

**Department of Biochemistry
B. A. College of Agriculture
Anand Agricultural University
Anand – 388 110.**

Name of the Head of Department	: Dr. J.J. Dhruv
Qualification	Ph.D.
Designation	: (I/c) Research Scientist & Head
Experience	: 26 Years
Specialized Subject	: Biochemistry
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Brief information of the Department:

The department was established during the of VIth F.Y.P. (1977-78) in G.A.U. Under phase-I of National Agricultural Research Project, Grain Quality Laboratory was established in 1983 to take up biochemical research related to grain quality. The department is mainly associated with teaching at the polytechnic, undergraduate and the postgraduate level for the Master and Doctorate. The department is also conducting important research for nutraceutical quality in response to biotic and abiotic stresses in various plants.

Mission

To learn, discover, create and make the India ever better for farmers with nutritional quality in response to biotic and abiotic stress.

Vision

➤ **Teaching**

Fundamental plant Biochemistry courses are taught according to ICAR Dean Committee recommendation.

(1) Polytechnique level (2) Undergraduate level (3) Postgraduate level for the master and doctorate in Biochemistry.

➤ **Research: Plant Biochemistry**

- ❖ Infrastructure facilities for post graduate teaching and research programmes
- ❖ Establish analytical laboratory to cater the needs of nutraceutical research projects.
- ❖ Basic and strategic research to enhance nutritional quality of field crops.
- ❖ Isolation, structural elucidation of natural phytonutrients.
- ❖ Study of biotic and abiotic stress in plant kingdom.
- ❖ Evaluation of biodiversity as a source of bioactive phytochemicals.
- ❖ Identification and Validation of molecular markers in response to biotic stress, abiotic stress. and nutraceutical quality.
- ❖ Establishment of inter disciplinary research programmes with various disciplines such as, Plant breeding, Plant Pathology, Argil. Chemistry and Soil Science, Horticulture, Agronomy, Entomology etc.

Our Core Values

Farmer related knowledge First, integrity, Respect, Team work, Creativity, Diversity, Excellence

Objectives

- ✓ Demonstrate knowledge and understanding of basic Biochemistry mechanisms to UG/PG programme
- ✓ To strengthen the PG programme in Biochemistry for meeting the manpower requirement at various levels of Research and Education
- ✓ Use basic laboratory skills and apparatus to obtain reproducible data from biochemical experiments.
- ✓ Implement experimental protocols, and adapt them to plan and carry out simple investigations
- ✓ Establish analytical laboratory to cater the needs of nutraceutical research projects.
- ✓ To conduct basic and strategic research to enhance nutritional quality of field crops.
- ✓ To establishment of inter disciplinary research programmes with various disciplines such as, Plant physiology, Biotechnology, Plant breeding, Plant Pathology, Argil. Chemistry and Soil Science, Horticulture, Agronomy, Entomology etc.

Infrastructure facility:

Department of Biochemistry is having basic infrastructural research facilities for carrying out research on various aspects of Plant Biochemistry.

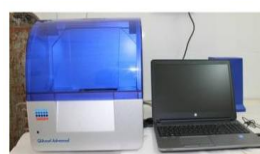
- 1 Ultra performance liquid Chromatography (UPLC)
- 2 Gas Chromatography (GLC)
- 3 Electrophoresis system
- 4 Automated DNA Extraction
- 5 Automated Capillary Electrophoresis with documentation system
- 6 Viscometer/Advance Rheometer
- 7 Near-infrared spectroscopy System (NIR)
- 8 2-D Gel Electrophoresis/ Isoelectric focusing
- 9 PCR and RT PCR



PAGE



Automated DNA extractor



Capillary Electrophoresis



2D Electrophoresis



PCR



RT-PCR



GC - FID



UPLC



Fiber Extractor



Rheometer



Tissuelyser



Soxhlet

Future Thrust :

- ❖ Nutraceutical characterization of cereals, oilseed and pulses.
- ❖ Nutraceutical characterization of horticultural and medicinal plants.
- ❖ Prevent diseases by using various biomolecule such as benzyl adenine, silicic acid, melatonin, ascorbic acid, aromatic amino acids etc.
- ❖ Characterization of Antiviral and antimicrobial compounds in plant
- ❖ Find out Anti-nutritional factors in food crops.
- ❖ Strengthening of Biochemistry Department as centre of proteomics research
- ❖ Biochemical tests for the pesticide residues or other toxic waste in plant, food grain and soil can be evaluated.