

Sarva Vidyalaya Kelavani Mandal, Kadi, managed

PRAMUKH SWAMI SCIENCE & H. D. PATEL ARTS COLLEGE, KADI

Re- accredited with grade 'A' by NAAC Third Cycle (CGPA 3.25)

College with Potential for Excellence, phase-I & II (2010-2019)

AAA Rank-1 by Govt. of Gujarat

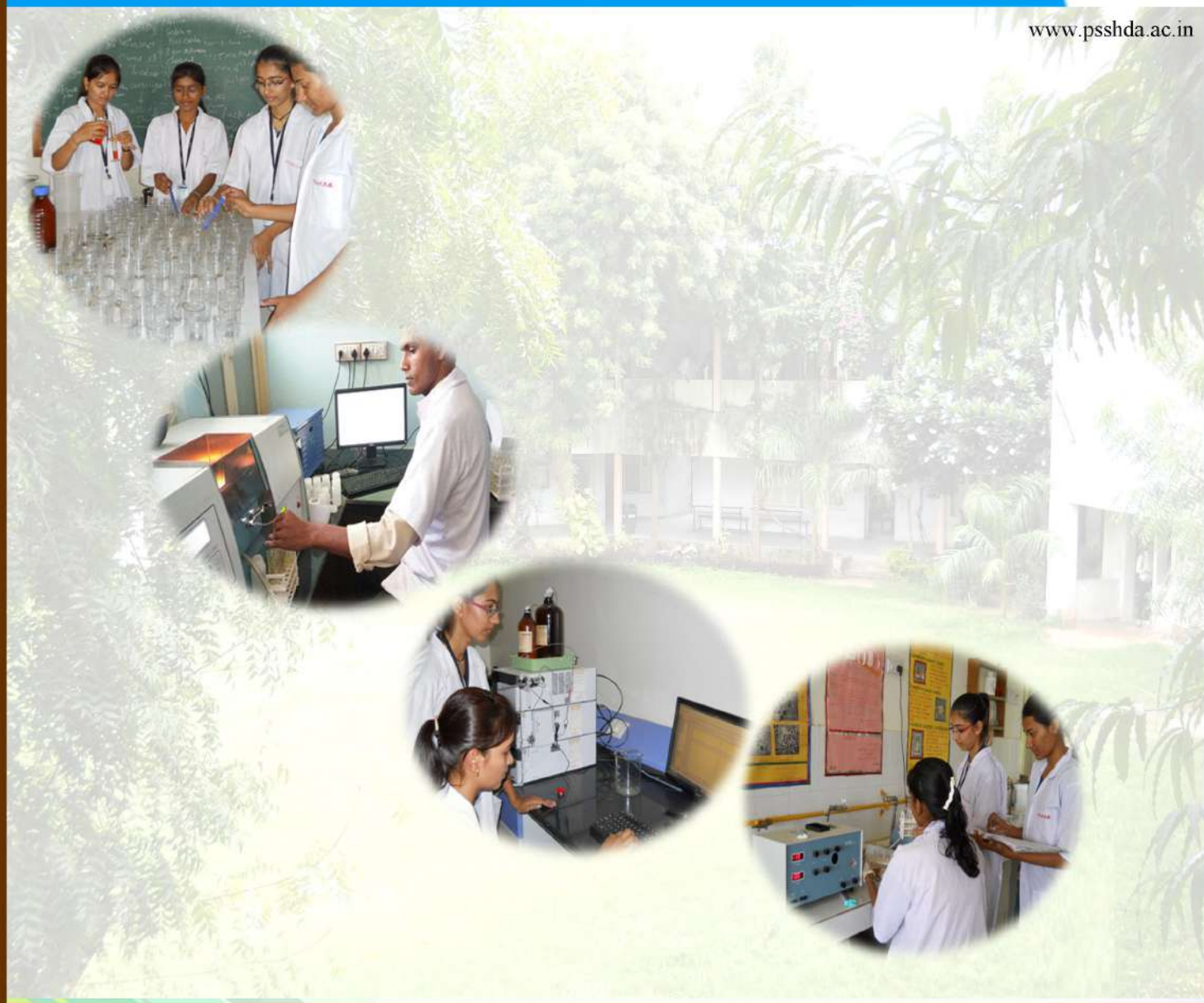
DDU KAUSHAL Kendra by UGC

Best Practice-1

“Macro & Micronutrient Soil Analysis
for better productivity- Soil Health Card Scheme”



www.psshda.ac.in



Best Practice in the institute

1 Title of the Practice:

“Macro & Micronutrient Soil Analysis for better productivity- Soil Health Card Scheme”

2. The context that required the initiation of the Practice

Soil testing is an important diagnostic tool for better soil health and agricultural performance from environmental point of view. Soil analysis helps to understand the fertility status and the deficiency of nutrients and to decide which nutrients are required qualitatively and quantitatively. **Soil Health Card programme is initiated by Rastriya Kishan Vikas Yojna (RKVY) and by Gujarat Government.** Pramukh Swami Science and H.D Patel Arts College is privileged to be one of the eight colleges of the state selected by Government of Gujarat for implementing this scheme for the upliftment farmers and for betterment of society and nation at large

3. Objectives of the practice.

- To check the Macro & Micro nutrient level in the soil and accordingly apply fertilizer.
- To increase the crop productivity with minimum use of fertilizer and without corrosion of the soil.
- To stop indiscriminate use of fertilizers and chemicals for better economic gains.
- To promote organic fertilizer & biopesticides.
- To prepare fertility map to advocate appropriate cropping system in the said area.
- For students, this project is an ideal role model of Gandhian Educational practice of *Earning with Learning & Learning with Earning.*

4. The Practice.

Our college receives soil samples from state government. The soil samples are checked and verified the according to list of villages. The collected samples are labeled and analyzed for: Organic carbon, Nitrogen, Phosphorus, Potassium, and Micro nutrient (Boron, Zinc, Copper, Manganese and iron) . Additionally, the pH and Conductance of the soil samples are also measured. All obtained data are verified and checked by Coordinator or Lab supervisor. All test results are also randomly checked by Government agency. Lastly all result data and farmer details are entered in Soil Health card Portal and Soil health card is generated in Color print and laminated. All the entries are checked randomly by Government agency and soil health cards are submitted to Agriculture District office.

Our college checked more than 50000 soil sample of Gujarat region during tenure of 2013-2018. The authorities of the State Government allot the grant as per the rate fixed by them every year per sample. This grant remains helpful to our institution to purchase necessary equipments and

chemicals. This task is performed with the help of the staff and students. The students, academic staff and laboratory assistants played a pivotal role in completion of this herculean task.

Thus, through accurate guidance, intensive labor of students and teachers the following number of Soil Health Cards is prepared.

Sr.No	Year	Grant in Rupees	No. of Soil Samples	No. of Soil Health Card issued
1	2014-15	13,16,060/-	10899	10899
2	2015-16	11,37,925/-	9795	9795
3	2016-17	26,52,978/-	11194	37085
4	2017-18	18,13,249/-	8545	29151
5	2018-19	10,87,314/-	10005	25389
	Total	80,07,526/-	50438	112319

5. Obstacles faced if any and strategies adopted to overcome them:

- 1) This is a Time Exhaustive project which cannot be done with one or two hours daily task. So students of all these years, along with their teachers performed this enormous task in extra College hours.
- 2) Soil Analysis Instrumentation is a non-curriculum learning for the students; to train students in this aspect, the department has implemented Govt. Training as well as two Certificates Courses on Macro-Micro Nutrients Testing.
- 3) The full task, including sample checking, analysis and data entry on National Portal with a printed Soil Health Card, is a Time-bound Project; thus, to finish the task and to submit documents in the specified time limit, the students-teachers team had to work on most of the holidays as well as during the vacation period.
- 4) Frequent and constant use of equipment leads to its wear and tear as well as damage. This was overcome by regular visit of technical expert, as well as replacing the required instrument / material without delay.

6. Impact of the Practice :

Based on the soil health card, farmers adopted specific cropping systems best suited for their soil along with justified use of fertilizers which gave them for better crop productivity and economic gains.

Research culture developed amongst UG students. There are two research paper publications as well oral and poster presentation in four national and state level conferences.

- From Kadi region soil sample of farmer Mahendrabhai Patel (Marusana) was analyzed, based on analysis we advised him to avoid the use of potash fertilizer and add organic manure in his farm for horticulture crop. This suggested change fetched him almost 35% high yields with 50% profit as compared to last year farming. Previously he used to earn only Rs 1 lakh /hectare while this year he earned Rs 1.5 lakh /hectare.
- Our trust is philanthropic trust so Honorable Chairman has made facility of soil analysis available to all farmers of Kadi region free of cost.

Earn while you Learn : Soil Health Card project is being carried out by students of B.Sc. and Agricultural and soil Sciences, for which students get remuneration as well as certificate from the Government of Gujarat, Higher Education Department..

Students get exposure and hands-on training for using different equipments of soil analysis with these experience and expertise, students become eligible for placement in the field of soil analysis at STL.

7. Resources :

Well Equipped Micronutrient & Macronutrient Laboratories,

- AAS,
- Spectrophotometer
- Colorimeter
- pH and EC meter
- Soil sample store room,
- Chemical store room,
- Computer with Printer

Training and Visit provided by college.