

**DEPARTMENT OF VETERINARY PHYSIOLOGY & BIOCHEMISTRY**  
**COLLEGE OF VETERINARY SCIENCE & ANIMAL HUSBANDRY**  
**NDUAT, KUMARGANJ, FAIZABAD 224 229**

**OBJECTIVES:**

The department is actively engaged in various teaching activities along with consistent participation in the research and extension activities of the University.

**HISTORY OF THE DEPARTMENT:**

Since the inception of the College of Veterinary Science & A.H. in 1999; the Department of Veterinary Biochemistry and Veterinary Physiology were working separately. Both of these departments have been merged as per VCI norms in 2014. The department is offering B.V.Sc. & A.H. courses as per the Veterinary Council of India norms; M.V.Sc. and Ph. D. in Veterinary Biochemistry.

**FACULTY MEMBERS OF THE DEPARTMENT—**

At present department has following teaching staff.

SN	Name of the Faculty	Designation	Qualification	Email	Phone	Residential Address
1.	Dr. S. K. Maurya,	Assistant Professor	M.V.Sc.; Ph.D	<a href="mailto:skmaurya@yahoo.com">skmaurya@yahoo.com</a>	9415720187	7/14/16 D-1 Naka Faizabad 224001
2.	Dr. P. K. Chaudhary	Assistant Professor	M. V. Sc.	-	09199819366	On study leave
3.	Dr. P. K. Maurya	Assistant Professor	M. V. Sc.	<a href="mailto:dr.pankajmaurya3003@gmail.com">dr.pankajmaurya3003@gmail.com</a>	9415288261	B- 26 NDUAT campus, Kumarganj
4.	Dr. Pramod Kumar	Assistant Professor	M. V. Sc.	<a href="mailto:pihu012013@gmail.com">pihu012013@gmail.com</a>	9452725105	B- 24 NDUAT campus, Kumarganj

**SUPPORTING STAFF OF THE DEPARTMENT—**

SN	Name	Designation
1.	Sri Anil Kumar Singh	Laboratory Assistant
2.	Sri Nirbhay Singh	Laboratory Technician
3.	Sri Dinesh Pratap Singh	Typist cum clerk
4.	Sri L. B. Singh	Laboratory Assistant
5.	Sri D. N. Chaudhary	Laboratory Technician
6.	Sri Anil Kumar	Sweeper
7.	Smt. Shanti Devi	Animal Attendant
8.	Sri Abdul Ahmad Khan	Attendant

**COURSES OFFERED—**

**1. UG COURSES—**

The department offers following courses to B. V. Sc. & A. H. students as per VCI regulations.

SN	Course No.	Course Title	Credits
1.	VPB 111	Veterinary Physiology-I	2+1
2.	VPB 112	General Veterinary Biochemistry	1+1
3.	VPB 121	Veterinary Physiology-II	2+1
4.	VPB 122	Veterinary Intermediary Metabolism	2+1
5.	VPB 221	Veterinary Physiology-III	3+1
6.	VPB 321	Animal Biotechnology	2+1
7.	VLD 411	Vet. Clinical Biochemistry & Lab Diagnosis-I	0+1
8.	VLD 421	Vet. Clinical Biochemistry & Lab Diagnosis-II	0+1

## 2. PG COURSES—

At present department offers M. V. Sc. in Veterinary Biochemistry only. Following courses are offered to M. V. Sc. Students—

SN	Course No.	Course Title	Credits
1.	VBC 611	Basic concepts of Veterinary Biochemistry	2+1
2.	VBC 612	Chemistry of Carbohydrates & Lipids	2+1
3.	VBC 613	Chemistry of Proteins & Nucleic acid	2+1
4.	VBC 614	Biochemistry of Vitamin & Minerals	2+1
5.	VBC 615	Biochemistry of enzymes & hormones	2+1
6.	VBC 620	Molecular Biology & recombinant DNA Tech.	3+1
7.	VBC 621	Metabolism of Carbohydrates & Lipids	3+0
8.	VBC 622	Metabolism of Proteins & Nucleic acid	3+0
9.	VBC 624	Concepts of Animal Biotechnology	2+0
10.	VBC 625	Analytical and clinical biochemistry	2+2
11.	VBC 690	Special Problem	0+2
12.	VBC 691	Seminar	0+1
12.	VBC 700	Thesis Research	0+15

## 3. Ph.D. COURSES—

At present department offers Ph. D. in Veterinary Biochemistry only. Following courses are offered to Ph. D. Students—

SN	Course No.	Course Title	Credits
1.	VBC 711	Advances in Intermediary Metabolism	2+0
2.	VBC 712	Endocrine Control of fuel metabolism	2+0
3.	VBC 713	Advances in mineral & vitamin metabolism	2+0
4.	VBC 714	Advances in biochemistry of ruminant disorder	2+0
5.	VBC 715	Nutritional Biochemistry	0+2
6.	VBC 716	Diagnostic Enzymology-I	2+0
7.	VBC 717	Advances in Techniques in Biochemistry	0+2
8.	VBC 721	Advances in Enzymology	2+0
9.	VBC 722	Advances in Clinical Biochemistry	0+2

10.	VBC 723	Biochemistry of Development & Differentiation	2+0
11.	VBC 724	Membrane Dynamics & Signal Transduction in Animal Cell	2+0
12.	VBC 725	Methods in Protein Analysis	2+1
13.	VBC 726	Diagnostic Enzymology-II	2+0
13.	VBC 790	Special Problem	0+2
14.	VBC 791	Doctoral Seminar I	0+1
15.	VBC 792	Doctoral Seminar II	0+1
16.	VBC 799	Doctoral Research	40+5

### Laboratory Manuals Prepared

SN	Title
1	Practical manual of “Animal Biotechnology” (VPB-321)
2	Practical manual of “Veterinary Intermediary Metabolism” (VPB-122)
3	Practical manual of “General Veterinary Biochemistry” (VPB-112)
4	Practical manual of “Clinical Veterinary Biochemistry” (VBC-411)
5	Practical manual of “Physiological Chemistry” (VBC-121)
6	Practical manual of “Molecular Biology & Biotechnology” (VBC-122)
7	Practical manual of “General Veterinary Biochemistry” (VBC-111)
8	Practical manual of Veterinary Physiology-I
9	Practical manual of Veterinary Physiology-II
10	Practical manual of Veterinary Physiology-III

### RESEARCH ACTIVITY

- **Post Graduate Thesis Research**
- **Thrust Area of Research:** it includes—
  - Genomics and molecular genetic studies of large animals.
  - Proteomic studies of various biological fluids.
  - Biochemical studies of various biological fluids.

#### Research Projects:

Department is currently engaged in the running of following projects--

SN	Name of the Project	As PI or Co-PI	Funding Agency
1	Conservation of superior germplasm through establishment of modernized frozen semen bank for genetic improvement of cattle & buffaloes in eastern U.P.	Co-PI	RKVY
2	Conservation and performance recording of Murrah buffaloes in eastern UP	Co-PI	RKVY
3	Conservation, propagation & track development of Sahiwal breed of cattle	Co-PI	UPCAR
4	Establishment of regional pesticide residual analysis laboratory	Co-PI	RKVY

### PUBLICATIONS

## [I.] RESEARCH PAPERS—

### (a.) International

- **Maurya, S. K.** and O. P. Singh (2015). Assessment of blood biochemical profile and nutritional status of buffaloes under field conditions. *Buffalo Bulletin*, 34(2): 161-167.
- **Maurya, P. K.;** O. K. Hooda, B. K. Chaudhari, A. K. Singh, A. K. Pandey and R. Kushwaha (2012). Role of Vitamin E and Zinc in Cellular Adaptation, Oxidative Stress and Metabolic Stress in Dairy Animals- A Review. *Wayamba Journal of Animal Science – ISSN: 2012-578X-1345705018*.
- Bijay Kumar Chaudhari, J. K. Singh, M. Singh, **P. K. Maurya** and A. K. Singh (2012). Management of Reproductive Performance in Buffalo during Summer Season. *Wayamba Journal of Animal Science – ISSN: 2012-578X-1347656567*.
- Mahendra Singh, Bijay Kumar Chaudhari, J. K. Singh, A. K. Singh and **P. K. Maurya** (2013). Effects of Thermal Load on Buffalo Reproductive Performance during Summer Season. *Journal of Biological Sciences*, 1(1): 1-8.

### (b.) National—

- **Maurya, S. K.** (2009). Allele Frequencies And PIC Values of Microsatellites in Three South Indian Cattle Breeds. *Ind. Vet. J.* 86(2): 120-122.
- **Maurya, S. K.,** Sushant Srivastava & R. K. Joshi (2009). Retroviral Vectors and Gene Therapy: An update. *Indian Journal of Biotechnology*, 8(4): 349-357.
- Yadav Vibha, R. K. Joshi & **S. K. Maurya.** (2009). Isolation, Identification, Serotyping & Antibiogram of *Escherichia coli* from diarrhoic poultry. *J. Vet. Pub. Hlth.*, 7 (2): 145-147.
- **Maurya, S. K.,** O. P. Singh & Sushant Srivastava (2013). Seminal plasma ascorbic acid level and its relationship to sperm characteristics in Murrah buffalo bulls. *Ind. J. Anim. Sci.* 83(5): 498-501.
- Pankaj Kumar Maurya, Anjali Aggarwal, S. V. Singh, Gulab Chandra, A. K. Singh and B.K. Chaudhari (2014). Effect of vitamin E and zinc on cellular antioxidant enzymes in Karan Fries cows during transition period. *Indian J. Anim. Res.*, 48(2): 109-119.
- A.K. Singh, S. Pandita, G. Chandra, **P. K. Maurya** and B.K. Chaudhari (2014). Effect of age on nitric oxide level in Murrah buffalo (*Bubalus bubalis*) neonates. *Indian J. Dairy Sci.*, 67(5): 437-440.
- **Pankaj Kumar Maurya,** Anjali Aggarwal, B. K. Chaudhari, A. K. Singh and Ovais Aarif (2013). Cellular Adaptation and Antioxidant Activities in cross-bred cows during transition period. *Indian Vet. J.*, 90(8): 11-14.
- **Pankaj Kumar Maurya,** Anjali Aggarwal, B.K. Chaudhari, A. K. Panday and P. S. Maurya (2013). Effect of  $\alpha$ -tocopherol acetate and zinc supplementation on immunity and reproductive health of Karan Fries cows during dry period and early lactation. *Veterinary Practitioner*, 14(1): 153-156.
- A.K. Singh, S. Pandita, R.C. Upadhyay, G. Chandra, B.K. Chaudhari and **P. K. Maurya** (2013). Effect of Pre-Partum Supplementation of Vitamin E to Murrah Buffaloes on Metabolic Adaptation and Growth Performance of Calves. *Indian J. Anim. Res.*, 47 (3): 196-204.
- Amit Kumar Pandey, Devi Singh Rajput, **Pankaj Kumar Maurya** (2012). Tools And Procedures Used In Embryo Micromanipulation. *RVJI*, Vol 8, No. II: 64-67.
- **Pankaj Kumar Maurya,** A. K. Singh, B. K. Chaudhari, D. Kumar, R. S. Sharma and Ajay Kumar (2012). Effect of leptin on metabolic hormones, energy

metabolites, immunity and reproduction in farm animals- A Review. *Agri. Reviews*, 33(4): 273-282.

- B. K. Chaudhari, M. Singh, **P. K. Maurya**, A. K. Singh and J. K. Singh (2013). Stress Markers in the Plasma and Milk of Murrah Buffaloes during Summer. *Agri. Reviews*, 34(1): 21-35.

## [II.] Abstract/ Paper presented in Conferences/ Symposia and Seminars—

### (a.) International--

- **Maurya, S.K.**; Sushant Srivastava, O. P. Singh & P. K. Singh. (2010). Reproductive Performance of Cattle & Buffaloes under field condition. International Symposium on “Biotechnologies for optimization of reproductive efficiency of farm & companion animals to improve global food security & human health” and 25<sup>th</sup> convention of ISSAR, College of Vet. Sc., GBPUAT, Pant Nagar, U. S. Nagar, Uttarakhand Nov. 10-12, 2010; page: 67.
- Srivastava, S.; **S. K. Maurya** & P. K. Singh. (2010). Relationship of seminal plasma Ascorbic acid levels with sperm morphology in Buffalo. International Symposium on “Biotechnologies for optimization of reproductive efficiency of farm & companion animals to improve global food security & human health” and 25<sup>th</sup> convention of ISSAR, College of Vet. Sc., GBPUAT, Pant Nagar, U. S. Nagar, Uttarakhand Nov. 10-12, 2010; page: 7.
- Srivastava, S.; **S. K. Maurya** & P. K. Singh. (2010). Effect of amino acids on cryo preservation of Buffalo Spermatozoa. International Symposium on “Biotechnologies for optimization of reproductive efficiency of farm & companion animals to improve global food security & human health” and 25<sup>th</sup> convention of ISSAR, College of Vet. Sc., GBPUAT, Pant Nagar, U. S. Nagar, Uttarakhand Nov. 10-12, 2010; page: 9.

### (b.) National--

- Devi, K. S.; A. K. Gangwar; S. Sachan; Amit Singh & **S. K. Maurya**. (2011). Comparative evaluation of xylazine-ketamine and xylazine-ketamine-propofol anesthetic procedures in rats. National symposium on “New paradigm in laboratory animal science in an era of advanced biomedical research” organized by centre of animal disease research & diagnosis (CADRAD); Indian Veterinary Research Institute, Izatnagar, Bareilly on January 28-29, 2011. Page 45.
- **Maurya, S. K.** & O. P. Singh. (2012). Production performance of dairy cattle under field conditions. National Symposium on “Improvement of Livestock Productivity through Conventional Breeding and Emerging Technologies in changing Global Scenario - Challenges, Prospects and Retrospects” & XII Annual Conference of the Indian Society of Animal Genetics & Breeding; Department of Animal Genetics and Breeding, College of Veterinary Science, Hyderabad 500030; November 22nd & 23rd, 2012; Abstract No.: **B 01** page:78.
- **Maurya, S. K.** & O. P. Singh. (2012). PCR-RFLP analysis of mitochondrial DNA in Sahiwal cattle. National Symposium on “Improvement of Livestock Productivity through Conventional Breeding and Emerging Technologies in changing Global Scenario - Challenges, Prospects and Retrospects” & XII Annual Conference of the Indian Society of Animal Genetics & Breeding; Department of Animal Genetics and Breeding, College of Veterinary Science, Hyderabad 500030; November 22nd & 23rd, 2012; Abstract No.: **C 34** page: 135.

- **Maurya, S. K.** & O. P. Singh. (2013). Blood biochemical profiles for assessment of nutritional status of cattle under field conditions. “100th Indian Science Congress” Indian Science Congress Association; Calcutta University, Kolkata, January 3 to 7, 2013. Abstract number VSA P-60; page: 339.
- **Maurya, S. K.;** S. Srivastava; S. R. Mishra & S. S. Kashyap. (2013). Trends in livestock diseases in eastern Uttar Pradesh: impact of climate change. National symposium on “Emerging pollutants and pathogens due to climate change: challenges and risk reduction” organized at NDUAT, Kumarganj, Faizabad by the academy of environmental biology, India; March, 08-09, 2013 (Abstract No. 076); page: 78.
- **Maurya, S. K.;** S. Srivastava & S. S. Kashyap. (2013). Blood biochemical profiles of cattle of farmers having different landholding capacities. National symposium on “Emerging pollutants and pathogens due to climate change: challenges and risk reduction” organized at NDUAT, Kumarganj, Faizabad by the academy of environmental biology, India; March, 08-09, 2013 (Abstract No. 094); page: 91.
- S. S. Kashyap; P. S. Pramanik & **S. K. Maurya.** (2013). Effect of stocking density on weekly body weight gain of commercial broilers. National symposium on “Emerging pollutants and pathogens due to climate change: challenges and risk reduction” organized at NDUAT, Kumarganj, Faizabad by the academy of environmental biology, India; March, 08-09, 2013 (Abstract No. 095); page: 91.
- Srivastava, S; S. K. Maurya; O. P. Verma; V. K. Singh & Rachna Varma. (2013). Improvement of semen quality in Murrah buffalo bulls during heat stress by supplementing bypass fat. National symposium on “Emerging pollutants and pathogens due to climate change: challenges and risk reduction” organized at NDUAT, Kumarganj, Faizabad by the academy of environmental biology, India; March, 08-09, 2013 (Abstract No. 044); page: 54.
- Srivastava, S; S. K. Maurya; O. P. Verma; V. K. Singh & Rachna Varma. (2013). Seasonal influence on seminal attributes in Murrah bull under the agro climate condition of Purvanchal. National symposium on “Emerging pollutants and pathogens due to climate change: challenges and risk reduction” organized at NDUAT, Kumarganj, Faizabad by the academy of environmental biology, India; March, 08-09, 2013 (Abstract No. 046); page: 56.
- **Maurya, S. K.,** O. P. Singh & Sushant Srivastava. (2013). A comparative study on polypeptide profiles of seminal plasma and sperm characterization of Murrah buffaloes. “First UP Agricultural Science Congress” organized at N. D. U. A. T., Kumarganj, Faizabad on 17-19 August, 2013; page 81.
- **Maurya, S. K.,** O. P. Singh, S. S. Kashyap & Sushant Srivastava. (2013). Production performance of dairy cattle in Sultanpur district of Uttar Pradesh. “First UP Agricultural Science Congress” organized at N. D. U. A. T., Kumarganj, Faizabad on 17-19 August, 2013; page 134.
- **Maurya, S. K.,** O. P. Singh, S. S. Kashyap & Sushant Srivastava. (2013). Biochemical profiles and nutritional status of cattle under field conditions. “First UP Agricultural Science Congress” organized at N. D. U. A. T., Kumarganj, Faizabad on 17-19 August, 2013; page 260.
- **Maurya, S. K.** and O. P. Singh. (2014). Seminal Plasma Proteins and its correlation with Sperm Characteristics in Buffaloes. 2<sup>nd</sup> SVSBT National Seminar organized at College of Veterinary Science, Mathura, on March 06-07, 2014; page: 87.
- **Maurya, S. K.** and O. P. Singh. (2014). Mitochondrial DNA Analysis in Sahiwal Cattle. 2<sup>nd</sup> SVSBT National Seminar organized at College of Veterinary Science, Mathura, on March 06-07, 2014; page: 88.

- **Pankaj Kumar Maurya**, Anjali Aggarwal, A. K. Singh, B. K. Chaudhari, Bhabesh Mili and Nazir Ahmad Mir (2012). Influence of  $\alpha$ -tocopherol acetate and zinc supplementation on body condition, Energy metabolites and health of high yielding cross bred cows. Page 67. Abstract, XXI Annual Conference and National Symposium on “*Physiological Research in Changing Environmental Scenario for Sustainable Livestock and Poultry Production*” Nov. 6-8, 2012 at Navsari Agriculture University, Navsari, Gujarat.
- A. K. Singh, S. Pandita, R. C. Upadhyay, G. Chandra, **P. K. Maurya** and B. K. Chaudhari (2012). Effect of prepartum supplementation of vitamin E to Murrah buffaloes on lymphocyte function of calf. Page 68. Abstract, XXI Annual Conference and National Symposium on “*Physiological Research in Changing Environmental Scenario for Sustainable Livestock and Poultry Production*” Nov. 6-8, 2012 at Navsari Agriculture University, Navsari, Gujarat.
- **Pankaj Kumar Maurya**, Anjali Aggarwal, A. K. Singh, B. K. Chaudhari, A. H. Ganaie and Bharath Kumar B. S. (2012). Effect of vitamin E and zinc on cellular antioxidant enzymes in Karan Fries cows during transition period. Page 73. Abstract, XXI Annual Conference and National Symposium on “*Physiological Research in Changing Environmental Scenario for Sustainable Livestock and Poultry Production*” Nov. 6-8, 2012 at Navsari Agriculture University, Navsari, Gujarat.
- Bijay Kumar Chaudhari, Mahendra Singh, A. K. Singh, J. K. Singh and **P. K. Maurya** (2012). Physiological responses in Murrah buffaloes exposed to mist and fan. Page 187. Abstract, XXI Annual Conference and National Symposium on “*Physiological Research in Changing Environmental Scenario for Sustainable Livestock and Poultry Production*” Nov. 6-8, 2012 at Navsari Agriculture University, Navsari, Gujarat.
- B. K. Chaudhari, M. Singh, **P. K. Maurya**, J. K. Singh, A. K. Singh and M. M. Vaidya (2012). The effect of Mist and Fan on Dairy Performance of Buffalo during Summer Season. Page 47, Abstract, National seminar and XX<sup>th</sup> Annual Convention of ISAPM, January 28-30, 2013.
- **Pankaj Kumar Maurya**, Anjali Aggarwal, A. K. Singh, B. K. Chaudhari, Nazir Ahmad Mir and A. K. Verma (2012). Level of Leptin in relation to Oxidative Stress, Milk Production and Composition in Crossbred Cows supplemented with Vitamin E and Zinc. Page 98, Abstract, National seminar and XX<sup>th</sup> Annual Convention of ISAPM, January 28-30, 2013.
- A. K. Singh, S. Pandita, R. C. Upadhyay, S. V. Singh, B. K. Chaudhari, **P. K. Maurya**, J. Chaudhari and N. Chaudhari (2013). Effect of prepartum supplementation of Vitamin E to Murrah Buffaloes on metabolic Adaptation of Calves. Page 44, Abstract, National seminar and XX<sup>th</sup> Annual Convention of ISAPM, January 28-30, 2013.
- **Pankaj Kumar Maurya**, Anjali Aggarwal, B. K. Chaudhari, A. K. Singh, M. M. Vaidya, Bhabesh Mili and Nazir Ahmad Mir (2013). Role of peripartum supplementation of  $\alpha$ -tocopherol acetate and zinc on milk production and in Crossbred Cows. Page 85, Abstract, National seminar on “*Technological and Policy Interventions for Sustainable Cattle Breeding in India*” March 14, 2013 at PDC, Meerut.
- Bijay Kumar Chaudhari, Mahendra Singh, **P. K. Maurya**, J. K. Singh, A. K. Singh and M. M. Vaidya (2013). Effect of mist and fan on dairy performance of buffalo during summer season. Page 89, Abstract, National seminar on “*Technological and Policy Interventions for Sustainable Cattle Breeding in India*” March 14, 2013 at PDC, Meerut.

- Bijay Kumar Chaudhari, Mahendra Singh, **P. K. Maurya**, J. K. Singh, A. K. Singh and M. M. Vaidya (2013). Endocrine responses to heat stress in Murrah buffalo during summer season. Page 90, Abstract, National seminar on “*Technological and Policy Interventions for Sustainable Cattle Breeding in India*” March 14, 2013 at PDC, Meerut.
- **Pankaj Kumar Maurya, Pramod Kumar**, P. K. Choudhary, Sachin Kumar, Pawan Kumar Maurya and V. K. Pal (2013). Cellular adaptation and antioxidant activities during peripartum period in cross-bred cows supplemented with vitamin E and zinc. Page 47. Abstract, Alumni meet and National seminar on “*Frontier Agriculture-2013*” April 20-21, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- **Pankaj Kumar Maurya**, A. K. Singh, B. K. Chaudhari, Pawan Kumar Maurya and Ovais Aarif (2013). Effect of Leptin on Metabolic Hormones, Energy Metabolites, Immunity and Reproduction in Farm Animals. Page 49. Abstract, Alumni meet and National seminar on “*Frontier Agriculture-2013*” April 20-21, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- A. K. Singh, S. Pandita, R. C. Upadhyay, B. K. Chaudhari, **P. K. Maurya**, and Ovais Aarif (2013). Effect of Vitamin E Supplementation on Lymphocyte Function of Murrah Buffaloes Calves. Page 50. Abstract, Alumni meet and National seminar on “*Frontier Agriculture-2013*” April 20-21, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- **Pankaj Kumar Maurya**, A. K. Singh, B. K. Chaudhari, S. K. Dash, Pawan Kumar Maurya and Ovais Aarif (2013). Relationship of Micronutrients and Metabolic Hormone Profile of Cross-bred Cattle during Peripartum Period. Page 137. Extended Summary, First U.P. Agricultural Science Congress “Emerging Challenges and Resource Management for Food Security” August 17-19, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- **Pramod Kumar**, Rajesh Yadav, **P. K. Maurya**, P. K. Choudhary, A. K. Verma and Rabindra Kumar (2013). Study on Body Weight Pattern for Better Management of Sahiwal Animals. Page 138. Extended Summary, First U.P. Agricultural Science Congress “Emerging Challenges and Resource Management for Food Security” August 17-19, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- **Pankaj Kumar Maurya, Pramod Kumar**, P. K. Choudhary, Rabindra Kumar, Rajesh Kumar, A. K. Verma and Pawan Kumar Maurya (2013). Effect of Micronutrients on Productive and Reproductive Performance of Cross-bred Cattle. Page 256. Extended Summary, First U.P. Agricultural Science Congress “Emerging Challenges and Resource Management for Food Security” August 17-19, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- Rabindra Kumar, Atul Saxena, Sushant Shrivastava, Rajesh Kumar, **Pankaj Kumar Maurya** and Pramod Kumar (2013). Abnormalities of the Tubular Genital Organ of Buffalo Leading to Infertility. Page 259. Abstract, National seminar on “*First UP Agricultural Science Congress*” August 17-19, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- Ajeet Kumar Verma, Rajesh Verma, Vikas Singh, **Pramod Kumar** and **Pankaj Kumar Maurya** (2013). Comparative Studies on the Survivability Rate of Chicks of RIR, Kadaknath and Aseel Fowls. Page 50. Abstract, National seminar on “*First UP Agricultural Science Congress*” August 17-19, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.
- Rabindra Kumar, Rajesh Kumar, **Pramod Kumar, P. K. Maurya** and Vibha Yadav (2014). Bovine Cesarean Operation in the field Conditions. Page 69. Abstract



“8<sup>th</sup> Convention of UP Chapter of Indian Society for Veterinary Surgery”  
March 1, 2014 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.

- Rabindra Kumar, Rajesh Kumar, **Pramod Kumar** and **Pankaj Kumar Maurya** (2014). Correction and Management of Uterine Prolapse and Retained Placenta in Bovine in District Faizabad. Page 72. Abstract “8<sup>th</sup> Convention of UP Chapter of Indian Society for Veterinary Surgery” March 1, 2014 at N.D.U.A. &T. Kumarganj, Faizabad, U.P.
- **Pankaj Kumar Maurya** and Anjali Aggarwal (2014). Effect of Micronutrients on Lymphocyte Proliferation in Cross Bred Cows during Peripartum Period. Page 106. Abstract, International Conference on “Challenges and Opportunities in Animal Health at the Face of Globalization and Climate Change” October, 30-November-1, 2014 at DUVASU, Mathura.
- Pankaj Kumar Maurya and Anjali Aggarwal (2014). Plasma Vitamin E and Leptin Hormone in Relation to Milk Production in High Yielding Crossbred Cows. Page 60. Abstract, International Symposium on “Per-Urban Agriculture for Improving Livelihood Opportunities” November 25-26, 2014 at Institute of Financial Management Training and Research, Lucknow, U.P.
- Rabindra Kumar, Pramod Kumar, Mukesh Kumar and K.K.Tripathi (2015). Management of postpartum complete uterine prolapse in buffalo. Page 43. Paper, National seminar on “Recent Trends in Commerce and Management.” February 22-23, 2015 at, D.D.U.Govt. Post Graduate College, Saidabad, Allahabad, U.P.
- Rabindra Kumar, Atul Saxena, Sushant Srivastava, Rajesh Kumar, Pankaj Kumar Maurya and Pramod Kumar (2013). Association between Composite Hygiene Score and Udder Health. Page 259. Abstract, National seminar on “First UP Agricultural Science Congress” August 17-19, 2013 at N.D.U.A.&T. Kumarganj, Faizabad, U.P.

### [III. Popular Articles—

- **Maurya, S. K.**, Om Prakash, S. S. Kashyap and Sushant Srivastava. (2013). i 'kq/ka ea FkuSyk jks% y{k.k] dkj.k o cptoA LVkj df'k% viSy& 2013%28&29-
- **Maurya, S. K.**, Om Prakash, S. S. Kashyap and Sushant Srivastava. (2013). eqfxZ;ksa esa Vhdk dj.kA LVkj df'k% tu& 2013%7&8-
- idt dekj ek\$Z ,oa vthr dekj oekZ ½2014½ dDdV ikyu dk [kk | I j{k.k ea ; ®xnku A LVkj Ñf'k] [k.M II] va XIII] uoEcj] 2014A

### EXTENSION ACTIVITIES:

1. Delivering Radio talks at All India Radio, Faizabad.
2. Participating in Kisan Mela organized by the University.
3. Participated in convocation of the University.
4. Acting as resource person during various trainings of of field veterinarians, paravets and farmers.