Soil Science and Agricultural Chemistry
N.M.College of Agriculture
Navsari Agricultural University, Navsari 396 4560

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 and water samples, 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.

ACTIVITIES

I. TEACHING

List of UG courses (As per 6th Dean Committee)

Course No.	Course title	Credits
Soil 1.1	Fundamentals of Soil Science	2+1
Soil 2.2	Soil Fertility Management	2+1
Soil 4.3	Problematic soils and their Management	2+1
Biochem. 2.1	Fundamentals of Plant Biochemistry	2+1
ELP-8.10	Soil, Water and Manure Testing	0+10

List of PG courses

SN	Course title and credit	Credits
	Soil Science courses for M.Sc. (Agri.)	
01	Soil-501: Soil physics	2+1
02	Soil-502: Soil fertility and fertilizer use	3+1
03	Soil-503: Soil chemistry	2+1
04	Soil-504: Soil mineralog, genesis and classification	2+1
05	Soil 505: Soil erosion and conservation	2+1
06	Soil-506: Soil biology and biochemistry	2+1
07	Soil-507: Radioisotopes in soil and plant studies	1+1
08	Soil-508: Soil, water and air pollution	2+1
09	Soil 509: Remote sensing and GIS technique for soil and crop studies	2+1
10	Soil-510: Analytical technique and instrumental methods in soil and plant analysis	0+2
11	Soil-511: Management of problematic soils and water	2+1
12	Soil 512: Land degradation and restoration	1+0
13	Soil-513: Soil survey and land use planning	2+0
14	Soil 514: Introduction to nanotechnology	2+1
	Soil Science courses for Ph.D.	
01	Soil-601: Recent trends in soil physics	2+0
02	Soil-602: Modern concept in soil fertility(2+0)	2+0
03	Soil-603: Physical chemistry of soil(2+0)	2+0
04	Soil-604: Soil genesis and micromorphology(2+0)	2+0
05	Soil-605: Bio-chemistry of soil organic matter(2+0)	2+0
06	Soil-606: Soil resource management(3+0)	3+0

07	Soil 607: Modelling of soil plant system(2+0)	2+0
08	Soil 608: Clay Mineralogy(2+1)	2+1
09	Soil 609: Recent trends insoilmicrobial biodiversity(2+1)	2+1
	BIOCHEMISTRY COURSES FOR M.Sc. (Agri.)	
01	BIOCHEM501: BASIC BIOCHEMISTRY	3+1
02	BIOCHEM 502: INTERMEDIARY METABOLISM)	3+0
03	BIOCHEM 503: ENZYMOLOGY	2+1
04	BIOCHEM 504: MOLECULAR BIOLOGY	2+1
05	BIOCHEM 505: TECHNIQUES IN BIOCHEMISTRY	2+2
06	BIOCHEM 506: IMMUNOCHEMISTRY	2+1
07	BIOCHEM 507: PLANT BIOCHEMISTRY	2+1
08	BIOCHEM 508: ANIMAL BIOCHEMISTRY	3+0
09	BIOCHEM 509: NUTRITIONAL BIOCHEMISTRY	2+1
10	BIOCHEM 510: NITROGEN AND SULPHUR METABOLISM	2+1
11	BIOCHEM 511: BIOCHEMISTRY ON XENOBIOTICS	2+0
BIOCHEMISTRY COURSES FOR Ph.D.		
01	BIOCHEM 601: ADVANCED ENZYMOLOGY	2+1
02	BIOCHEM 602: ADVANCED MOLECULAR BIOLOGY	3+0
03	BIOCHEM 603: BIOCHEMISTRYOFBIOTIC AND ABIOTIC STRESSES	3+0
04	BIOCHEM 604: FRONTIER TOPICS IN BIOCHEMISTRY	2+0
05	BIOCHEM 605: CONCEPTS AND APPLICATION OF OMICS IN BIOLOGICAL SCIENCE	3+0
06	BIOCHEM 606: BIOMEMBRANES	2+0
07	BIOCHEM 607: APPLICATION OFTECHNIQUES IN BIOCHEMISTRY	1+2

II. Research: Following experiments are going on

Expt. No.	Title of the Experiments
1	Evaluation of low-cost natural farming in sugarcane under south Gujarat condition (Plant crop) (Collaborative experiment with Main Sugarcane Research Station, NAU., Navsari).
2	Evaluation of low cost natural farming in sugarcane under south Gujarat condition (Ratoon crop). (Collaborative experiment with Main Sugarcane Research Station, NAU., Navsari).
3	Study on dynamics of Humus, N and S under organically and conventionally managed crops
4	Study on heavy metal content in organically and conventionally managed soils and crops
5	Study on natural farming system in rice for their economic feasibility and impact on soil health
6	Study on natural farming system in sugarcane for their economic feasibility and impact on soil health
7	Study on natural farming system in Indian bean for their economic feasibility and impact on soil health
8	Study on natural farming system in sorghum for their economic feasibility and impact on soil health
9	Study on natural farming system in green gram for their economic feasibility and impact on soil health
10	Characterization of Biochar prepared from different plant residues and its enrichment with organic sources
11	Study on nutrient release pattern of various organic nutrient sources in sugarcane
12	Response of sugarcane planted through single eye budded settling to nano DAP under south Gujarat condition. (Collaborative experiment with Main Sugarcane Research Station, NAU, Navsari).

III. Analytical services

III. **Student and departmental research samples:** Analytical services provided to students and departments of NAU, Navsari.Analytical facilities are available for following parameters.

Soil	Water	Plant
1. Available nutrients (N, P, K, Ca, Mg, S, Fe, Mn, Zn, Cu and B 2. Organic C 3. EC and pH 4. ESP 5. CEC 6. Exchangeable cations 7. Moisture 8. Gypsum requirement 9. $CaCO_3$ 10. Soil separates 11. Water holding capacity 12. Bulk and Particle density	1. EC and pH 2. RSC 3. SAR 4. Cl 5. SO_4	1. N, P, K, Ca, Mg, S, Fe, Mn, Zn, Cu and B 2. Protein 3. Carbohydrates 4. Vitamin C 5. Phenol 6. Tanin 7. Carotene 8. Chlorophyll 9. Fat 10. Sugar 11. Fibre 12. Phytic acid 13. Lycopene 14. Proline 15. Leaf area

b. **Farmers samples**: Scope of analysis of soil and water samples are given below

Soil	**Water**
1. Available nutrients (N, P, K, Ca, Mg, S, Fe, Mn, Zn, Cu and B) 2. Organic C 3. EC and pH 4. Gypsum requirement	1. EC and pH 2. RSC 3. SAR 4. Cl

Price for analysis (Rs.)

RATE FOR CHEMICAL/BIOCHEMICAL/MICROBIOLOGICAL ANALYSIS FROM DIFFERENT SAMPLES

Sr. No.	Parameter	Rate/ Sample (Rs.) Year 2024-25
SOIL ANALYSIS		
1	EC	35/-
2	pH	35/-
3	Organic Carbon	130/-
4	Available N	100/-
5	Available P_2O_5	100/-
6	Available K_2O	100/-
7	Available Na	100/-
8	Available Ca (Exch.+WS)	70/-
9	Available Mg (Exch.+WS)	70/-
10	Available S	130/-
11	DTPA Fe	100/-
12	DTPA Mn	100/-
13	DTPA Zn	100/-
14	DTPA Cu	100/-
15	Heavy Metal (Each)	100/-
16	Available Boron	200/-
17	Bulk density / Particle density (disturb soil)	30/-
18	Texture	400/-
19	Moisture	60/-
20	Lime Requirement	70/-
21	Gypsum requirement	130/-
22	Free $CaCO_3$	130/-
23	CEC	340/-
24	ESP	340/-
IRRIGATION WATER ANALYSIS RATE COMPRESSION OF DIFFERENT UNIVERSITY		
1	pH	35/-
2	EC /TDS	35/-
3	Ca	50/-
4	Mg / Hardness	50/-
5	Na	60/-
6	CO_3	50/-
7	HCO_3	60/-
8	Cl	60/-
9	SO_4	60/-
PLANT/FOOD/MANURE /EFFLUENT ANALYSIS CHARGES		
1	pH	35/-
2	EC	35/-
3	Organic Matter/ Organic Carbon	150/-
4	Moisture	60/-
5	Total N	250/-
6	Total P	200/-
7	Total K	200/-

8	Total S	300/-
9	Total Ca	125/-
10	Total Mg	125/-
11	Total Fe	300/-
12	Total Mn	300/-
13	Total Zn	300/-
14	Total Cu	300/-
15	Heavy Metal (Each)	300/-
16	Crude Protein	250/-
17	Total Carbohydrate	200/-
18	Reducing Sugar	200/-
19	Non Reducing Sugar	200/-
20	Total Soluble Sugar	200/-
21	Oil Content	200/-
22	Fibre Content	200/-
23	Phenol Content	200/-
24	Ash Content	150/-
25	Leaf Area	50/-
26	Beta Carotene	200/-
27	Ascorbic acid	200/-
28	Anti oxidant activity	200/-
29	Chlorophyll content	200/-
30	Any other Possible Parameter (Parameter/Sample)	100/-
31	Only Instrument Reading Charges (Per reading)	25/-

ACHIEVEMENT

III. Education:

(1) **Significant Educational success of UG/PG student at National Level**

Year	ARS-NET	JRF	SRF	GATE	OTHERS
2012-2013	**01**	**-**			ICAR Ph. D. Entrance Exam (1)
	04	**-**	**1**		INSPIRE fellowship (1) University Gold Medal(1)
-	**01**	**-**	**-**		**-**
2015-2016	**05**	**-**	**2**		**-**
2016-2017	**01**	**05**	**1**		ICAR Ph. D. Entrance Exam (1)
2017-2018	**06**	**08**	**-**	**-**	**-**
2018-2019	**06**	**02**	**-**	**-**	**-**
2019-2020	**04**	**02**	**04**	**01**	**-**
2020-2021	**01**	**02**			
2021-2022	**01**				
2022-2023					
2023-2024	**04**				

List of Ph.D. students who have passed their degree successfully in Soil Science and Agricultural Chemistry

Sr. No.	Name of Student	Reg. No.	Title	MajorGuide	Year
1.	P.M. Mehta	-	Phosphorus transformations associated with soilorganicmatter	Dr. C. B. Darvey	1965
2.	M.S. Patel	-	Study on Manganese distribution and its supplying power in soils of south Gujaratheavy rainfallarea with specialreferenceto 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 Gujaratunderintensive cropping	Dr. P.M. Mehta	1984
6.	P.V. Patel	-	Evaluation of Nitrification Retardationproperty of substances extracted from seed of Neem	N.K. Umrani	1991
7.	S.M. Dahdhania	4-2335-88	Soiltestcropyieldcorrelationstudies and effect of levels of N and P_2O_5 on sorghum *GJ-36* 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	Soiltestcropyieldcorrelationstudies and effect of different levels of N, P and K on chemicalcomposition in sugarcane variety*Co.671*	Dr. B.S. Trivedi	1993
9.	M.S. Jakasaniya	4-2499-89	Studies on dynamics of phosphorus in different soilseriesunder 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 insoilseries 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 solidwaste on crop growth, Nutrientabsorption and soil properties	Dr. R. G. Patil	2002

12.	A.R. Kaswala	-	Plastic salinitystress in presenceand absence of mulch on yield as well as nutrient uptake by Bringal, Okra and some soil properties	Dr. R. G. Patil	2004
13.	K.G. Patel	-	Management of sodicsoilforenhancement of sugarcane productivity in South Gujarat	Dr. R. G. Patil	2006
14.	V.L. Deshmukh	4-5370-2002	Combined effect of land configuration and organics on productivity of some *rabi* crops and bio-physico-chemical properties of *Vertic*ustochrepts under*kharif*paddy	Dr. R. G. Patil	2006
15.	G. G. Patel	4-5282-2002	Sustenance of soil Heath and productivity of sugarcane through integratednutrientmanagement in *Inceptisol*s of South Gujarat	Dr. A.M. Bafna	2006
16.	V.S. Patel	4-4689-2000	Sugarcane productivity and soilhealthunder different levels and sources of organic in *VerticUstochrepts* of South Gujarat	Dr. A.M. Bafna	2007
17.	V. G. Takankhar	-	Irrigationand nitrogen management in palmarosa	Dr. R. G. Patil	2008
18.	A.R. Gajera	4-0040-2004	Integratednutrientmanagement in palmarosa	Dr. A.M. Bafna	2009
19. `	D.P. Patel	4-0063-2004	Studies on soilsodicity in relationto sugarcane grown underSouth 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 8 hytochemi 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. Patel	2015
29.	Narendra Singh	4-1260-2012	Effect of rate & frequency of micronutrient application on production of Banana under drip irrigation	Dr. SonalTripathi	2015
30.	Sunil TukarumShirgire	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 reinfedvertisols from farmer's field of cotton growing area at Bara Treat (Dist. Bharuch)	Dr. A. Das	2016
32.	SatashiyaK.F.	1010113022	Phytoremediation potential of flowering plants for Cd, Ni and pb contaminated soils	Dr.K.G. Patel	2017
33.	NeethuT.M.	1010114012	Preparation of organic manure from Agro-wastes by usin isolated cellulotytic and lignolytic Bacteria	Dr.K.G. Patel	2017
34.	BambhaneeyaS.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. SonalTripathi	2018
36.	Pritesh S. Mistry	1010114011	Response of Sugarcane varieties to Phosphorous levels under South Gujarat Conditions	Dr. SonalTripathi	2018
37.	LokeshkumarSaini	1010116018	Persistence and Dissipation behavior of Soil applied insecticides in sugarcane and its effect on soil properties	Dr. K.G. Patel	2019
38.	Ashish C. Patel	1010117028	Exploring the feasibility of organic farming in different crops	Dr. K.G. Patel	2020
39.	Kranti B. Patil	1010117035	Effect of phosphorus levels, time of application and arbuscular myorrhiza on phosphorus use efficiency of sugar cane (Saccharum SSP.) under South Gujarat-condition	Dr. Sonal Tripathi	2020
40.	LangariyaDhara D.	1010118015	Persistence and dissipation behavior of pendimethalin oxyfluorfen and imazethapyr in pigeon pea and soil.	Dr. K. G. Patel	2021
41.	DholariyaHirenkumarPravinbhai	1010117032	Effect of organics on soil properties yield and quality of finger millet (*Eleusinecoracana* (L.)Gaertn.)	Dr. Sonal Tripathi	2021
42.	BagwanIkbalRajjak	1010119001	Persistence and Dissipation Behaviour of Deltamethrin, Chlorantraniliprole and Indoxacarb In Sapota Under South Gujarat Condition	Dr. K. G. Patel	2022
43.	Lad Alpesh N.	1010117016	Evaluating the sustainability of organic farming.	Dr. K.G. Patel	2022
44.	Chauhan Aditi Rajeshkumar	1010119006	Effect of iron management on rice-sweet corn cropping sequence under south Gujarat condition.	Dr. Sonal Tripathi	2022
45.	Ravindra TotaramBhowate	1010120026	Impact of conditioning periods of different organic liquid formulation on their quality vis-à-vis effect on yield and quality of different crops and on soil properties.	Dr. K.G. Patel	2023
46.	Patel DrashtibenKantilal	1010120019	Effect of biogas slurry on soil properties and sugarcane under south Gujarat condition.	Dr. SonalTripathi	2023
47.	Chaudhari SonalibenBharatbhai	1010120004	Preparation of phosphorus enriched compost and its effect on soil properties and yield of kharif rice.	Dr. K.G. Patel	2023
48.	Patel ViralkumarArvindbhai	1010119032	Effect of soil conditioners on rice onion cropping sequence under coastal salt affected soils.	Dr. SonalTripathi	2023

49.	Patel kishankumar kantibhai	1010121028	Effect of liquid Nano urea fertilizer on nutrient composition and yield of sugarcane under south Gujarat condition. **Pakka bound-(14-08-2024)**	Dr. V. J. Zinzala	2024
50.	Keniya Bhavikkumar Jagdishbhai	1010121016	Characterization and classification of soils of sugarcane growing area of Navsari district. **Pakka bound-(26-09-2024)**	Dr. V. J. Zinzala	2024
51.	Patil Lalit Muraralidhar	1010121033	Natural resources characterization based land use planning of tribal talukas of Bharuch district for agricultural crops. **Pakka bound-(07-10-2024)**	Dr. K.G. Patel	2024
52.	Avinash G J	10101210 03	Development of STCR Targeted yield Equation for gladiolus under fustigation with soluble fertilizers and its evaluation **Pakka bound-(25-04-2025)**	Dr. Sonal Tripathi	2025

List of M.Sc. (Agri.) students who have passed their degree successfully in Soil Science and Agricultural Chemistry

SN	Name of Student	Reg. No.	Title	MajorGuide	Year
1.	P.M. Mehta	-	Nitrogen Fixation in Indian soils in relationto 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 Gujaratheavy rainfallarea with specialreferenceto 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 RainfallArea with specialreferenceto different and continuous cropping patterns	Dr. H.G. Pandya	1970
5.	T.G. Patel	-	A study of fertilitystatus and suitability of irrigationwater of seed multiplication and research farms of Broach District	-	1971
6.	C.H. Patel	-	Tostudy 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 vijapurfarm soils where cumin is grown continuously and effect of plantgrowth 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 RainfallArea with specialreferenceto 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 PalsanaTaluka	Dr. P.M. Mehta	1974
10.	S.K. Patel	-	Comparativestudy of some typicalsaline - sodic soils occurring in different AgroClimatic Zones of Gujarat state	Dr. P.M. Mehta	1975
11.	G. V. Shekhat	-	Status and distribution of and Zinc,Manganese and iron in saline sodicsoilprofileof different agroclimatic 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 an yield, content and	Dr. P.M. Mehta	1978

			uptake of NPK by summer paddy*Ratna*		
13.	R.G. Patel	-	Effect of various water regimes and fertilizerlevel on yieldcontent and uptake of N, P and K by summer paddy*Ratna*	Dr. P.M. Mehta	1979
14.	R.J. Kalathia	-	Response of different levels of NPK based on soiltestrecommendation 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 soilseries of Navsari Taluka	Dr. P.M. Mehta	1980
16.	G.V. Ghodasara	-	Studies on the use of Indigenousmaterialsfor 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 availablesoil K and yield and chemicalcomposition of maize variety*Ganga Safed-2*	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_2O_5 content and uptake by maize *ganga safed-2*	Dr. B.S. Trivedi	1981
19.	G.B. Shah	-	Effect of application of different levels of Nitrogen in split on yield and chemicalcomposition of paddyvariety*IR-22*	Dr. B.S. Trivedi	1982
20.	N.J. Bhoraniya	4-580-79	Studies on volatilization losses of Nitrogen as Ammonia in different soilseries of Navsari Taluka of Gujaratstate	Dr. M.B. Meisheri	1982
21.	B.B.Kunjadia	4-887-80	Effect of rate, sourcetime and method of phosphorus application on the growthresponse and pattern of Nutrientabsorption by summer groundnut grown in a *vertisol* 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	Comparativestudies 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 paddyvariety*Ratna*	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 splitapplication of Nitrogen on the pattern of growthresponse and accumulation of macro and micro nutrients by wheat in a *Vertisols* 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 qualityirrigationwaters on yield and chemicalcomposition of sorghum*CSH-5* and chemical characteristics of three clayey soils fromSouth 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 *VerticUstochrept*	Dr. S. Raman	1984
31.	G. G. Patel	4-828-80	Studies on transformation of phosphorus in three clayey soils fromSouth Gujarat	Dr. B.S. Trivedi	1984
32.	M.K. Patel	4-1096-81	Effect of cropping and cropping systems on changes in *Verticustochrept* of South Gujarat	Dr. S. Raman	1984

33.	R. M. Desai	4-725-79	Effect of different levels of nitrogen and methods of sowing on yield and chemicalcomposition 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 availabilitypattern of different nutrients in a clayey paddysoil	Dr. M.B. Meisheri	1985
35.	K.M. Patel	4-1140-81	Effect of salinity on germination, dry matteryield and mineralcomposition of sorghum verities grown in *Vertisol*	Dr. M.B. Meisheri	1985
36.	S.G. Savalia	4-1382-83	A survey of capacityintensity and rateofrelease factors and utilization of soil phosphorus in *Ustochrepts* of South Gujarat	Dr. P.M.Mehata	1985
37.	B.M. Naik	4-1218-82	Effect of salinity levels and Mg/Ca ratios of irrigationwater on dry matter production, chemicalcomposition 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 chemicalcomposition of rice grown on *Typicchromusterts* of South Gujarat	Dr. R. R. Kaswala	1991
42.	H.S. Sabuwala	4-2303-88	Effect of different levels of salinity an yield and chemicalcomposition of four varieties of sorghum grown by directseeding and transplanting methods	Dr. B.S. Trivedi	1992
43.	L.U. Sanghani	4-2927-91	Impact of NutrientAvailability on yield and chemicalcompositioin of cauliflower underdrip and furrowirrigation	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 directseeding and weed managements in summer season	Dr. C. L. Patel	1999
46.	A. R. Kaswala	4-3890-96	Relativeperformance 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	Comparativeevaluation of some industrial wastes as sources of organicmatter in heavy black soil	Dr. R. R. Kaswala	2001
48.	A.R. Gajera	4-4473-2000	Response of tomato to gradedlevel of NPK grown in different types of green houses	Dr. A.M. Bafna	2003
49.	D. A. Patel	4-5391-2002	Integratednutrientmanagement in summer okra grown in *Verticustochrepts* of South Gujarat	Dr. A.M. Bafna	2005
50.	Jaimin. R. Naik	4-5059-2001	Influence of dripirrigationand 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 applicationto summer paddy var. *Jaya* with and without N sources on yield, uptake and availability of N, P_2O_5 , K_2O and Zn.	Dr. P.V. Patel	2005
52.	L.M. Patil	4-0080-2004	Preparation of iron pyrite enriched vermicompost and its effect on the availability of plant nutrients in *Inceptisols* and *Vertisols*	Dr. P.V. Patel	2006
53.	A. P. Italiya	4-0046-2004	IntegratedNutrientmanagement in presence and absence of Zn and FYM on the productivity of *summer* groundnut	Dr. A.M. Bafna	2006
54.	H.M. Patel	4-05773-2003	Integrated nutrient management (INM) in rabicasot grown on *VerticUstochrepts* of South Gujrat	Dr. A.M. Bafna	2006
55.	N.P. Vilas	4-0210-2006	Integratednutrientmanagement in stevia underdripirrigation	Dr. A.M. Bafna	2008
56.	A. P. Patil	4-0229-2006	Nutrient, pseudo stem and sucker management in	Dr. A.M. Patel	2008

			ratoon banana underdripirrigation		
57.	A.N. Lad	4-0110-2005	Responsetograded 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 hillyTractsoils of South Gujarat	Dr. Z. N. Patel	2009
61.	P.A.Patil	-	Response of papaya Cv. *Redlady*to different growth promoters underorganicfarming	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 Sarvarvillage 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 13hytochemi 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. SonalTripathi	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 13hytochemi 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.	AmpeeTasung	4-0934-2011	Feasibility study on use of aquaculture effluent as irrigation water for *Salicorniabrachaita*Roxb.	Dr. SonalTirpathi	2013
77.	S. P. Bokare	4-0737-2010	Effect of Banana Pseudostemsap 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	Dr. Z. N. Patel	2013

			and bio-fertilizer grown under South Gujarat condition		
80.	R.R. Gundrashiya	4-0970-2011	Effect of spraying of banana 14hytochemi 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 *salicorania*	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 rabimaize	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, Vapi (Valsad)	Dr. A. Das	2014
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. SonalTripathi	2014
92.	DevendrakumarMeena	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 pseudostemscutching waste, FYM and biocompost on growth and yield of cabbage grown on vertisols of South Gujarat	Dr. J. M. Patel	2016
103.	Manishkumar	2010114062	Effect of time of irrigation with nutrient	Dr. H.M. Patel	2016

	M. Patel		management on soil physic-chemical properties and yield of grain sorghum under Bara Track of Gujarat		
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.	BodarK.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.	SaxenaM.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.	GadhaviB.K.	2010115039	Evaluation of methods and sources of fertilizer on yield of cauliflower.	Dr. J. M. Patel	2017
108.	SouravChaudhury	2010115110	Soil fertility status of paddy and sugarcane growing area of village Butlav and Dabhalia of Navsari District.	Dr. J. M. Patel	2017
109.	PriyankaPannu	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.	GohilD.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. SonalTripathi	2017
114.	Barvalia M.M.	2010115011	Effect of FYM, Zn and Trichodemaspp applications on growth, yield and Cd uptake by spinach Beet grown in Cd soil	Dr. A.P. Italiya	2017
115.	GadhaviSuhaga 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 TejaskumarRamabhai	2010115095	Effect of Panchagavya and Banana Pseudostem sap on summer groundnut in inceptisols of Dang District	Dr. V. J. Zinzala	2017
117.	SolankiDineshkumar 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.	KhawajaSafiullah	2010116044	Effect of organics on yield and quality of sweet corn (Zec mays L., VarSaechaaratasturt) and soil properties	Dr. G. G. Patel	2018
120.	LunagariyaDhara 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.	JagadeeshB.K.	2010116040	Effect of organics on yield and quality of onion and soil properties	Dr. G. G. Patel	2018
122.	ChaudharyPrakash 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. Susheel Singh	2018
125.	GavitChandrakant 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 on	Dr. D. P. Patel	2018

			growth, nutrient composition and yield of wheat		
127.	Mangukiya Ajay G.	2010116048	Effect of Organic Sources and water Regimes on Nitrogen Trans formation in Rice Grown clay soil of South Gujarat.	Dr. D. P. Patel	2018
128.	BaldaniyaDharmesh M.	2010116004	Comparison of Ex-situ and in -situ persistence of fipronil and its metabolites in clay soils	Dr. Susheel Singh	2018
129.	Satdev	2010117104	Effect of zink oxide 16hytochemical (ZnO-NP) on growth, yield, quality and nutrients composition of sweet corn (Zea mays L. saccharata) uner south Gujarat condition	Dr. V. J. Zinzala	2019
130.	Aditi R. Chauhan	2010117014	Effect of fertilizer levels, biocompost and biofertilzer on yield of rabi fodder sorghum (Sorghum bicolor (L) Moench) and Soil properties	Dr. SonalTripathi	2019
131.	Brijeshchandra Solanki	2010116011	Effect of land configuration and nutrient management on growth, yield and soil properties of carrot under organic farming	Dr. A. R. Kaswala	2019
132.	Patel BobbykumarNarayanbhai	2010117067	Phosphorus management in summer green gram (Vigna radiate L.) under south Gujarat condition	Dr. K.H. Patel	2019
133.	Hashmatullah	2010117037	Effect if different organics on N mineralization, (Vigna radiate L.) under South Gujarat condition.	Dr. D. P. Patel	2019
134.	Chavda Bharat Naranbhai	2010117016	Nutrient management in cluster bean (Cyamopsis	Dr. A. P. Italiya	2019
135.	RabariRavji L.	2010117098	Nutrient uptake and yield of rice as influenced by different phosphorus levels in texturally distinct soils of south Gujarat	Dr. D. P. Patel	2019
136.	Pawan kumar	2010118110	Status of pesticides residues in vegetables grown in different Talukas of Navsari District of Gujarat	Dr. Susheel Sing	2020
137.	Dhruvi S. Kathiriya	2010118058	Assessment of available nutrient status and their correlation studies with important soil properties in Soils of Tapi district	Dr. K. H. Patel	2020
138.	Prashant R. Vajera	2010118140	Evaluation of Extractants and instrumental methods for determination of micronutrients in soils of South Gujarat	Dr. V. J. Zinzala	2020
139.	Ashok S. Rabari	2010118115	Evaluation of Extractants and instrumental methods for determination of basic cations in soils of South Gujarat	Dr. V. J. Zinzala	2020
140.	Kripal V. Nakum	2010118074	Natural Resource characterization of Village kukeriSituated in Ukai left Bank Canal Command of Navsari District	Dr. J. M. Patel	2020
141.	Kutugulla Surekha	2010118063	Reclamation of Sodic -clay soil using gypsum and calcium chloride with and without organic amendment (column Study)	Dr. J. M. Patel	2021
142.	Komal D. Chaudhary	2010118062	Study on fractions of N, P and K in soils under different cropping and management system in Navsari condition.	Dr. A. P. Italiya	2021
143.	KeniyaBhavikkumarJagdishbhai	2010119145	Effect of different earthworm species on quality of vermicast.	Dr. H. M. Patel	2021
144.	Kachhiyapatel KrishnabenAlpeshkumar	2010119039	Assessment of Available Nutrient status and their correlation studies with important soil properties in soils of Narmada District	Dr. K. H. Patel	2021
145.	Madhu Bharath K.	2010119054	Standardization of the method for preparation of quality compost from paddy straw.	Dr. Anand Kaswala	2021
146.	TandelPriyakumariAnilkumar	2010118135	Study on relative easiness of different Soil : Water ratios in measuring salinity and sodicity Associated parameters of soils	Dr. D. P. Patel	2021
147.	Patel PrernaKanakbhai	2010119088	Effect of Bio-Organo-Chemical fertilizer on important soil properties and yield of maize grown in clay soil.	Dr. V. J. Zinzala	2021
148.	Patel Krupaben Baratbhai	2010119085	Study on Nutrients leaching in Rice grown on clay soils (A column study)	Dr. J.M. Patel	2021
149.	Patel PoojabenGovindbhai	2010118100	Effect of In Situ Sugarcane trash Recycling on soil 16 hytoc chemical properties and Ratoon cane yield in clay soil.	Dr. H. M. Patel	2021

150.	Patel PragatibenHasmukhbhai	2010119087	Effect of different organic sources on growth, yield and soil properties in *rabi* maize under organic farming	Dr. A. P. Italiya	2021
151.	RanpariyaUtsavkumarRameshbhai	2010119107	Effect of different earthworm species on quality of vermiwash.	Dr. H. M. Patel	2021
152.	Chaudhary ParinakumariHasmukhbhai	2010120019	Natural resource characterization of village kanjar situated in vyara taluka of tapi district.	Dr. J. M. Patel	2022
153.	SherathiyaPinalbenHasmukhbhai	2010120101	Effect of different proportions of crop residues and fym on vermicomposting using the epigeic earthworm (eudriluseugeniae)	Dr. H. M. Patel	2022
154.	Harsha S K	2010120037	Standardization of glyricidia based formulation as a liquid organic nutrient	Dr. A. R. Kaswala	2022
155.	Patel deepkumarvinodbhai	2010120076	Standardization of plant based liquid organic nutrient	Dr. A. P. Italiya	2022
156.	Bindushree G.	2010120014	Nutrient uptake by rice in response to K- nutrition under water stress.	Dr. D. P. Patel	2022
157.	Bakutra Riya Vinodkumar	2010120007	Downward movement of halosulfuron methyl under laboratory condition and its dissipation in sugarcane field.	Dr. Susheel Singh	2022
158.	KarmurJignaVajshibhai	2010120050	Adsorption and degradation 17 hytoche of halosulfuron methyl in soil and water.	Dr. SusheelSingh	2022
159.	Patel RiyabenRajubhai	2010121067	Influence of nitrogen levels and G-amrut on growth, yield and soil properties of summer sesame under organic farming.	Dr. A. R. Kaswala	2023
160.	Rahul	2010121074	Impact of termiticidal application of biofenthrin on microbial and biochemical properties in soil under tomato crop.	Dr. Susheel Singh	2023
161.	Patel Jolly Jagdishbhai	2010121061	Effect of organic manure and gliricidia leaf extract on growth yield and soil properties of summer green gram under organic farming.	Dr. A. P. Italiya	2023
162.	Mukesh Kumar Yadav	2010122080	Effect of different organics on growth and yield of green gram and soil properties under organic farming. **Pakka- (31-07-2024)**	Dr. A. R. Kaswala	2024
163.	Prajapati harsh raghavbhai	2010122050	Influence of salinity on Fe and Zn fractions of heavy textured soils of south Gujarat. **Pakka- (05-08-2024)**	Dr. A. P. Italiya	2024
164.	Patel Tejasvini A.	2010122048	Characterization, evaluation and mapping of soils of Ambach village in Chikhali taluka (Navsari district), Gujarat for sustainable land use planning. **Pakka- (09-08-2024)**	Dr. S. L. Pawar	2024
165.	Sakhavala Parth Sharadbhai	2010122053	Vermistabilization of dragon fruit plant pruning waste: A Bio-Chemical Assessment. **Pakka- (06-09-2024)**	Dr. H. M. Patel	2024
166.	Jadav Riyaben Kantibhai	2010122018	Characterization of biochar prepared from different plant wastes and evaluation of biochar with fertilizer on fodder maize. **Pakka- (19-09-2024)**	Dr. H. P. Dholariya	2024
167.	Adarsh L.	2010122061	Effect of organic manures and inorganic fertilizers on soil health and nutrient requirement of Bt-cotton. **Pakka- (20-09-2024)**	Dr. p.s. patel	2024
168.	Ladumor Alpaben Babubhai	2010121040	Effect of soil sodicity on organic fractions and physico-chemical properties of two texturally distinct soils. **Pakka- (26-09-2024)**	Dr. D. P. Patel	2024
169.	Patel Khushiben Mukeshbhai	2010122042	Screening of bacterial isolates for degradation of pyroxasalfone. **Pakka- (07-10-2024)**	Dr. Susheel Singh	2024

List of M.Sc. (Agri.) students who have passed their degree successfully in Biochemistry

SN	Name of Student	Reg. No.	Title	MajorGuide	Year
1.	Mehta Amit A.	04-0985-2011	Post harvestbiochemical changes in cabbage *Brassica oleracea* (var. capitata) in relation to pre harvest water stress	Dr. Diwakar Singh	2014
2.	VaghasiyaHetalben M.	2010113072	Study on effect of salinity stress on some biochemical and physiological attributes of fodder beet (*Beta vulgaris* L.)	Dr. NilimaKarmakar	2015
3.	AdbhaiAnujaRameshchand	2010113004	Effect of saline stress on growth and yield of sugar beet (*Beta vulgaris* L.) in relation to biochemical parameters and plant growth	Dr. NilimaKarmakar	2015
4.	GamitKetul S.	04-1236-2012	Effect of different elicitors on tomato plant defense response against *Fusariumoxysporum* F. sp. Lycopersici	Dr. SonalTripathi	2015
5.	AbujBhagyashreeBhaskarrao	2010114002	Biochemical and nutritional attributes of different underutilized fruits of South Gujarat.	Dr. NilimaKarmakar	2016
6.	VadodariyaPiyushRanchhodbhai	2010115115	Effect of cooking on nutritional quality of Indian bean (*Dolichos lablab* L.)	Dr. NilimaKarmakar	2017
7.	ChouryaKalpeshkumarKashirambhai	2010114025	Biochemical and biomolecular changes during ripening in Banana (Musa Acuminata AAA Group)	Dr. Diwakar Singh	2017
8.	Patel KajalbenSureshbhai	2010116066	Screening of Greater Yam (*Dioscoreaalata*L.) for quality parameters.	Dr. NilimaKarmakar	2018
9.	NakaraniUditManubhai	2010116053	Nutritional and molecular analysis of Finger Millet (*Eleusinecoracana* L.)	Dr. Diwakar Singh	2018
10.	OdedraVanitabenLaxmanbhai	2010117054	Screening of Niger (*Guizotiaabyssinica* Cass.) genotypes for biochemical parameters	Dr. PritiFaldu	2019
11.	GhadiyaRidhdhiChimanbhai	2010118044	Effect of different edible coating on shelf life of tomato genotypes.	Dr. Priti R. Faldu	2020
12.	Balaji A.	2010118010	Study on Dhaincha genotypes for n fixing capability and rate of mineralization.	Dr. NilimaKarmakar	2020
13.	Dhaduk Parag R.	2010118035	Effect of different cooking methods on quality of sweet potato genotypes.	Dr. NilimaKarmakar	2021
14.	Patel SejalbenGovindbhai	2010118105	Effect of storage temperature on nutrient composition and self life of Brinjal genotypes.	Dr. Priti R. Faldu	2021
15.	Peddy Priyanka Vidyanand	2010118111	Nutritional and molecular evaluation of little millet genotypes.	Dr. Diwakar Singh	2021
16.	Pansuriya Namrata Bharatbhai	2010118083	Biochemical and molecular characterization of cotton (Gossypium Hirsutum L) genotypes for drought tolerance)	Dr. H. R. Ramani	2021
17.	Lad Hardik Sureshbhai	2010119052	Effect of different level of	Dr. H. R.	2021

			sulphur on Biochemical and physiological characters of cotton (*Gossypium hirsutum* L.)	Ramani	
18.	KatariyaNeetabenBabubhai	2010118059	Biochemical and molecular Evaluation of medicinal plant Bhoyaringani (*Solanum Surattense*Burm f.)	Dr. Diwakar Singh	2021
19.	Patel Kajal Rajendrabhai	2010119084	Effect of different cooking methods on nutrient and Anti-Nutrient content of Black gram (*Vigna mango*) Genotypes	Dr. NilimaKarmakar	2021
20.	Mr. SwetaKalore	2010119121	A Comparative Study on tomato Quality and yield under different soil and Nutrient management	Dr. NilimaKarmakar	2022
21.	SwetaKalore	2010119121	A comparative study on tomato quality and yield under different soil and nutrient management.	Dr. Nilima Karmakar	2022
22.	AntalaPriyankabenAshokbhai	2010120002	Ripening-dependent changes in different genotypes of tomato (Lycopersiconesculentum)	Dr. Nilima Karmakar	2022
23.	Patel Jimmy Kumari A.	2010120079	Effect of fertilizer and spacing on biochemical attributes in tannia	Dr. Nilima Karmakar	2022
24.	MarakanaPalav R.	2010120066	Biochemical characterization of cotton hybrids and their parents.	Dr. H. R. Ramani	2022
25.	Korant Neel P.	2010120055	Nutritional analysis of raw, cooked and sprouted cowpea genotypes.	Dr. H. R. Ramani	2022
26.	Chakote Ankita Anil	2010120017	Nutritional, 19hytochemical and molecular evaluation of different varities of sapota (Manilkarazapota l.) fruits under south Gujarat condition.	Dr. Diwakar Singh	2022
27.	Rathod ParthBhupatbhai	2010120092	Biochemical changes associated with different storage duration in elephant foot yam.	Dr. Diwakar Singh	2022
28.	Krishnaprasath S	2010121037	Nutritional and molecular evaluation of white finger millet (EleusineCoracana	Dr. Diwakar Singh	2023

			L.)		
29.	Patel JankibahenKaushikkumar	2010121059	Quality analysis of red rice (Oryza Sativa L.)	Dr. Nilima Karmakar	2023
30.	Gamit Snehlataben R.	2010122014	Biochemical appraisal of different plant parts of BT and non Bt cotton genotypes.	Dr. H. R. Ramani	2024
31.	Gajera Trushil N.	2010122012	Effect of green synthesized Zno nanofertilizers on the morphological and biochemical attributes in rice.	Dr. V. N. Mehta	2024
32.	Gaurish Choudhury	2010122068	Study on effect of different sources and modes of nitrogen application on yield and biochemical parameters of rice.	Dr. Nilima Karmakar	2024
33.	Vaja Hetalben Keshubhai	2010122059	Nutritional and molecular evaluation of foxtail millet genotypes.	Dr. V. N. Mehta	2024
34.	Rauvinsh Kumar	2010122084	Development of metal organic framework (mof) based nanosensors for pesticide detection **Pakka-(09-04-2025)**	Dr. V. N. Mehta	2025

List of Ph.D. students who have passed their degree successfully in Biochemistry

SN	Name of Student	Reg. No.	Title	MajorGuide	Year
1	Vekariya Vijaykumar Kantilal	1010116035	Physio-Biochemical and molecular characterization of parents and Hybrid system of cotton (*Gossypium hirsutum* L.) for Salinity Tolerance	Dr. Diwakar Singh	2021

II. Research

(a) Recommendations for farming/ Scientific community (2017 to 2024)

Sr. No.	Title	Recommendations:	Year
1.	Effect of different cooking conditions on antioxidant properties of some cucurbit vegetables.	It is informed to scientific community that bitter gourd contains highest antioxidant activity as compared to cucumber, pumpkin, bottle gourd, pointed gourd and spine gourd. Further antioxidant activity was remained maximum at cooking for 7 minutes in microwave (900 w) or 10 minutes in pressure cooker (2 whistles).	2017

2.	Response of different varieties of finger millet (Nagli) to integrated nutrient management under rainfed condition. (In collobration with HMRS-Waghai.)	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.	2017
3.	Response of little millet (Vari) to nitrogen and phosphorus levels under rainfed condition. *(In collobration with HMRS-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 P_2O_5/ha for getting higher yield and net income.	2017
4.	Studies on different package of practices in Finger millet (Nagli) under rainfed conditions. (Cv.GN-4) (In collobration with HMRS-Waghai.)	The farmers of South Gujarat Heavy Rainfall Agro-climatic Zone and South Gujarat Zone growing finger millet are recommended to adopt integrated nutrient management system for getting higher yield and net return. **Component of Integrated Nutrient Management are:** • Treat the seed with thirum @ 3-4 g/kg seeds + seedling dipping in bio-fertilizer (*Azotobacter*) for 30 minutes • Hand weeding. • 30 kg N, 20 kg P_2O_5 and bio compost 2 t/ha. • Apply *Azotobacter* 2 kg/ha. + PSB 2 kg/ha. as soil application • Use recommended chemical pesticides for controlling stem borer and blast.	2018
5.	Screening of pigeon pea genotypes for qualitative characters.	It is informed to scientific community that pigeon pea variety BDN-2 contains high quantity of soluble protein (12.61), calcium (2.88 mg/kg) and magnesium (2.45 g/kg). vaishali has high amount of iron (78.30 mg/kg), Zinc (12.20 mg/kg) and molybdenum (6.02 mg/kg) content. NPK-15-25 variety has high amount of phosphorus (0.73 %), while NPK 15-05, NPK-15-14, GT-1, AGT-2 and BNP-1B have high amount of copper (80.23 mg/kg), potassium (9.86 g/kg), manganese (14.23 mg/kg), boron (98.27 mg/kg) and cobalt (12.333 mg/kg), respectively.	2018
6.	Nutritional and anti-nutritional profiling of different kabuli chick pea (cicerarietinum L.) genotypes.	It is informed to the scientific community that genotypes NGK-1707 had the highest amount of total protein (25.58 %), Ca (6.20 g/kg) and K (10.25 g/kg). However, NGK-1708 contains highest amount of methionine (0.92 g/16g N) in protein. NG-477 had the lowest anti- nutritional factor like trypsin inhibitors (6.78 TIU/g) which can be used for future breeding programme.	2019
7.	Effect of N, P and K levels on yield and	The farmers of south Gujarat heavy rainfall agro-climatic zone intended to grow broccoli during rabi season are recommended to apply 120-60-00 N-P2O5-K2O kg/ha along with bio-compost 5 t/ha for getting better quality of	2019

	quality of broccoli.	broccoli head and high net return. The full dose of P2O5 and 50 % N should be applied as basal whereas remaining 50 % N should be applied in two equal splits at 25 and 50 days after planting.	
8.	Comparison of different digestion methods for analysis of multielement (P, K, FE, MN, ZN, CU) from plant.	Considering cost effectiveness and comparatively higher digestion capability, hot plate based digestion method was found superior over infrared digestion, microwave digestion and block digestion methods for elemental analysis of plant.	2019
9.	Study of starch quality in greater yam (DioscoreaAlata).	It is informed to the scientific community that greater yam genotypes NGY9, NGY3 and NGY1 had highest resistant starch, refrigeration stability (synersis %) and starch gel clarity (transmittance %), respectively.	2020
10.	Evaluation of different phosphorus management practices in rabi sorghum-summer green gram cropping sequence under south Gujarat condition. (In collaboration with MSRS, NAU, Navsari).	The farmers of south Gujarat heavy rainfall zone following rabi sorghum-summer green gram cropping sequence are recommended to apply 30 kg P_20_5 and arbuscular mycorrhizae (3000 IP/g) 250 g/ha (along with bio-compopst 5 t/ha and 40 kg N/ha at sowing and 40 kg N/ha at 30 DAS) to sorghum and 15 kg N and 30 kg P_20_5/ha to summer green gram for getting higher yield and net return.	2020
11	Effect of organicmanure on soilhealth and nutrientrequirement of kharif and summer rice crop sequence. (Collaborative experiment with Agronomy Department N.M. College of Agriculture, N.A.U. Navsari)	The farmers of South Gujarat heavy rainfall zone growing kharifrice-summer rice crop sequence are recommended to applied 5.0 tBiocompost/ha + 50 kg N, and 25 kg P2O5 or1.0 t castor cake/ha + 50 kg N, and 25 kg P2O5 @ to kharifand summer rice for getting higher yields,net returns and sustain the soil fertility.	2023
12.	Effect of boron and zinc application on	The farmers of South Gujarat growing plant and ratoon sugarcane are recommended to apply 2 kg boron/ha (20 kg Borax/ha) if soil is deficient in boron or 10 kg Zn/ha (50 kg Zinc sulphate/ha) if soil isdeficient in zinc or if soil is deficient in both then apply 2 kg boron/ha (20 kg Borax/ha) and 10 kg Zn/ha (50 kg Zinc sulphate/ha) at the time of planting in plant crop only	2023

	growth, yield and quality of sugarcane (Collaborative experiment with college Farm, NMCA, NAU, Navsari).	along with recommended dose of chemical fertilizer to plant and ratoon cane for getting higher yield, quality and net return of plant and ratoon sugarcane.	
13	Effect of phosphorus and potassium application in *rabi* sweet corn *(Zea mays* L. *var. saccharata* Sturt) under south Gujarat condition. (Collaborative experiment with college Farm, KVK NAU, Navsari	The farmers of South Gujarat growing *rabi* sweet corn are recommended to apply 60 kg P_2O_5/ha and 60 kg K_2O/ha as basal along with recommended dose of nitrogen (120 kg N/ha) for getting higher yield and net income.	2024
14	Status of different forms of nitrogen potassium and sulphur in soils of Navsari district of South Gujarat (Collaborative experiment with Soil Science Department, NAU, Navsari).	The highest available nitrogen, potassium, and sulphur was found in soils of Vansda (840.45 and 815.36 kg/ha), Jalalpore (1612.82 and 1484.22 kg/ha) and Gandevi taluka (34.25 and 26.21 mg/kg) in surface soil and sub- surface soils of Navsari district respectively. The highest NO_3-N, NH_4-N and total N were found in Khergam (92.40 & 58.80 mg/kg), Navsari (114.80 & 100.80 mg/kg) and Vansda (1036 & 924 mg/kg) in surface soil (0-15 cm) and sub- surface soil (15-30 cm) respectively. Available N was significantly correlated with total N in both depths. The highest WS-K (91.60 & 75.70 mg/kg), HNO_3-K (2952.80 and 3200 mg/kg) and Non Exch. K (2151.52 and 2633.73 mg/kg) were found in Vansda taluka whereas the highest mineral K (10447.20 and 11943.60 mg/kg) and total K (11960 and 13310 mg/kg) were found in Khergam taluka in surface soil and sub- surface soil respectively. Available potassium was significantly positive correlated with water soluble potassium, HNO_3- K and exchangeable potassium at 1 % level of significance. The highest WS- S (12.17, 10.67 mg/kg), adsorbed S (7.97 and 7.56 mg/kg), sulphate-S (19.41 and 15.36 mg/kg), non sulphate-S (139.60 and 146.97 mg/kg) and total S (301.19 and 292.91 mg/kg) was observed in soil of Gandevi taluka of Navsari district. Available sulphur was significantly positive correlated with all sulphur fractions in surface as well as sub surface layer at 1 % level of significance.	2024
15	**Study on dynamics of humus, N and S under organically and**	From the three years of experiment it can be concluded as below given Table. The same result as below was observed separately in paddy, mango and sugarcane cultivated organically and conventionally managed soil. The mango cultivated under organically and conventionally managed soil showed superior results for N, S and Humus fractions in soil.	

<table>
<tr>
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<td>conventionally managed crops</td>
<td>
<table>
<tr><th>SN</th><th>Parameters</th><th>Conventional Soil</th><th>Organic soil</th></tr>
<tr><td colspan="4">N fraction</td></tr>
<tr><td>1</td><td>Ammoniacal N</td><td>Significantly higher</td><td>-</td></tr>
<tr><td>2</td><td>Nitrate N</td><td>Significantly higher</td><td>-</td></tr>
<tr><td>3</td><td>Mineralizable N</td><td>Significantly higher</td><td>-</td></tr>
<tr><td>4</td><td>Available N</td><td>-</td><td>Significant</td></tr>
<tr><td colspan="4">S fraction</td></tr>
<tr><td>5</td><td>Available S</td><td>No significant difference</td><td></td></tr>
<tr><td>6</td><td>Water soluble S</td><td>-</td><td>Significant</td></tr>
<tr><td>7</td><td>Adsorbed S</td><td>-</td><td>Significant</td></tr>
<tr><td>8</td><td>Sulphate S</td><td>-</td><td>Significant</td></tr>
<tr><td>9</td><td>Organic S</td><td>-</td><td>Significant</td></tr>
<tr><td>10</td><td>Total S</td><td>-</td><td>Significant</td></tr>
<tr><td>11</td><td>Non-sulphate S</td><td>No significant difference</td><td></td></tr>
<tr><td colspan="4">Humus</td></tr>
<tr><td>12</td><td>Humic acid</td><td>-</td><td>Significant</td></tr>
<tr><td>13</td><td>Fulvic acid</td><td>-</td><td>Significant</td></tr>
<tr><td>14</td><td>Organic Carbon</td><td>-</td><td>Significant</td></tr>
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<tr>
<td>16</td>
<td>Study on heavy metal content in organically and conventionally managed soils and crops</td>
<td>The concentration of heavy matels viz. Fe, Mn, Zn, Cr, Ni, Pb, and Cd were more or less similar in soils collected from the field of organically and conventionally grown crops viz. paddy, sugarcane and mango, but these were under their permissible limit given by Awashthi (2000) and European Union. The details are tabulated below.
<table>
<tr><th>Sr. No.</th><th>Managment</th><th>Soils</th></tr>
<tr><td>1</td><td>Higher in organically managed</td><td>pH, EC, OC*, N, P_2O_5, K_2 S, Mn and Zn</td></tr>
<tr><td>2</td><td>Higher in conventionally managed</td><td>Fe, Cu, Cr, Ni, Pb*, and Cd</td></tr>
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Significantly higher
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<tr>
<td>17</td>
<td>Characterization of Biochar prepared from different plant residues and its enrichment with organic sources.</td>
<td>

The biochar yield and different physiochemical properties of biochar depend on the source as well as on pyrolysis temperature. Higher biochar yield, total OC, CEC and Cu content as well as lower EC were observed in biochar prepared from coconut stalk residue (S_2). Significantly improvement in pH and porosity were recorded in biochar prepared from Prosopisjuliflora residues (S_4).
Significantly Higher total N, K_2O and micronutrients (Fe, Mn, Zn) were observed in biochar prepared from pigeon pea residues (S_1).
Increasing pyrolysis temperature impacts the physiochemical properties of biochar leading to a lower biochar yield, CEC and total NPK content while higher organic carbon, pH, EC, porosity and micronutrients.
Enrichment of biochar with different organic sources has significantly improvement in pH and total OC as well as in total NPK content of enriched biochar. Significantly improvement in pH and higher total P_2O_5 and total K_2O were found in enrichment with organic source O_1.

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</table>

III. Analytical service

Years	Samples analysis under RCPS (Right of Citizens to Public Services) Act, 2013			Students samples analysis		Departmental samples analysis	
	Soil Parameters	Plant Parameters	water samples parameters	Soil Parameters	Plant Parameters	Soil Parameters	Plant Parameters
2018	592	225	-	2517	4500	3184	2150
2019	632	342	-	10357	10639	3184	2150
2020	713	387	-	1063	12993	3184	2150
2021	649	288	528	3684	2274	3184	2150
2022	1145	0	565	3249	12431	2821	2132
2023	1791	480	354	4245	12759	3874	3913
2024	1427	0	460	1320	2266	1008	1377
2025 UP TO JUNE.	1636	0	387	193	192	207	584

UPDATED ON: 16/07/2025