 kg N / ha	FYM 15 + 3.75 t / ha Poultry manure + 150 kg N/ ha

2016-17

- The farmers of South Gujarat heavy rain fall zone growing finger millet variety GN 5 during *kharif* season are recommended to fertilize the crop with 75% of RDF (30:15:00 kg NPK/ha) and vermicompost 2 t/ha for getting higher yield and net return (In colobration with Associate Research Scientist, HMRS, NAU, Waghai).
- The farmers of South Gujarat heavy rain fall zone growing little millet (GV 2) during *kharif* season are advised to grow the crop with application of 20 kg N/ha and 20 kg P₂O₅/ha for getting higher yield and net income (In colobration with Associate Research Scientist, HMRS, NAU, Waghai).

(iii) **Extension**

(1) Soil Health Card

YEAR:2012-13

About **15,000** soil samples were analyzed for various parameters as a part of Soil Health Card programme of Gujarat Government.

YEAR:2015-16

About **100** soil samples were analyzed for various parameters as a part of Soil Health Card programme of Gujarat Government.

YEAR:2016-17

About **1251** soil samples were analyzed for various parameters as a part of Soil Health Card programme of Central Government.

(2) (I) Analytical services

YEAR: 1-1-2014 to 31-12-2014

About **1435** samples of soil/plant/water/manures for required parameters and **2096** Biochemical (Protein/Oil content/leaf area/ carbohydrate) were analyzed received from farmer's community, commercial organization and other university departments on payment basis as per the prescribed university norms during last **12** months

YEAR: 1-1-2015 to 31-12-2015

About **18141** samples of soil/plant/water/manures /Biochemical (Protein/Oil content/leaf area/ carbohydrate) for required parameters were analyzed received from farmer's community, commercial organization and other university departments on payment basis as per the prescribed university norms during last **12** months

YEAR: 1-1-2016 to 31-12-2016

About **948** samples of soil/plant/water/manures /Biochemical (Protein/Oil content/leaf area/ carbohydrate) for required parameters were analyzed received from farmer's community, commercial organization and other university departments on payment basis as per the prescribed university norms during last **12** months

YEAR: 1-1-2017 to 1-9-2017

About **698** samples of soil/plant/water/manures /Biochemical (Protein/Oil content/leaf area/ carbohydrate) for required parameters were analyzed received from farmer's community, commercial organization and other university departments on payment basis as per the prescribed university norms during last **8** months

(II) Analytical services UNDER RCPS

YEAR: 1-5-2016 to 1-9- 2017

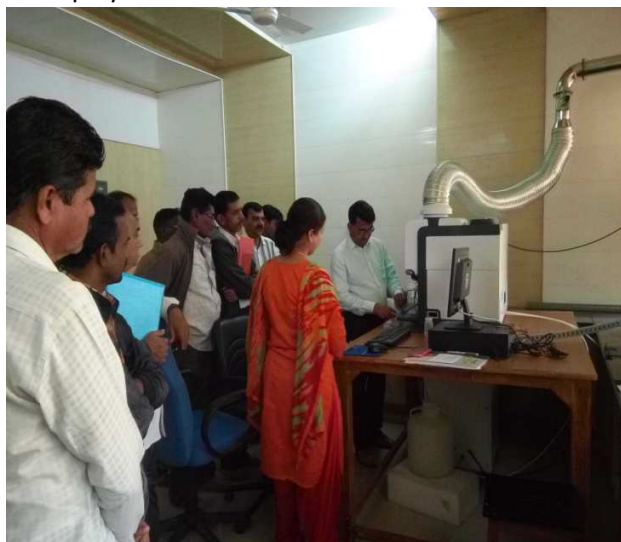
Total **245** samples of soil/water/organic manure for required parameters were analyzed received from farmer's community under RCPS.

(3) Training Programme

YEAR: 2011-12 : The department of Soil Science and Agricultural Chemistry has successfully arranged **4** training programs of one month duration for **45** technical employees of Co-operative Sugar Factories and one training programme of a week for **26** technical employees of APMC'S Staff.

YEAR: 2014-15 : The department of Soil Science and Agricultural Chemistry has successfully arranged **5** training programs (one week) for **150** UG and PG students on "**Analytical Techniques and Instrumentation for the Estimation of Available Micronutrients**" as per ICAR Directives.

YEAR: 2015-16 : The department of Soil Science and Agricultural Chemistry has successfully arranged **3** training programs of one week duration for **50** technical employees of STL and Gujarat gov. employees.



Analytical Techniques and Instrumentation for the Estimation of Available Micronutrients

YEAR: 2016-17: The department of Soil Science and Agricultural Chemistry has successfully arranged **1** training programs of one week duration for Soil Testing Laboratory Staff of Gov. of Gujarat under NMSA).

Other Extension Activities:

(1) Organization of 18th Dr. B. V. Mehta Memorial Lecture - 2014

The 18th Dr. B. V. Mehta Memorial Lecture - 2014 was organized by Navsari Chapter of Indian Society of Soil Science under the auspices of Department of Soil Science and Agricultural Chemistry with the Golden Jubilee Celebration Year (2014-15) of N. M. College of Agriculture, Navsari Agricultural University, Navsari. The lecture on "**Short Term Approaches of Biofortification to Improve the Nutritional Quality with Respect to Trace Elements in Food Crops**" was delivered by Dr. K. P. Patel, Principal and Dean, BACA, AAU, Anand on 02/09/2014 at Seminar Hall, N. M. College of Agriculture, Navsari Agricultural University, Navsari.

(2) Lectures delivered to the Farmers/Agri Input Dealers (2014-17)

Sr. No.	Faculty	Date	Topic
1.	Prof. R. C. Gami	01/07/2014	Kheti ma sendriya tatvo nu mahatvo ane rasayanik khataro no karyasham upyog
2.	Prof. R. C. Gami	20/08/2014	Kheti ma sendriya tatvo nu mahatvo ane rasayanik khataro no karyasham upyog
3.	Dr. Punit Mehta	16/08/2014	Kheti pako ma sukshma tatvo ni unap ane tena chinho ni oalakh
4.	Dr. V. J. Zinzala	11/11/2016	Soil Health Management
5.	Dr. V. J. Zinzala	05/12/2016	Soil Health Card
6.	Dr. V. J. Zinzala	18/01/2017	Important of Soil Testing
7.	Dr. V. J. Zinzala	8/02/2017	Deficiency of Micronutrient
8.	Dr. V. J. Zinzala	09/02/2017	Soil Conservation
9.	Dr. V. J. Zinzala	29/06/2017	Dangar pakma sendriya tatha rasaynik khatarnu vyavsthapan

(3) Radio and TV Tack (2015-17)

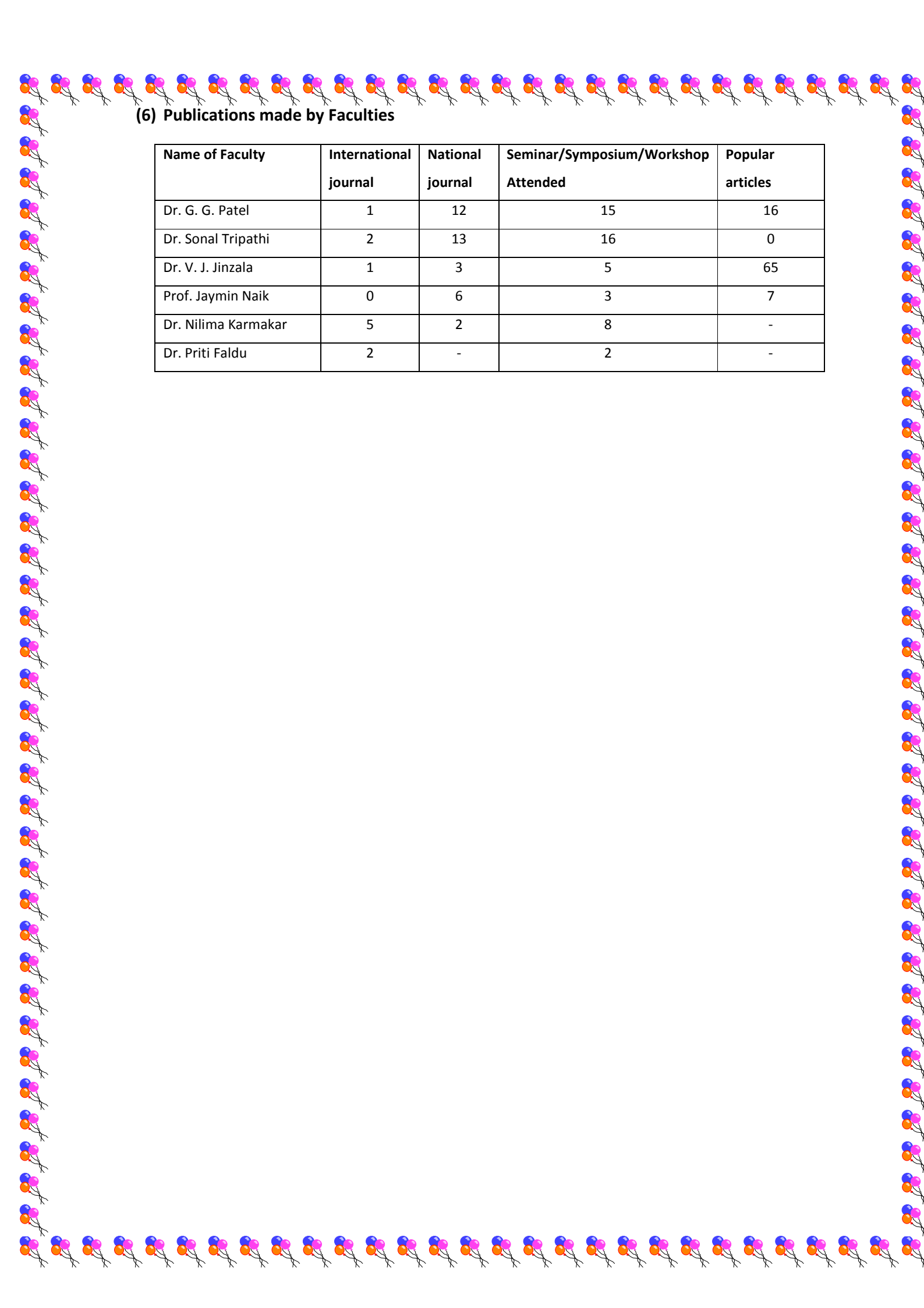
Sr. No.	Faculty	Date	Topic
1.	Prof. Jaimin Naik	18/03/2015	Soil Health Card
2.	Prof. Jaimin Naik	27/02/2017	Samsyagrast Jaminoni Olakh ane Sudharana

(4) Awards gained by Faculties as Coworker

Name of Faculty	Awards
Dr. G. G. Patel	(i) First Sardar Patel Agricultural Research Award given by government of Gujarat for the year 1997-98 (ii) V. P. Memorial prize given by D.S.T.A., pune for the year 1997-98 (iii) K.S.kale Memorial prize given by D.S.T.A., pune for the year 1997-98 (iv) J.S.Huja Rotating Shield given by D.S.T.A., pune for the year 1997-98
Dr. Sonal Tripathi	(i) Best poster presentation award at Global conference on Technological challenges and Human Resource for Climate Smart Horticulture during the year 2014.

(5) List of Successfully Handled Other Agency Project

Sr. No.	Name of other agency project	Duration
1	Assessing the quality of treated effluent of J.K. Paper mill for irrigation purpose	20/10/2008 to 21/4/2009
2	Process standardization for extraction of Lycopene and Tomato seed oil from Tomato Waste obtained as a Byproduct from Tomato Processing Industry	3/8/2010 to 31/8/2013
3	Monitoring the Karnal Technology Implemented at Abbott Healthcare Pvt. Ltd., Jhagadia.	1/4/2013 to 30/4/15



(6) Publications made by Faculties

Name of Faculty	International journal	National journal	Seminar/Symposium/Workshop Attended	Popular articles
Dr. G. G. Patel	1	12	15	16
Dr. Sonal Tripathi	2	13	16	0
Dr. V. J. Jinzala	1	3	5	65
Prof. Jaymin Naik	0	6	3	7
Dr. Nilima Karmakar	5	2	8	-
Dr. Priti Faldu	2	-	2	-

FACILITY AVAILABLE IN CENTRAL INSTRUMENTATION LABORATORY

(A) Soil Parameters:

Soil physical: Bulk density, Aggregate, Texture, Maximum water holding capacity of soil

Chemical properties: pH, EC, and Organic Carbon

Fertility parameters:

Available N, P, K, S, Ca, Mg, Fe, Mn, Zn, Cu and B

(B) Plant/Organic Manure Analysis: Nutrient content: Total N, P, K, Ca, Mg, S and Micronutrients.

(C) Bio - Chemical & Physiological Parameters:

- i. Protein content
- ii. Carbohydrate (CHO) content
- iii. Glucose and fructose content
- iv. Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD)
- v. Leaf area measurement
- vi. Photosynthesis
- vii. Oil content
- viii. Total soluble solids (TSS) and sugar content
- ix. Total Phenol Compounds
- x. Chlorophyll Content
- xi. Moisture Percentage
- xii. Proline content

ANALYSIS CHARGES

The following sophisticated instruments are available in the Central Instrumentation Laboratory (CIL) Navsari Agricultural University, Navsari for the use of various department/project/schemes of the University. The facilities can be availed by paying the minimum charges for consumables and maintenance of the instruments. The PG students who want to analyze their experimental samples can also avail these facilities; without paying any charges, however, (i) they should analyze minimum 10 % of their samples by traditional methods and after analyzing 10 % samples result of analysis is to be produced before the In charge of CIL and (ii) rest of the samples are required to be prepared as per the instructions and when called by CIL In charge, the student must remain present during analysis. The details of instrument, parameters to be analyzed, charges and condition of samples needed for analysis are given below:

Analysis Charges for Farmers and Commercial Users effective from 1st December, 2016


Sr. No.	Parameter	Rate/ Sample Rs.
SOIL ANALYSIS		
1	EC (1 :2.5)	25/-
2	pH (1 :2.5)	25/-
3	Organic Carbon	100/-
4	Available N	50/-
5	Available P ₂ O ₅	75/-
6	Available K ₂ O	75/-
7	Available Ca (Exch. + WS)	50/-
8	Available Mg (Exch. + WS)	50/-
9	Available S	100/-
MICRONUTRIENT S		
10	DTPA Fe	75/-
11	DTPA Mn	75/-
12	DTPA Zn	75/-
13	DTPA Cu	75/-
14	Available Boron	160/-
15	CEC	200/-
16	Bulk density / Partical density disturb soil	25/-
17	ESP	300/-
18	Texture	300/-
19	Moisture	50/-
20	Lime Requirement	50/-
21	Gypsum requirement	100/-
22	Free CaCO ₃	100/-
IRRIGATION WATER ANALYSIS RATE COMPRESSION OF DIFFERENT UNIVERSITY		
1	pH	25/-
2	EC /TDS	25/-
3	Ca + Mg / Hardness	50/-
4	Na	30/-
5	CO ₃ + HCO ₃ + Cl	30/-
6	SO ₄	40/-
7	Total Analysis (pH, EC, SAR, RSC and Cl)	250/-
8	SAR	100/-
9	RSC	100/-
PLANT/MANURE/ FERTILIZER/SOIL AMENDMENT/EFFLUENT ANALYSIS CHARGES		
1	pH (1:10)	25/-
2	EC (1:10)	25/-
3	Organic Matter	100/-
4	Total N	200/-
5	Total P	150/-
6	Total K	150/-
7	Total S	250/-
8	Total Ca	100/-
9	Total Mg	100/-
10	C:N Ratio	250/-

Sr. No.	Parameter	Rate/ Sample Rs.
MICRONUTRIENT S		
11	Fe	250/-
12	Mn	250/-
13	Zn	250/-
14	Cu	250/-
15	B	150/-

The entire concerned are hereby instructed to act accordingly and co-operate with the in charge of the Central Instrument Laboratory. The PG students should carryout initial analysis of their research material with traditional method by him self, afterword the readings will be taken on instruments by technical person of the CIL. This is issued with the concurrence of the Hon. Vice-Chancellor.

No. NAU/DR/T-2/15845-904/2016

Navsari, Date:28-29/11/2016


Director of Research and
Dean PG Studies
Navsari Agricultural University
Navsari-396450

LIST OF Ph.D. THESIS

DEPARTMET OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY

Sr.No.	Name of Student	Reg. No.	Title	Major Guide	Year
1.	P.M. Mehta	-	Phosphorus transformations associated with soil organic matter	Dr. C. B. Darvey	1965
2.	M.S. Patel	-	Study on Manganese distribution and its supplying power in soils of south Gujarat heavy rainfall area with special reference to different and continuous cropping patterns	Dr. H.G. Pandya	1969
3.	M.V. Kanzaria	-	Factors Affecting phosphate Availability in some soils of western India	Dr. S. N. Saxena	1974
4.	V.B. Mehta	-	Relationship between root growth and some physical properties of soils	Dr. P.M. Mehta	1982
5.	M.L. Patel	4-750-79	Dynamics of potassium in deep black soils of Gujarat under intensive cropping	Dr. P.M. Mehta	1984
6.	P.V. Patel	-	Evaluation of Nitrification Retardation property of substances extracted from seed of Neem	N.K. Umrani	1991
7.	S.M. Dahdhania	4-2335-88	Soil test crop yield correlation studies and effect of levels of N and P ₂ O ₅ on sorghum <i>GJ-36</i> and efficiency of different varieties of sorghum in utilizing insoluble sources of P	Dr. B.S. Trivedi	1992
8.	M.R. Dalwadi	4-2348-88	Soil test crop yield correlation studies and effect of different levels of N, P and K on chemical composition in sugarcane variety <i>Co.671</i>	Dr. B.S. Trivedi	1993
9.	M.S. Jakasaniya	4-2499-89	Studies on dynamics of phosphorus in different soil series under continuous sugarcane and sorghum- pea- maize cropping sequence	Dr. B.S. Trivedi	1993
10.	J. C. Patel	4-2339-88	Studies on fractionation of S in soil series of South Gujarat, S x P interactions in soils and plant and crop responses to S fertilization	Dr. B.S. Trivedi	1996
11.	H.V. Mathukiya	4-3987-97	Impact of industrial liquid and solid waste on crop growth, Nutrient absorption and soil properties	Dr. R. G. Patil	2002
12.	A.R. Kaswala	-	Plastic salinity stress in presence and absence of mulch on yield as well as nutrient uptake by Bringal, Okra and some soil properties	Dr. R. G. Patil	2004
13.	V.L.	4-5370-2002	Combined effect of land configuration and organics on productivity of some <i>rabi</i> crops	Dr. R. G. Patil	2006

	Deshmukh		and bio-physico-chemical properties of <i>Vertic ustochrepts</i> under <i>kharif</i> paddy		
14.	G. G. Patel	4-5282-2002	Sustenance of soil Health and productivity of sugarcane through integrated nutrient management in <i>Inceptisols</i> of South Gujarat	Dr. A.M. Bafna	2006
15.	V.S. Patel	4-4689-2000	Sugarcane productivity and soil health under different levels and sources of organic in <i>Vertic Ustochrepts</i> of South Gujarat	Dr. A.M. Bafna	2007
16.	V. G. Takankhar	-	Irrigation and nitrogen management in palmarosa	Dr. R. G. Patil	2008
17.	K.G. Patel	-	Management of sodic soil for enhancement of sugarcane productivity in South Gujarat	Dr. R. G. Patil	2006
18.	A.R. Gajera	4-0040-2004	Integrated nutrient management in palmarosa	Dr. A.M. Bafna	2009
19.	D.P. Patel	4-0063-2004	Studies on soil sodicity in relation to sugarcane grown under South Gujarat conditions	Dr. A.M. Bafna	2009
20.	H.M. Patel	4-0218-2006	Effect of different levels of SOC and fertilizer doses on yield of cabbage	Dr. A.M. Bafna	2010
21.	A.P. Italiya	4-0476-2008	Effect of different proportion of organic manures on yield and quality of organically grown papaya	Dr. A.M. Bafna	2012
22.	T. D. Patil	4-797-2010	Effect of rates castor cake and banana pseudostem on yield & quality on organically grown Garlic	Dr. B.N. Kolambe	2013
23.	D. G. Jondhale	4-0959-2011	Effect of different organic sources on yield and quality of rice grown on certified organic farm	Dr. B.N. Kolambe	2014
24.	R. D. Shinde	4-1026-2011	Effect of different organic sources on yield and quality of wheat grown on certified organic farm	Dr. B.N. Kolambe	2014
25.	G. K. Gaikwad	4-1232-2012	Distribution of available sulphur and micronutrient in surface and profile soils of sugarcane growing areas of South Gujarat and their mapping by GIS	Dr. A. Das	2015
26.	Rajkishore Kumar	4-1290-2012	Natural Resources characterization in relation to Banana growing areas of South Gujarat	Dr. J. M. Patel	2015
27.	Sanjay L. Pawar	4-0828-2010	Effect of irrigation and Fertilizer levels on yield and quality of sugarbeet grown on clayey soils	Dr. R. G. Patil	2015
28.	Yogesh J. Patil	4-1285-2012	Effect of levels and sources of silicon on yield and quality of summer paddy	Dr. K. G. Patil	2015

29.	Narendra Singh	4-1260-2012	Effect of rate & frequency of micronutrient application on production of Banana under drip irrigation	Dr. Sonal Tripathi	2015
30.	Sunil Tukarum Shirgire	4-1296-2012	Characterization of natural resources, constrains and soil site suitability of kumarbandh sub watershed in Dangs District	Dr. A. Das	2016
31.	Savankumar	1010113024	Physical, Chemical and Biological characterization of irrigated and reinfed vertisols from farmer's field of cotton growing area at Bara Treat (Dist. Bharuch)	Dr. A. Das	2016
32.	Satashiya K.F.	1010113022	Phytoremediation potential of flowering plants for Cd, Ni and pb contaminated soils	Dr.K.G. Patel	2017
33.	Neethu T.M.	1010114012	Preparation of organic manure from Agro-wastes by usin isolated cellulolytic and lignolytic Bacteria	Dr.K.G. Patel	2017
34.	Bambhaneeya S.M.	1010115003	Depth function of stored and sequestered carbon in cotton growing soils of south Gujarat and their relationship with important soil properties	Dr. A. Das	2018
35.	Asmatullah	1010115002	Effect of phosphorus Management on Rabi-Maize-Green Gram Cropping Sequence under South Gujarat condition	Dr. Sonal Tripathi	2018
36.	Pritesh S. Mistry	1010114011	Response of Sugarcane varieties to Phosphorous levels under South Gujarat Conditions	Dr. Sonal Tripathi	2018

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LIST OF M.Sc. THESIS

DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY

Sr.No.	Name of Student	Reg. No.	Title	Major Guide	Year
1.	P.M. Mehta	-	Nitrogen Fixation in Indian soils in relation to phosphate availability	Dr. A. Sen	1956
2.	D.S. Kulkarni	-	Study on the Availability of phosphate form in laterite soil treated with different phosphate fertilizers	Dr. H.G. Pandya	1958
3.	I.P. Patel		Study of Zinc and Iron distribution and its supplying power in soils of south Gujarat heavy rainfall area with special reference to different and continuous cropping patterns	Dr. H.G. Pandya	1970
4.	I.M. Patel	-	Study of phosphorus Distribution and its supplying power in soils of South Gujarat Heavy Rainfall Area with special reference to different and continuous cropping patterns	Dr. H.G. Pandya	1970
5.	T.G. Patel	-	A study of fertility status and suitability of irrigation water of seed multiplication and research farms of Broach District	-	1971
6.	C.H. Patel	-	To study the Uptake of phosphorus by wheat from different carriers of phosphorus	Dr. H.G. Pandya	1971
7.	P.A. Patel	-	Studies on reduction of yield of cumin on vijapur farm soils where cumin is grown continuously and effect of plant growth regulators and micronutrients on it	Dr. H.G. Pandya	1971
8.	R.G. Vashi	-	Status of total and available K and its supplying power in soils of South Gujarat Heavy Rainfall Area with special reference to different and continuous cropping patterns	Dr. P.M. Mehta	1972
9.	J.T. Desai	-	Status of Zinc, Manganese, Iron and their correlation with some characteristics of soils of Palsana Taluka	Dr. P.M. Mehta	1974
10.	S.K. Patel	-	Comparative study of some typical saline - sodic soils occurring in different Agro Climatic Zones of Gujarat state	Dr. P.M. Mehta	1975
11.	G. V. Shekhat	-	Status and distribution of Zinc, Manganese and iron in saline sodic soil profile of different agro climatic zones of Gujarat and study of zinc and phosphorus relationship in wheat	Dr. P.M. Mehta	1977
12.	P.J. Patel	-	Effect of different Nitrogenous fertilizers and methods of application on yield, content and uptake of NPK by summer paddy <i>Ratna</i>	Dr. P.M. Mehta	1978
13.	R.G. Patel	-	Effect of various water regimes and fertilizer level on yield content and uptake of N, P and K by summer paddy <i>Ratna</i>	Dr. P.M. Mehta	1979
14.	R.J. Kalathia	-	Response of different levels of NPK based on soil test recommendation on yield, content and uptake of nutrients by wheat J-24	Dr. P.M. Mehta	1979
15.	C.C. Patel	-	Status, Distribution and Fractionation of phosphorus in soil series of Navsari Taluka	Dr. P.M. Mehta	1980

16.	G.V. Ghodasara	-	Studies on the use of Indigenous materials for increasing the efficiency of urea under waterlogged condition	Dr. P.M. Mehta	1980
17.	M.R. Dave	-	Studies on effect of moisture regimes and levels of Nitrogen and potassium on available soil K and yield and chemical composition of maize variety <i>Ganga Safed-2</i>	Dr. P.M. Mehta	1981
18.	V.R. Patel	-	Effect of different moisture regimes, leguminous intercrops and levels of nitrogen on yield and N & P ₂ O ₅ content and uptake by maize <i>ganga safed-2</i>	Dr. B.S. Trivedi	1981
19.	G.B. Shah	-	Effect of application of different levels of Nitrogen in split on yield and chemical composition of paddy variety <i>IR-22</i>	Dr. B.S. Trivedi	1982
20.	N.J. Bhoraniya	4-580-79	Studies on volatilization losses of Nitrogen as Ammonia in different soil series of Navsari Taluka of Gujarat state	Dr. M.B. Meisheri	1982
21.	B.B.Kunjadia	4-887-80	Effect of rate, source time and method of phosphorus application on the growth response and pattern of Nutrient absorption by summer groundnut grown in a <i>vertisol</i> of South Gujarat	Dr. M.B. Meisheri	1982
22.	P.V. Patel	4-733-79	A study on the effect of different levels and methods of potash application on yield, content and uptake of NPK by sorghum	Dr. P.M. Mehta	1982
23.	M.G. Patel	4-436-78	Comparative studies of phosphatic fertilizers in low land paddy soils	Dr. P.M. Mehta	1982
24.	K.B.Monpara	4-888-80	Effect of different treatments of Urea and levels of Nitrogen on yield, content and uptake of N, P and K by paddy variety <i>Ratna</i>	Dr. P.M. Mehta	1983
25.	D.T. Bhutia	4-581-79	Studies on phosphorus Fractionation, fixation and availability, lime requirement and their correlation with physicochemical characteristics of the Acid soils of Sikkim	Dr. M.B. Meisheri	1982
26.	M.S. Kachchia	4-884-80	The transformation of phosphate as affected by acidulants and amendments under laboratory and field conditions	Dr. P.M. Mehta	1982
27.	B.V. Devraj	4-876-80	Effect of split application of Nitrogen on the pattern of growth response and accumulation of macro and micro nutrients by wheat in a <i>Vertisols</i> of South Gujarat	Dr. M.B. Meisheri	1983
28.	Y.Y. Topia	4-911-80	Effect of Nitrogen and phosphorus fertilization on yield, chemical composition, root CEC and quality of groundnut	Dr. S. C. Mehta	1983
29.	P. S. Basarge	4-877-80	Effect of different quality irrigation waters on yield and chemical composition of sorghum <i>CSH-5</i> and chemical characteristics of three clayey soils from South Gujarat	Dr. B.S. Trivedi	1983
30.	B.C. Patel	4-1094-81	Effect of phosphorus solubilising culture, phosphorus sources and levels on the dry matter production & mineral nutrition of Sorghum grown on a <i>Vertic Ustochrept</i>	Dr. S. Raman	1984
31.	G. G. Patel	4-828-80	Studies on transformation of phosphorus in three clayey soils from South Gujarat	Dr. B.S. Trivedi	1984
32.	M.K. Patel	4-1096-81	Effect of cropping and cropping systems on changes in <i>Vertic ustochrept</i> of South	Dr. S. Raman	1984

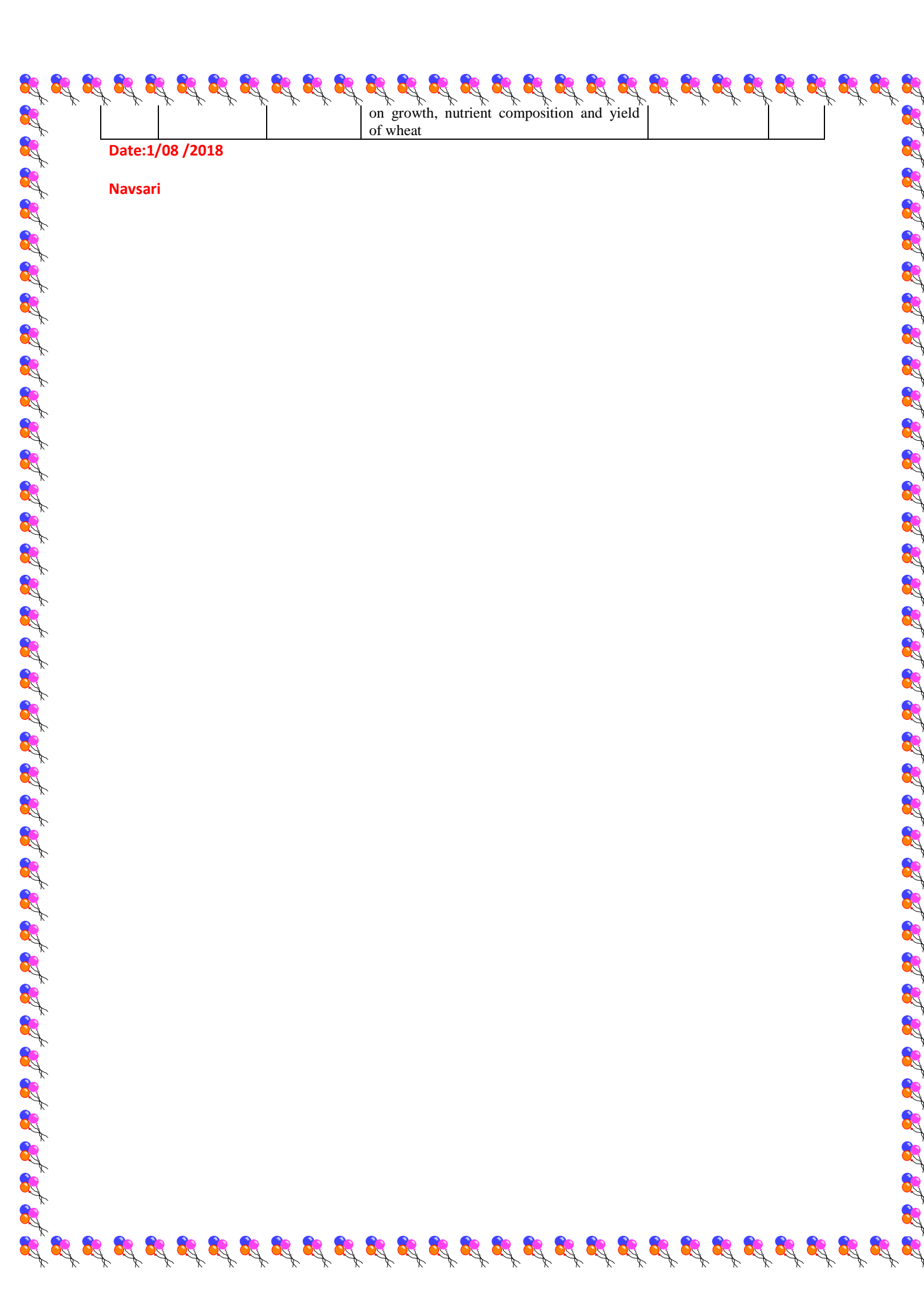
Gujarat					
33.	R. M. Desai	4-725-79	Effect of different levels of nitrogen and methods of sowing on yield and chemical composition of three varieties of wheat	Dr. B.S. Trivedi	1984
34.	P.R, Vekaria	4-1385-83	Effect of moisture regimes and zinc application on the availability pattern of different nutrients in a clayey paddy soil	Dr. M.B. Meisheri	1985
35.	K.M. Patel	4-1140-81	Effect of salinity on germination, dry matter yield and mineral composition of sorghum varieties grown in <i>Vertisol</i>	Dr. M.B. Meisheri	1985
36.	S.G. Savalia	4-1382-83	A survey of capacity intensity and rate of release factors and utilization of soil phosphorus in <i>Ustochrepts</i> of South Gujarat	Dr. P.M. Mehata	1985
37.	B.M. Naik	4-1218-82	Effect of salinity levels and Mg/Ca ratios of irrigation water on dry matter production, chemical composition of Red gram and soil changes in the Heavy Soils of South Gujarat	Dr. S. Raman	1985
38.	A.M. Patel	4-1137-81	Effect of phosphorus, Zinc, FYM and PM application on the availability of P, Zn, Fe, Mn, Cu and their removal by paddy in a clayey soils under submergence	Dr. M.B. Meisheri	1985
39.	R.C. Gami	4-1412-83	Studies on the effect of FLY ASH on the physical and chemical characteristics of a clayey soils	Dr. M.B. Meisheri	1987
40.	P.H. Nautiyal	4-1818-96	Effect of Moisture, alternate wetting and drying, temperature and moist heating on availability of K in soils having different texture	Dr. B.S. Trivedi	1990
41.	D.D. Santoki	4-2409-89	Effect of levels of K at various levels of N on yield and chemical composition of rice grown on <i>Typic chromusterts</i> of South Gujarat	Dr. R. R. Kaswala	1991
42.	H.S. Sabuwala	4-2303-88	Effect of different levels of salinity an yield and chemical composition of four varieties of sorghum grown by direct seeding and transplanting methods	Dr. B.S. Trivedi	1992
43.	L.U. Sanghani	4-2927-91	Impact of Nutrient Availability on yield and chemical composition of cauliflower under drip and furrow irrigation	Dr. A.M. Bafna	1994
44.	M.G. Patel	4-2923-91	Dynamics of P in soils of Gujarat	Dr. M.L. Patel	1994
45.	R. N. Patel	4-3560-94	Response of rice varieties to dates of direct seeding and weed managements in summer season	Dr. C. L. Patel	1999
46.	A. R. Kaswala	4-3890-96	Relative performance of some wheat and barley varieties in coastal salt affected soil of South Gujarat	Dr. R. G. Patil	1999
47.	V.L. Deshmukh	4-4092-98	Comparative evaluation of some industrial wastes as sources of organic matter in heavy black soil	Dr. R. R. Kaswala	2001
48.	A.R. Gajera	4-4473-2000	Response of tomato to graded level of NPK grown in different types of green houses	Dr. A.M. Bafna	2003
49.	D. A. Patel	4-5391-2002	Integrated nutrient management in summer okra grown in <i>Vertic ustochrepts</i> of South Gujarat	Dr. A.M. Bafna	2005
50.	Jaimin. R. Naik	4-5059-2001	Influence of drip irrigation and mulching on nutrient uptake and yield of smooth gourd	Dr. A.M. Bafna	2005

51.	A. M. Patel	4-5063-2001	Impact of methods and levels of Zn application to summer paddy var. <i>Jaya</i> with and without N sources on yield, uptake and availability of N, P ₂ O ₅ , K ₂ O and Zn.	Dr. P.V. Patel	2005
52.	L.M. Patil	4-0080-2004	Preparation of iron pyrite enriched vermi compost and its effect on the availability of plant nutrients in <i>Inceptisols</i> and <i>Vertisols</i>	Dr. P.V. Patel	2006
53.	A. P. Italiya	4-0046-2004	Integrated Nutrient management in presence and absence of Zn and FYM on the productivity of <i>summer</i> groundnut	Dr. A.M. Bafna	2006
54.	H.M. Patel	4-05773-2003	Integrated nutrient management (INM) in rabi casot grown on <i>Vertic Ustochrepts</i> of South Gujarat	Dr. A.M. Bafna	2006
55.	N.P. Vilas	4-0210-2006	Integrated nutrient management in stevia under drip irrigation	Dr. A.M. Bafna	2008
56.	A. P. Patil	4-0229-2006	Nutrient, pseudo stem and sucker management in ratoon banana under drip irrigation	Dr. A.M. Patel	2008
57.	A.N. Lad	4-0110-2005	Response to graded levels of fertilizer with and without gypsum by garlic under mini sprinkler irrigation	Dr. A.M. Patel	2008
58.	P.S. Patel	-	Effect of different organic manures on growth, yield and quality of Banana	Dr. B.N. Kolambe	2008
59.	P.Y. Patil	4-0321-2007	Study on moisture regimes and fertigation in gladiolus	Dr. A.M. Bafna	2009
60.	T.M. Patel	-	Assessment of fertility parameters of eastern hilly Tract soils of South Gujarat	Dr. Z. N. Patel	2009
61.	P.A. Patil	-	Response of papaya Cv. <i>Redlady</i> to different growth promoters under organic farming	Dr. B. N. Kolambe	2009
62.	Zuber Ansari	4-0307-2007	Organic carbon, nutrient status and physical properties as influenced by varying existing agricultural land use and management of soils in Navsari Campus	Dr. A. Das	2010
63.	B.S. Shivajirao	4-0286-2007	Effect of irrigation and fertigation levels on yield and Nutrient uptake by Round Melon	Dr. R.G. Patil	2010
64.	J.R. Salunkhe	4-0501-2008	Feasibility of using Banana Pseudostem sap as liquid fertilizer in Onion under drip irrigation	Dr. A. M. Patel	2010
65.	R.D. Shinde	4-0502-2008	Soil resource information for land evaluation a case study with selected soils from Sarvar village of Dang district in South Gujarat	Dr. A. Das	2010
66.	D.G. Shinde	4-0514-2008	Clogging behavior of dippers of different discharge rates in relation to fertigation and irrigation water salinity	Dr. K.G. Patel	2011
67.	S.S. Zambare	4-0673-2009	Assessment of quality of major irrigation sources and their influence on development of salinity/sodicity in irrigated soils in Navsari district of Gujarat	Dr. A. Das	2011
68.	R.S. Patil	4-0650-2009	Study on nutrient content in leaves of oil palm under different levels of moisture regime, N and K fertilization	Dr. K. G. Patel	2011
69.	S.S. Zade	4-0672-2009	Evaluation of pressmud and bio-compost prepared by some sugar factories of South Gujarat for their OC, C:N ratio, Nutrient Status and loss of nutrient on storage	Dr. R.M. Desai	2011

70.	N.B. Misal	4-0770-2010	Effect of growing conditions and fertilizers scheduling with and without application of banana pseudostem sap (enriched) on biomass yield of fenugreek	Dr. R. G. Patil	2012
71.	Narandra Singh	4-0774-210	Dynamics of potassium in representative soil series of Navsari district of South Gujarat	Dr. Sonal Tripathi	2012
72.	P.S. Patel	-	Effect of different proportion of organics on productivity of pit plant sugarcane under organic farming system	Dr. B.N. Kolambe	2012
73.	K.F. Satashiya	4-0660-2009	Effect of different levels of banana pseudostem sap and fertilizer on yield and nutrient uptake by leafy vegetables grown under shade net house and open filed condition	Dr. K.G. Patel	2012
74.	M.V. Kulkarni	4-0761-2010	Effect of INM on physicochemical properties of soil under transplanted and drilled rice in South Gujarat	Dr. A.M. Patel	2012
75.	Shamraj Jai Ramesh	4-0805-2010	Effect of different salinity levels of irrigation water on yield and quality of Sugar beet	Dr. A.M. Bafna	2012
76.	Ampee Tasung	4-0934-2011	Feasibility study on use of aquaculture effluent as irrigation water for <i>Salicornia brachaita</i> Roxb.	Dr. Sonal Tirpathi	2013
77.	S. P. Bokare	4-0737-2010	Effect of Banana Pseudostem sap and vermiwash spray an yield and quality of organically grown onion	Dr. K. G. Patel	2013
78.	V. A. Patel	4-1006-2011	Aggregate associated organic carbon and total nitrogen in native and cultivated soils of various research farms of NAU	Dr. A. Das	2013
79.	P.S. Mistry	4-0986-2010	Response of summer fodder sorghum to nitrogen and bio-fertilizer grown under South Gujarat condition	Dr. Z. N. Patel	2013
80.	R.R. Gundrashiya	4-0970-2011	Effect of spraying of banana pseudostem based enriched sap at different concentration on growth and yield of different crops	A.M. Patel	2013
81.	J.H. Solanki	4-1030-2011	Integrated Nutrient management in single cut summer sorghum grown under vertisols of South Gujarat	Dr. Z. N. Patel	2013
82.	K.S. Rathva	4-1019-2011	Response of Pigeon pea to different planting geometries and organic sources	Dr. K. G. Patel	2013
83.	M.G. Ramani	4-1018-2011	Effect of different organic sources on yield and quality of sesamum	Dr. K. G. Patel	2013
84.	T.M. Neethu	4-1261-2012	The effect of N and P levels on broccoli and soil properties under South Gujarat	Dr. Z. N. Patel	2014
85.	Bhumika B. Patel	4-0996-2011	Effect of irrigation and date of showing on seed yield and components of <i>salicornia</i>	Dr. J. M. Patel	2014
86.	V. P.Parmar	4-1264-2012	Effect of organic nutrient management and productivity, nutrient uptake and soil fertility in rabi maize	Dr. B.N. Kolambe	2014
87.	N.N. Chaudhari	4-0951-2011	Performance of different organic manures and yield, quality and uptake of nutrients by organically produced Mung.	Dr. G. G. Patel	2013
88.	Jitesh B. Patel	4-1001-2011	Evaluation of Heavy metal contamination in surface soil, water source and some plant crops in surrounding area of Industrial Belt,	Dr. A. Das	2014

Vapi (Valsad)					
89.	Pulak A. Bag	4-1212-2012	Effect of organic growth promoters on yield and quality of chickpea grown on organic farm	Dr. A. R. Kaswala	2014
90.	Anita J. Patel	4-1268-2012	Effect of organic manures on yield and quality of onion	Dr. K. G. Patel	2014
91.	Hiral R. Patel	4-1273-2012	Response of Red cabbage to N & P levels under South Gujarat condition	Dr. Sonal Tripathi	2014
92.	Devendra kumar Meena	4-1230-2012	Evaluation of different extraction and methods for the determination of P and K from soils	Dr. K. G. Patel	2014
93.	S. M. Bambhaneeya	4-0940-2011	Effect of intercropping in Banana under organic farming on nutrient content and uptake of crops and chemical composition of soil	Dr. A. R. Kaswala	2015
94.	Vivek Kumar Singhal	2010113073	Study the efficacy of foliar application of water soluble fertilizers okra and cowpea crops	Dr. G. G. Patel	2015
95.	Binduben V. Bhava	2010113006	Study on persistence and downward movement of Bifenthrin, Fipronil and chlorpyrifos in different soils	Dr. K. G. Patel	2015
96.	Jinal R. Patel	2010113056	A study on K dynamics and its relationship with yield and quality of Banana under South Gujarat conditions	Dr. H. M. Patel	2015
97.	Khyati B. Patel	2010113057	On farm decomposition of paddy straw residues and their effects on yield and quality of onion and soil fertility under organic farming	Dr. A. R. Kaswala	2015
98.	O.I. Pathan	2010113063	Effect of rates of iron application on growth yield and quality of rice varieties under aerobic and submerged additions	Dr. G. G. Patel	2015
99.	P. R. Ramani	2010113065	Study on the effect of soil amendments on persistence of triazole fungicides in soil and its terminal residues in tomato	Dr. Susheel Singh	2015
100.	Rupal Prasad	2010113069	Vertical distribution of available micronutrients in some pedants situated at undulated Hilly Terraria of Dnag District	Dr. A. Das	2015
101.	Nareshkumar B. Gohil	2010302711	Effect of soil application of Fe & Zn and yield & quality of two rice varieties	Dr. D. P. Patel	2015
102.	Lokesh Kumar Saini	2010114043	Comparative performance of banana pseudostem scutching waste, FYM and biocompost on growth and yield of cabbage grown on vertisols of South Gujarat	Dr. J. M. Patel	2016
103.	Manishkumar M. Patel	2010114062	Effect of time of irrigation with nutrient management on soil physic-chemical properties and yield of grain sorghum under Bara Track of Gujarat	Dr. H.M. Patel	2016
104.	S. R. Chaudhary	2010114019	Effect of rhizobium inoculants, Mohybdenum and cobalt on nodulation and nutrient uptake of summer green gram	Dr. V. J. Zinzala	2016
105.	Bodar K.M.	2010114014	Effect of flooding and Nitrogen mangment on yield, Soil properties and Emission of GHGs from paddy field	Dr. D. P.Pael	2016
106.	Saxena M.I.	2010115106	Distribution of farms of soil Zinc in relation with some important soil properties of rice growing soils of Navsari District	Dr. A. Das	2017
107.	Gadhavi B.K.	2010115039	Evaluation of methods and sources of	Dr. J. M. Patel	2017

			fertilizer on yield of cauliflower.		
108.	Sourav Chaudhury	2010115110	Soil fertility status of paddy and sugarcane growing area of village Butlav and Dabhalia of Navsari District.	Dr. J. M. Patel	2017
109.	Priyanka Pannu	2010115097	Nitrogen transformation and its utilization as influenced by Ni application under different Nitrogen sources in Maize	Dr. H.M. Patel	2017
110.	Akhila K.	2010115001	Effect of liquid fertilizers on yield, nutritional quality and soil properties of green gram under organic farming	Dr. K.H. Kaswala	2017
111.	Gohil D.J.	2010115048	Study on available major, secondary and micronutrients in relation with important soil properties in soils of Valsad District	Dr. K.H. Patel	2017
112.	Patel D.J.	2010115080	Study on available major, secondary and micronutrients in relation with important soil properties in soils of Bharuch District	Dr.K.H. Patel	2017
113.	Patel Kajal C.	2010115085	Effect of different salinity levels of irrigation water and biofertilizer on yield and quality of Brinjal	Dr. Sonal Tripathi	2017
114.	Barvalia M.M.	2010115011	Effect of FYM, Zn and Trichodema spp applications on growth, yield and Cd uptake by spinach Beet grown in Cd soil	Dr. A.P. Italiya	2017
115.	Gadhavi Suhag A.	2010115041	Effect of different organic sources on yield and quality of Black gram grown on organic farm	Dr. G. G. Patel	2017
116.	Patel Tehaskumar Ramabhai	2010115095	Effect of Panchagavya and Banana Pseudostem sap on summer groundnut in inceptisols of Dang District	Dr. V. J. Zinzala	2017
117.	Solanki Dineshkumar P.	2010114084	Effect of time of irrigation with nutrient management on soil physic-chemical properties and yield of sweet corn under bara track of Gujarat	Dr. G. G. Patel	2017
118.	Patel Anand R.	2010115076	Effect of sulphur and baron on growth, yield and quality of summer groundnut	Dr. V. J. Zinzala	2017
119.	Khawaja Safiullah	2010116044	Effect of organics on yield and quality of sweet corn (Zec mays L., Var Saechaarata sturt) and soil properties	Dr. G. G. Patel	2018
120.	Lunagariya Dhara D.	2010116047	Effect of organics on soil properties, growth yield and quality of fenugreek growth under organic farming system	Dr. V. J. Zinzala	2018
121.	Jagadeesh B.K.	2010116040	Effect of organics on yield and quality of onion and soil properties	Dr. G. G. Patel	2018
122.	Chaudhary Prakash P.	2010116017	Effect of S and Zn with without organics on growth, yield and quality of fodder sorghum var. CSV-21F under South Gujarat condition	Dr. K. H. Patel	2018
123.	Patel Sandip T.	2010116075	Spatial Distribution of moisture and Nutrient under different drip design and fertigation level in cabbage grow on clay soil of South Gujarat	Dr. J. M. Patel	2018
124.	Dhaval B. Mahida	2010115063	Adsorption -Desorption and Dissipation behavior of Pendimethalin and quizalofop-p-ethyl in three different soils of Gujarat	Dr. Susheelsingh	2018
125.	Gavit Chandrakant S.	2010115045	Assessment of Soil Fertility Status in sugarcane based cropping systems of South Guarat	Dr. D. P. Patel	2018
126.	Nithin S.	2010116056	Effect of zinc and biofertilizers application	Dr. D. P. Patel	2018



on growth, nutrient composition and yield
of wheat

Date:1/08 /2018

Navsari



LIST OF M. Sc. THESIS

DEPARTMENT OF SOIL SCIENCE AND AGRICULTURAL CHEMISTRY

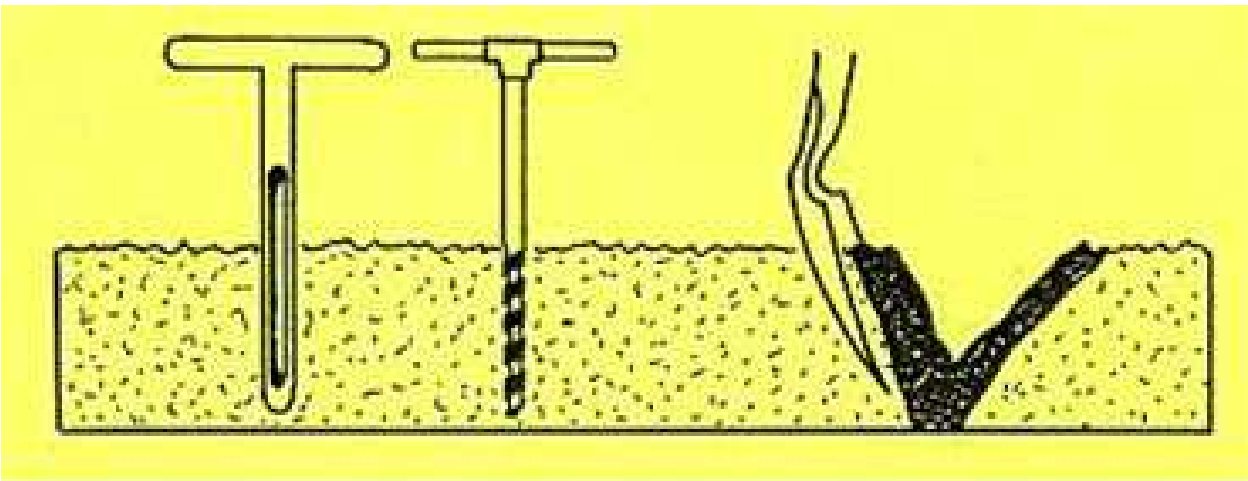
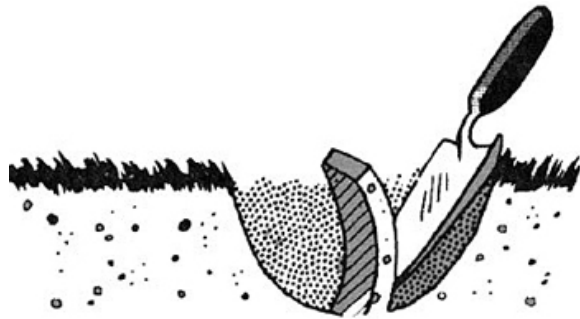
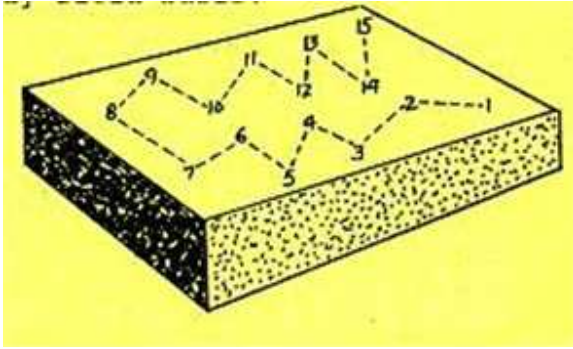
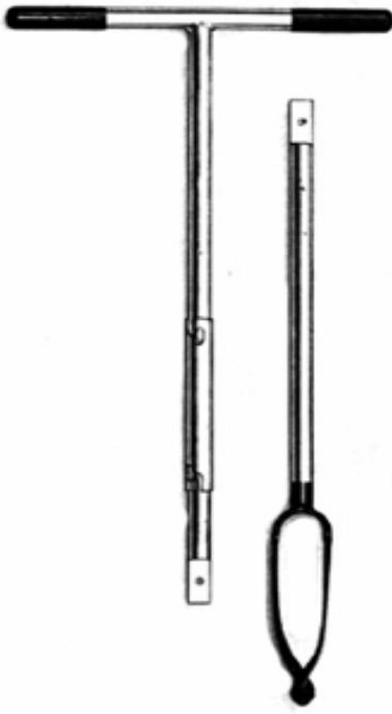
Major Discipline (Biochemistry)

Sr.No.	Name of Student	Reg. No.	Title	Major Guide	Year
1.	Mehta Amit A.	04-0985-2011	Post harvest biochemical changes in cabbage (<i>Brassica oleracea</i> (var. capitata) in relation to pre harvest water stress	Dr. Diwakar Singh	2014
2.	Vaghasiya Hetalben M.	2010113072	Study on effect of salinity stress on some biochemical and physiological attributes of fodder beet (<i>Beta vulgaris</i> L.)	Dr. Nilima Karmakar	2015
3.	Adbhai Anuja Rameshchand	2010113004	Effect of saline stress on growth and yield of sugar beet (<i>Beta vulgaris</i> L.) in relation to biochemical parameters and plant growth	Dr. Nilima Karmakar	2015
4.	Gamit Ketul S.	04-1236-2012	Effect of different elicitors on tomato plant defense response against <i>Fusarium oxysporum</i> F. sp. Lycopersici	Dr. Sonal Tripathi	2015
5.	Abuj Bhagyashree Bhaskarrao	2010114002	Biochemical and nutritional attributes of different underutilized fruits of South Gujarat.	Dr. Nilima Karmakar	2016
6.	Vadodariya Piyush Ranchhodbhai	2010115115	Effect of cooking on nutritional quality of Indian bean (<i>Dolichos lablab</i> L.)	Dr. Nilima Karmakar	2017
7.	Chourya Kalpeshkumar Kashirambhai	2010114025	Biochemical and biomolecular changes during ripening in Banana (<i>Musa Acuminata</i> AAA Group)	Dr. Diwakar Singh	2017
8.					
9.					
10.					

Date:1/08 /2018

Navsari

જમીનનો નમુનો લેવા માટેના સાધનો (SOIL SAMPLING TOOLS)



AVAILABLE INSTRUMENTS IN CENTRAL INSTRUMENTATION LABORATORY:

FT-NIR (NEAR INFRARED)

Non-destructively analyze samples of an extremely complex composition, such as: oil, fat, free fatty acid, iodine number, moisture, protein, amino acids, nitrogen, starch, crude fibre, glucan, sugar, alcohol, caffeine etc. in related plant and food samples.



AREA METER

- ◆ Determination of leaf area, colour and damage of the leaves.
- ◆ Determination of test weight of grains
- ◆ Determination of size of grins, fruits and flowers.



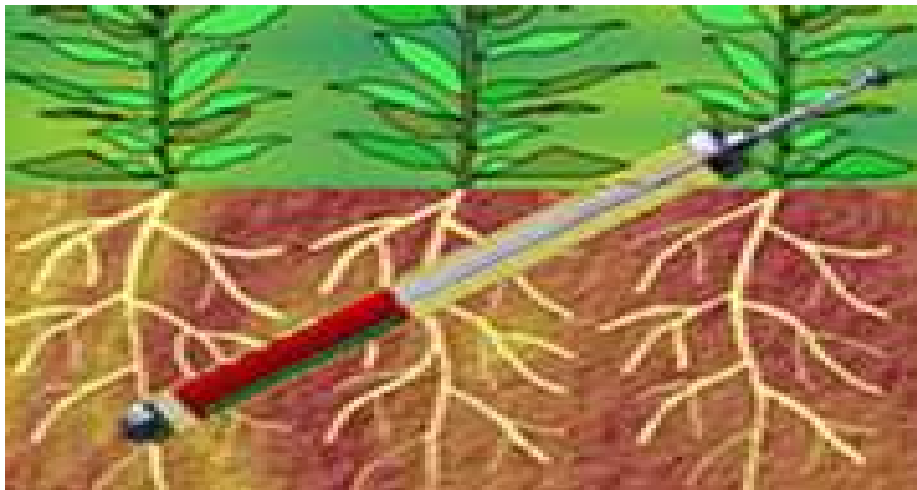
NMR (Nuclear Magnetic Resonance)

- ◆ Non destructive determination of oil and moisture from oilseeds, cereals and food products.
- ◆ Determination of lipids from vegetable /animal products
- ◆ Determination of fat from the milk and milk products



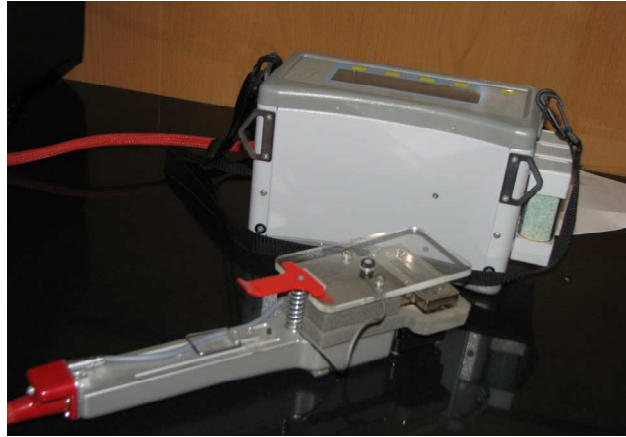
Root Scanner

- ◆ To scan living roots and root nodules in the soil.



PHOTOSYNTHESIS METER

◆ For determination of photosynthetic activity and to know the soil respiration



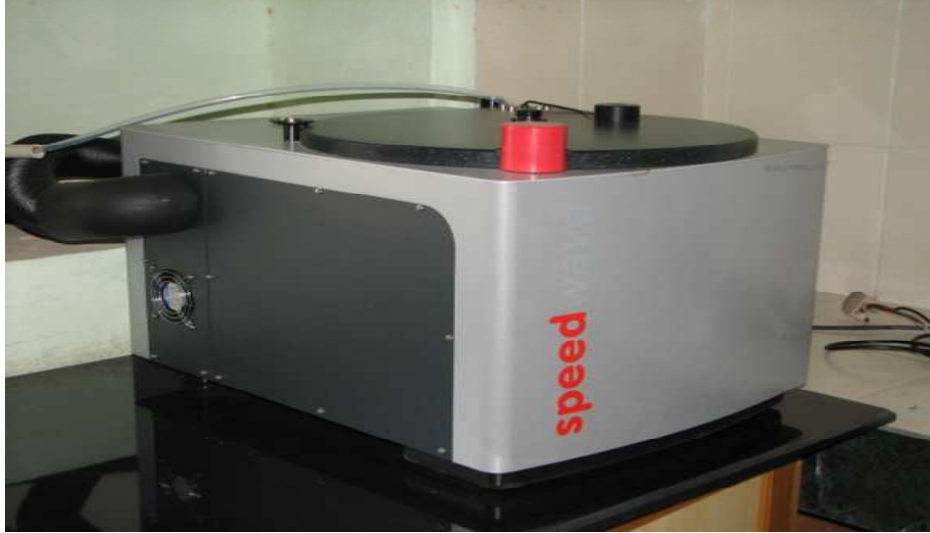
MINI BALL MILL

◆ Preparation of homogeneous powder of soil samples.



MICRO WAVE DIGESTION SYSTEM

◆ Fast, safe and precise digestion of soil, plant, manures and food samples.



LOW VOLUME CONCENTRATOR

◆ Simultaneous automated concentration of multiple samples.



X-RF

◆ For qualitative and quantitative elemental analysis of all the elements except radio active element in soil, water, food, fertilizer, manure and pollutant samples



ATOMIC ABSORPTION SPECTROPHOTOMETER

◆ Determination of micronutrients from the soil, water, effluent, fertilizer, manure and plant samples
◆ Determination of heavy metals present in soil, water, effluent, fertilizer, manure and plant samples 1



SUPER CRITICAL FLUID EXTRACTION SYSTEM

- ★ Green technology for extraction of analytes from a variety of samples . oils, natural aromas and colors, lipid soluble compounds.



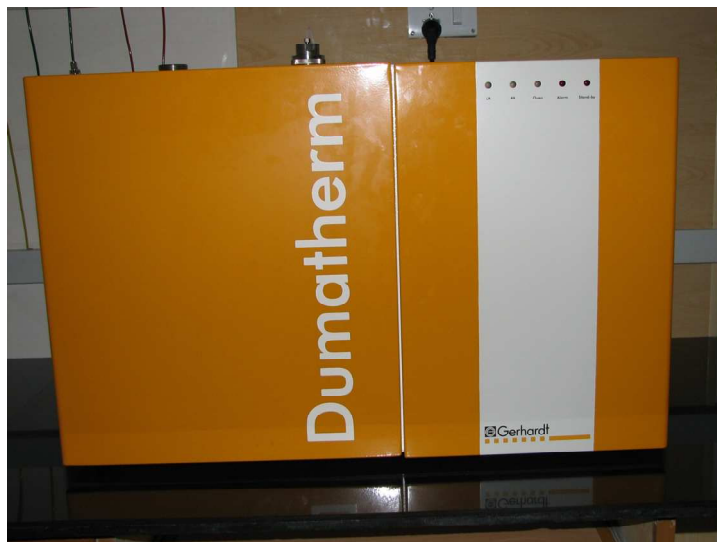
SACHARIMETER

- For determination of sugar content, purity, total soluble solids from sugarcane, fruit juice *etc.*,



NITROGEN ANALYZER

- ◆ To know the nitrogen and protein percentage from plant product.
- ◆ For determination total nitrogen from soil, manure and fertilizer.



CYCLON GRINDER MILL

- ◆ Preparation of homogeneous powder of plant samples.



HPLC

Qualitative and quantitative determination of organic and inorganic molecules from soil, water, food, fertilizer, manure pollutant samples *etc.*



ULTRA SONICATOR

- ◆ Degasification of HPLC mobile phase.
- ◆ Extraction of phytochemicals.
- ◆ For cleaning instrumental tools.



WATER PURIFICATION SYSTEM

◆ For production of high grade distilled water for various applications



CHEMILUMINESCENCE NO NO2 NOX ANALYZER

◆ For monitoring the concentration of NO NO2 NOX from ambient air



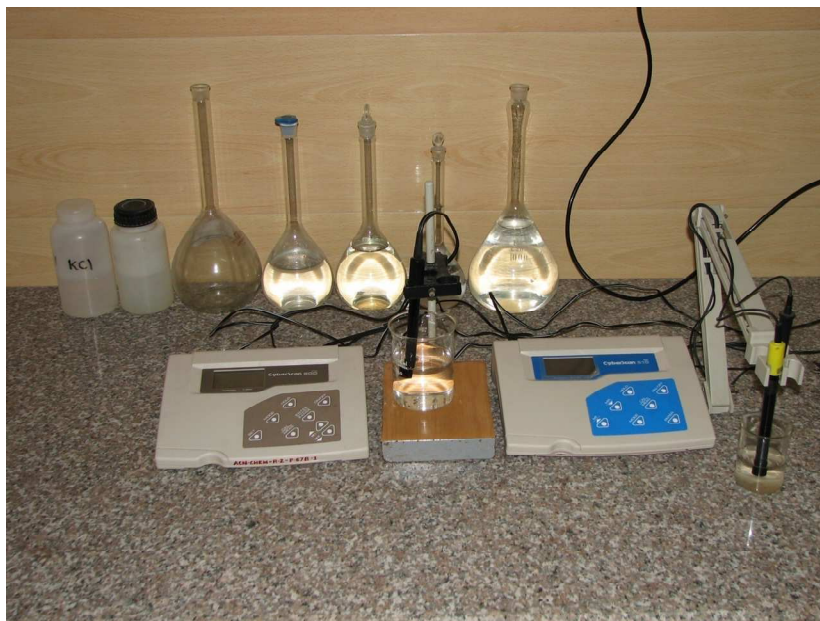
UV-VIS SPECTROPHOTOMETER

◆ Determination of major and micronutrients present in the soil and plants



ION ANALYSER

★ Determination of heavy metals present in the soil and water



SOXHLET UNIT

★ Determination of oil content from oil seeds, oil cakes and food products.



Nitrogen distillation unit:
★ Determination of N from soil, plant, fertilizer and manures.



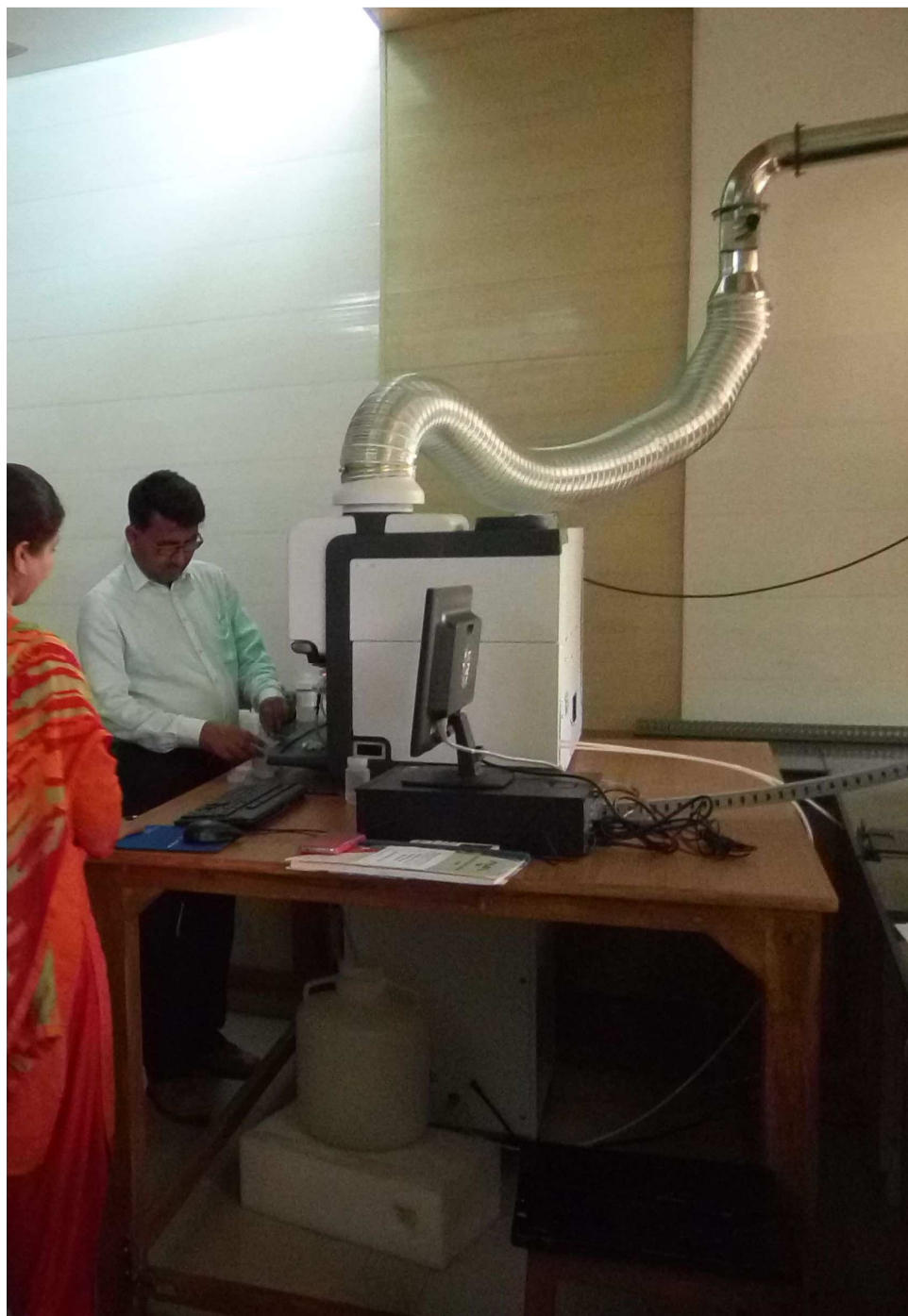
AUTO-ANALYSER

Determination of heavy metals present in the soil and water



Atomic Emission Spectrometer

For determination of macro (P, K), secondary (Ca, Mg) and micro nutrient (Fe, Mn, Zn, Cu and B) from soil, water and Plant samples



Automatic PC compatible Fibre estimation system Biofib Model BF 04 (SMR)

For determination of crude fiber from Plant samples



UPDATED ON: 20/11/2018