

# DEPARTMENT OF VETERINARY PHYSIOLOGY & BIOCHEMISTRY



COLLEGE OF VETERINARY SCIENCE & ANIMAL HUSBANDRY  
ANDUAT, KUMARGANJ, AYODHYA 224 229

## About the Department

The Department of Veterinary Physiology & Biochemistry is a frontier department that is leading students to understand basic knowledge and skills in the field of Veterinary Biochemistry and Veterinary Physiology. The Department was established in 1999 along with the establishment of college. In the year 2014, it came in its present shape as Department of Veterinary Physiology & Biochemistry after merging both departments as per VCI guidelines.

The M.V.Sc. programme in Veterinary Biochemistry was introduced in the department from 2004-2005 and in Veterinary Physiology from 2017-2018. Doctorate program in Veterinary Biochemistry started in 2013-14 session and in Veterinary Physiology started from 2017-2018.

Department has established under graduate and post graduate laboratories with sophisticated equipment for hematology, blood biochemical analysis, hormonal assays and molecular biology. The ultra modern equipments are used for undergraduate and postgraduate teaching. In the field of research, department has carried out pioneering work in field of DNA markers in poultry, adaptation studies on large animals for heat stress, hormonal status in animals besides working on establishing an appropriate diagnosis on clinical samples.

## Objectives

- To offer quality education in Veterinary Physiology and Veterinary Biochemistry using modern education technology to equip veterinarians to meet challenges in the field.
- Imparting diagnostic skills to the undergraduates and post graduates.
- To carry out research in the identified thrust areas.

## Vision

**To prepare qualified Veterinary professionals in Veterinary Physiology and Veterinary Biochemistry to meet challenges in the field.**

## Mission




The mission of Department is to prepare Veterinary professionals who are committed to the service to attain optimal health for people, animals, and our environment. The mission is achieved by:

- Providing students with the knowledge and tools used in the education profession to effectively present content, assess student learning, and provide educational leadership among their peers.
- Providing quality research opportunities for students and faculty in the discipline.
- Providing a values-based learning community as the context for teaching, research, and service.
- Focusing on excellence in instruction and clinical experiences in veterinary health care for companion, exotic, and production animals.
- Embracing compassionate veterinary care that values diversity, service, and leadership as an enduring commitment to professionalism and the highest ethical standards.

## Courses Offered

- **M. V. Sc. in Veterinary Biochemistry**
- **Ph. D. in Veterinary Biochemistry**
- **M. V. Sc. in Veterinary Physiology**
- **Ph. D. in Veterinary Physiology**

## Faculty

Name	Designation	Qualification	H index	Photo
Dr. S. K. Maurya	Professor & Head	Ph. D.	07	
Dr. Pramod Kumar	Assistant Professor	M. V. Sc.	03	
Dr. P. K. Maurya	Assistant Professor	Ph. D.	03	

## Supporting Staff

SN	Name	Designation
1.	Sri Nirbhay Singh	Laboratory Technician
2.	Sri Dinesh Pratap Singh	Typist cum clerk
3.	Sri D. N. Chaudhary	Laboratory Technician
4.	Sri Anil Kumar	Sweeper
5.	Sri Abdul Ahmad Khan	Attendant

## Salient Achievements

- Established a correlation between seminal plasma ascorbic acid level and semen morphology in buffalo semen.
- Established relationship of body conditioning scores and blood biochemical profile for nutritional status in animals. It was found that only physical methods are not sufficient for assessment of nutritional status, but must be combined with serum biochemical estimation.
- Polymorphism study of Prolactin gene in indigenous breeds of poultry revealed an association with egg production. This gene marker could be used for selection of layers at an early stage.
- Normal values of various blood metabolites and enzymes have been established in various stages of development.
- Research conducted in department found that oral administration of melatonin in sheep increased fertility percentage.
- The Livestock strain index (LSI) based on changes in Rectal Temperature (Tre) and Respiratory frequency (Rf) and comfort an Index based on Tg and Twb have been developed. The use of both these indices at farm level is recommended, as they are capable of indicating environmental and animal stress.
- Study was conducted for correlation of plasma concentration of leptin with insulin, GH, cortisol, vitamin E, total antioxidants and total immunoglobulins on supplementation of  $\alpha$ -tocopherol acetate and zinc. It was found that Leptin hormone improved body condition and energy metabolism during transition period in cross bred cows.

## Completed Research Projects

One research project entitled “Monitoring, Surveillance & forecasting of important livestock diseases in eastern U. P.” funded by RKVY, was completed.

- The faculty of the department was associated as Co-investigators with several RKVY funded research projects.

## Thrust Area of Research

- Molecular genetic studies of large animals.
- Protein profiles of various biological fluids.
- Biochemical studies of various biological fluids.
- Identification of molecular markers for production.

## Extension

- Radio/ TV talks: 20
- Participation in various National/ International conferences: 120

## Publications

- Research : More than 150
- Popular Articles : 30
- Books: 03.
- Manuals : 16
- Paper presented in Symposia/Seminar: More than 100
- Lecture given to trainees from field : 30
- Lead Papers: 20 in various conferences and seminars.

## Student Activities

Department annually organizes Institute level Veterinary Physiology quiz and selects a team of two students to participate in National level SAPI (Society of Animal Physiology of India) quiz.

- In 2018; our team got **second Runner-up** position in the competition on 06 October, 2018 at National Dairy Research Institute, Karnal, Haryana.



In 2020, our team got **First Runner-up** position in the competition on January, 31<sup>st</sup>, 2020 at DUVASU Mathura.



• This year in 2023, our team got **First Runner-up** position in the competition on March, 2<sup>nd</sup>, 2023 at Banaras Hindu University.

### Laboratories





### Alumni of Department

Name of Alumni	Achievement
<b>Dr. Shiv Kumar Yadav</b>	<ul style="list-style-type: none"> <li>• Gold Medal at UG &amp; PG</li> <li>• Presently SMS at SVBPUAT Meerut</li> <li>• ICAR-NET</li> </ul>
<b>Dr. Brijendra Mani Yadav</b>	<ul style="list-style-type: none"> <li>• Gold Medal at PG</li> <li>• Wild life Veterinarian at Lucknow Zoo</li> </ul>
<b>Dr. Vikas Rai</b>	Presently in Higher Education as Ph.D. Scholar
<b>Dr. Abhishek Kumar</b>	Presently in Higher Education as Ph.D. Scholar

### The Way Forward

- To continue quality education in Veterinary Physiology and Veterinary Biochemistry using modern education technology to equip veterinarians to meet challenges in the field.
- To continue imparting diagnostic skills to the undergraduates and post graduates.
- To carry out research in the identified thrust areas.