

DUVASU

ANNUAL REPORT

दुवासु

वार्षिक प्रतिवेदन

2011-12



**U. P. Pandit Deen Dayal Upadhyaya Pashu-Chikitsa Vigyan Vishwavidyalaya
Evam Go Anusandhan Sansthan (DUVASU), Mathura - 281001 (U.P.) INDIA**

**उ. प्र. पंडित दीन दयाल उपाध्याय पशु चिकित्सा विज्ञान विश्वविद्यालय
एवं गो अनुसंधान संस्थान (दुवासु), मथुरा - 281001 (उ. प्र.) भारत**

DIGNITARIES VISITED



Sh. Jayant Chaudhary, Hon'ble MP, Mathura
in TVCC



Dr. K.M.L. Pathak, Deputy Director General (A.S.), ICAR
interacting with student at ILFC



Dr. Gaya Prasad, Asst. Director General (A.H.), ICAR
in disease diagnostic lab in TVCC



Dr. Kirti Singh, Ex Chairman, ASRB, ICAR
and Ex Vice-Chancellor NDUAT, Faizabad in KVK



Dr. K. Pradhan, Ex- Vice Chancellor, RAU, Bikaner &
OAU, Bhubhneswar in TVCC



Dr. Sri Krishna Garg, Ex- Vice Chancellor, DUVASU,
Mathura in TVCC

CONTENTS

Foreword	III
प्रास्ताविक	IV
Executive Summary	V
कार्यकारी सारांश	IX
University Mission, Vision & Mandate	XIII
University Challenges and Targets	XIV
I. Introduction	1
II. Organizational setup	2
A. Authorities of the University	2
B. Organisational Meetings	5
C. Officers of the University	5
III. Teaching	6
A. Teaching Institutes	6
B. Clinical Services	7
C. Experiential Learning Programmes	11
D. Internship Training Programme	15
E. Educational Tours	15
F. Academic Attainments of Students	15
G. Academic Research	16
H. Student Welfare Activities and Amenities	19
1. NCC	
2. Sports and Co-curricular Activities	
3. Extra Curricular Activities	
I. Other Academic Facilities	22
1. Library	
2. Agriculture Knowledge Management Unit	
3. Directorate of Counseling, Training and Placement	
IV. Research	24
A. Externally Funded Research Projects	24
B. Projects under RKVY	29
C. Academic Research	33
V. Extension	46
VI. University Farms	51
VII. Human Resource Development	54
VIII. Finance and Budget	58
IX. Estate Organization	59
X. Other Highlights and Activities	61
XI. Awards & Recognitions	64
XII. Dignitaries Visited the University	65
XIII. Research and Other Publications	66
XIV. Right to Information Act	70



Foreword



It gives me immense pleasure in placing the Annual Progress Report of UP Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan (DUVASU) for the year 2011-12 in your hands. University has exhibited tremendous progress in various activities and physical infrastructure since inception in the Year 2001. The efforts by the faculty, cooperation by the staff and support from students had remarkable impact in the outcome in terms of quality assurance in Veterinary education, research and extension services. The same could be gauged through the increase in number of students qualifying JRF and getting placed through on campus interviews.

Progress report provides an opportunity for SWOT analysis to any institution. Year 2011-12 has been full of activities in various aspects. The collective efforts have yielded results in filling up of teaching and non-teaching posts, implementation of VIth Pay commission pay scales and disbursal of arrears and provision of study leaves for improvement in faculty profile has been made by the Executive Council. The faculty and staff have strived for successful organization of PVT and PGET for 2011 admissions, organization of annual conferences of Indian Association of Veterinary Anatomists and Indian Association for the Advancement of Veterinary Parasitology. In terms of physical infrastructure, International hostel and Semen biology lab have been made functional, while work on toxicology laboratory and squash court has been initiated. District Dairy Demonstration Farm has been extensively renovated and rechristened as Instructional Livestock Farm Complex. With up-gradation of Kothari Veterinary Clinics to Teaching Veterinary Clinical Complex, upgradation of diagnostic and treatment facilities and regular organization of animal welfare and health camps in villages, there has been tremendous improvement in no. of clinical cases. For augmenting quality research output and offer better laboratory exposure to students, inter institutional linkages have been established through MoU with CIRG, Makhdoom and NDRI, Karnal.

We express our sincere thanks and gratitude to Sh. Jayant Chaudhary, Member Parliament, Mathura for providing finances for purchase of animal ambulance. Ample support from State Govt. and ICAR in the form of grants and projects is dutifully acknowledged. Sincere thanks are due to Dr. S. Ayappan, Secretary DARE, Govt. of India and Director General ICAR, Dr. Arvind Kumar, DDG (Education), Dr. KML Pathak, DDG (Animal Sciences), Dr. C. Devkumar, ADG (EDP), Dr. Gaya Prasad, ADG (Animal Health), Dr. R.K. Mittal ADG (EQR) and other officers of ICAR for their kind support. Increase in budget allocation by Govt. of UP in view of the increase in faculty strength and implementation of VIth pay commission is thankfully acknowledged. Chief Editor Prof. Satish K. Garg, Dean, College of Veterinary Sciences and Animal Husbandry, Editors Dr. Jitender Kumar, Associate Professor, Physiology and Coordinator Printing and Publication, Dr. A. K. Madan, Associate Professor, Physiology, Dr. Vikrant Sudan, Assistant Professor, Parasitology, Dr. Ruchi Tiwari, Assistant Professor, Microbiology deserve special words of appreciation for the efforts they have put in for timely publication of this report.

(A. P. Singh)





उत्तर प्रदेश पंडित दीन दयाल उपाध्याय पशु चिकित्सा विज्ञान विश्वविद्यालय एवं गौ अनुसंधान संस्थान, (दुवासु) के वार्षिक प्रतिवेदन, वर्ष 2011-12 संस्करण को आपके कर कमलों में सौंपते हुए मुझे अत्यन्त प्रसन्नता का अनुभव हो रहा है।

वर्ष 2001 में अपने उद्भव के बाद विश्वविद्यालय ने विभिन्न गतिविधियों तथा भौतिक बुनियादी ढाँचे के नव-निर्माण के क्षेत्र में बहुमुखी उन्नति की है। संकाय के सदस्यों द्वारा किये गये समुचित प्रयासों, विश्वविद्यालयीन कर्मचारियों के समन्वित कार्यपालन तथा छात्रों के निरन्तर सहयोग का ही सुखद परिणाम आज हमारे सामने पशु चिकित्सा के तीनों ही क्षेत्रों - शिक्षण, अनुसंधान तथा प्रसार सेवाओं की कार्यकुशलता में उन्नति के रूप में दृष्टिगोचर है। जे० आर० एफ० छात्रवृत्ति परीक्षा उत्तीर्ण करने वाले छात्रों तथा कैंम्प साक्षात्कार के माध्यम से नियुक्ति पाने वाले छात्रों की संख्या में वृद्धि उपरोक्त कथन की पुष्टि करती है।

किसी संस्थान के प्रगति प्रतिवेदन का प्रस्तुतीकरण उस संस्था के SWOT विश्लेषण का एक अवसर उपलब्ध कराता है, जिसके द्वारा विश्वविद्यालय निर्धारित दिशा में कार्य करने में सक्षम होता है। वस्तुतः परिकल्पित लक्ष्यों को प्राप्त करने की योजना का समुचित सर्वेक्षण हो पाता है। वर्ष 2011-12 कई दिशाओं में विविध गतिविधियों से संकलित रहा है।

सम्मिलित प्रयासों के परिणामस्वरूप विगत वर्ष में रिक्त शैक्षणिक व अन्य शैक्षिक पदों पर नियुक्तियाँ, वेतन आयोग द्वारा पष्टम आयमान का लागू किया जाना व रोप राशि का वितरण तथा कार्यकारी परिषद् द्वारा संकाय के सदस्यों द्वारा उच्च शिक्षा ग्रहण करने हेतु अध्ययन अवकाश का प्रावधान किया गया।

विश्वविद्यालय संकाय तथा कर्मचारियों के सहयोग से स्नातक प्रवेश परीक्षा तथा स्नातकोत्तर प्रवेश परीक्षा-2011 का सफल संचालन, भारतीय पशु शारीरिकी विज्ञान चिकित्सक संगठन व पशु परजीवी विज्ञान विशेषज्ञों के अखिल भारतीय संगठन के वार्षिक सम्मेलन का सुचारू रूप से आयोजन तथा भौतिक बुनियादी ढाँचे के क्षेत्र में, अंतर्राष्ट्रीय छात्रावास तथा कौर्य जैव विज्ञान प्रयोगशाला को कार्यरत कर दिया गया है तथा विषय विज्ञान प्रयोगशाला व स्कूरीश कोर्ट निर्माणाधीन हैं। जिला डेयरी प्रदर्शन प्रक्षेत्र का व्यापक स्तर पर पुनः निर्माण तथा निर्देशात्मक पशुधन, कोटरी पशु चिकित्सा क्लिनिक का शैक्षणिक पशु चिकित्सा वैज्ञानिक परिसर में उन्नयन तथा पशु विज्ञान चौपाल व कृषि विज्ञान केंद्र के माध्यम से पशु कल्याण हेतु पशु स्वास्थ्य शिविरों का नियमित रूप से परिचालन किया गया।

विश्वविद्यालय द्वारा वैज्ञानिक सुविधाओं के अधिक उपार्जन हेतु सी० आई० आर० जी० मखडूम संस्थान के साथ विगत वर्ष कार्यकारी समझौते की सहमति पर संस्तुति हुयी। इसी क्रम में आगे बढ़ते हुये इस वर्ष शोधकर्ताओं तथा छात्रों के कार्य कौशल में वृद्धि तथा सीमारहित अर्गत वैज्ञानिक सुविधाएँ प्राप्त करने हेतु एन० डी० आर० आई०, करनाल के साथ एक अन्य समझौते की सहमति पर हस्ताक्षर किये गये।

मैं माननीय श्री जयंत चौधरी जी, संसद सदस्य (मथुरा क्षेत्र) के प्रति पशु एम्बुलेंस के क्रय हेतु राशि प्रदान करने के लिए गहरा आभार प्रकट करता हूँ। राज्य शासन तथा भारतीय कृषि अनुसंधान परिषद् द्वारा दिये गये अनुदान व विभिन्न परियोजनाओं के रूप में प्रदत्त सहयोग के लिए मैं सहृदय आभारी हूँ। मैं डा० एस० अय्यप्पन, सचिव डा० ए० आर० ई०, भारत सरकार तथा महानिदेशक भा० कृ० अनु० परि०, डा० अरविंद कुमार, उपमहानिदेशक (शिक्षा), डा० के० एम० एल० पाठक, उप महानिदेशक (पशु विज्ञान), डा० सी० देव कुमार (सहायक महानिदेशक, ई० पी० डी०), डा० गया प्रसाद (सहायक महानिदेशक, पशु स्वास्थ्य), डा० आर० के० मिलाल (सहायक महानिदेशक ई० क्यू० आर०) तथा भा० कृ० अनु० प० के अन्य सभी अधिकारियों द्वारा समय-समय पर दी जाने वाली मदद हेतु विनम्र धन्यवाद व्यक्त करता हूँ।

संकाय के सदस्यों की संख्या में वृद्धि को देखते हुए 30 प्र० शासन द्वारा निर्धारित बजट में वृद्धि तथा पष्टम वेतन आयोग के कार्यान्वयन हेतु विशेष धन्यवाद करता हूँ। वार्षिक प्रतिवेदन की इस नवीन लिपि के सृजन तथा निर्धारित समय पर प्रकाशन हेतु सक्रिय सम्पादक मण्डल के प्रमुख सदस्य डा० सतीश के० गर्ग, अधिष्ठाता पशु चिकित्सा एवं पशु विज्ञान महाविद्यालय व प्रधान संपादक तथा संपादक वर्ग डा० जितेंद्र कुमार, सह आचार्य व समन्वयक मुद्रण एवं प्रकाशन, डा० ए० के० मदान, सह आचार्य, शरीर क्रिया विज्ञान, डा० विक्रान्त सूदन, सहा० आचार्य, पशु पारजैविकी विभाग तथा डा० रुचि तिवारी, सहा० आचार्या, सूक्ष्मजीव विज्ञान विभाग व विभाग के सभी कर्मचारी गण विशेष सराहना के पात्र हैं। अंततः इस वार्षिक प्रतिवेदन के प्रकाशन में निहित सभी के समुचित सहयोग हेतु मैं आप सभी को हार्दिक बधाई देता हूँ।

(ए० पी० सिंह)

Executive Summary



Govt. of Uttar Pradesh established U. P. Pandit Deen Dayal Upadhyaya Pashu-Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan, Mathura on 25.10.2001 with the erstwhile UP College of Veterinary Science & A.H., Mathura as its main constituent College through U. P. Act. No. 27 of 2001, to promote livestock production and productivity and address animal health through integrated teaching, research and extension programmes. University has 782.34 acres land at Mathura and around 1400 acres at Madhurikund, about 20 km from the main campus in addition to one Krishi Vigyan Kendra at Mathura. Presently, there are two faculties- college of Veterinary Sciences and College of Biotechnology. As envisaged in Act of the University, three other constituent Colleges, namely- College of Fisheries, College of Livestock Products Technology and College of Animal Industry and Business Management are likely to start in near future.

During the period under report (2011-12), one meeting of Executive Council and five meetings of Academic Council were held.

Teaching :

- Pre-Veterinary Test for admission to BVSc and AH programme was organized in two phases while admissions to Master's and PhD degree programmes were made on the basis of merit in PGET-2011.
- College of Veterinary Science and Animal Husbandry admitted 63, 31 and 05 students in BVSc & AH, MVSc and PhD degree programmes and 69, 24 and 03 students completed their respective degrees, while College of Biotechnology admitted two students in Masters programme.
- Two days orientation programme was organized for freshly admitted students of B.V.Sc & A.H. to acquaint them with about the University, academic programmess, importance of veterinary science, scope for veterinarian, course curriculum and extracurricular activities like NCC, NSS and sports.
- Teaching Veterinary Clinical Complex (TVCC) is well equipped for rendering diagnostic and treatment services and virtually serves as a referral Veterinary polyclinic, but not only animals are treated for different ailments but also the students get an opportunity for hands on training using latest diagnostic gadgets. Diagnostic laboratories have been strengthened for radio-diagnosis including ultrasonography, digital X-ray and blood biochemistry and urine- analysis. Operation theater and Intensive Care Unit equipped with C-arm image intensifier, electrically operated hydraulic large animal operation table, facilities for inhalation anaesthesia. Endoscope, laproscope, pulse oxymeter, electrocardiograph and solid-state surgical diathermy unit and minimally invasive diagnostic endoscopy facilities are other highlights of TVCC.
- Total number of clinical cases reported in clinics were 8678 and the revenue generated was Rs. 2,89,170.00 compared to 6736 cases and Rs. 2,32,850.00 revenue during 2010-11.
- 1045 diagnostic samples were handled in clinical diagnostic laboratory.
- Ambulatory services have been extended to nearby rural areas where large numbers of clinical cases were treated and at the same time, students got excellent rural working exposure.
- Emergency clinical services provided round the clock.
- A large animal ambulance fitted with hydraulic lift platform donated by Sh. Jayant Chaudhary, MP, Lok Sabha, Mathura has helped in extending scope of clinical activities.
- Indoor facility and Intensive Care Units are two other important components of the clinical complex.
- ICAR Junior Research Fellowship was qualified by seventeen students while, three students qualified Combined Entrance Examination of JNU Biotechnology Programme.
- Three students submitted their PhD and twenty four their MVSc theses for award of respective degrees.
- University library acquired 2595 books during the year and books strength in the library has gone upto 30575.
- The University has been connected to National Knowledge Network. All the offices and section of University are also connected through LAN. The students have been provided with internet access and computer facility in ARIS Cell. Internet connectivity has been provided in girl's hostel also.



- The training and placement cell conducted personality development programmes and invited Dr. R. S. Dalal former Registrar and Dr. A. K. Bhatnagar, Professor and Head, Department of Languages, CCS HAU, Hisar.
- Campus interviews were organized by Phoenix Group, Allana Group and Indian Immunologicals Limited and they selected 12, 10 and 16 students, respectively with handsome annual packages.
- Coaching classes were organized for ICAR-JRF examination and CSIR-JRF fellowship.

Research Activities :

- One new ICAR research project under Niche Area of Excellence in Department of Pharmacology and Toxicology has been sanctioned with a total outlay of Rs. 4.67 crores.
- Five externally funded research projects are in progress.
- Apart from already running four projects under RKVY, Govt. of UP sanctioned two new projects for 'Establishment of Toxicology laboratory' and 'Productivity Enhancement programme in selected Dairy Cooperatives' with an outlay of Rs. 260 lacs for both these projects.
- The research output resulted in one best paper award and three best poster awards. Also one faculty member was honored with fellowship of society and one faculty member was nominated to Hall of fame.

Extension Activities :

- Eight animal welfare and treatment camps in villages of Bhadauri, Mehrauli, Bhartiya, Mukundpur, Rampur, Hathauli, Chikuli and Karab were organized where more than 1325 animals have been treated.
- Department of Veterinary and Animal Husbandry Extension received second position for stall presentation in the Krishi Mela Evam Krishi Pradarshani, Kosi Kalan, Mathura.
- Three training programmes for capacity building and skill development of Veterinary Officers were organized.
- Three training programmes for Livestock Extension Officers were organized on Livestock Management and control of animal Disease through Validated extension methodologies.
- Twelve exposure-cum-training programmes were organized for farmers.
- Three Hundred Fifty Three trainings including sponsored and vocational trainings were organized by KVK benefitting 10431 individuals.
- Eight on-farm testing and thirty eight trials were conducted at 30 locations for eight different enterprises.
- To showcase the productivity potential of new technology on farmers' field, three hundred twenty two front line demonstrations over 100.20 hectares have been conducted.
- Quinquennial Review Team of Zone IV (UP and Uttarakhand) appreciated the work done during the review meeting in University and also visited ILFC, vermi-compost unit and KVK farm.
- Kisan mela was attended by about 1500 farmers where various government, semi-government, private firms and departments of college put up about 25 stalls to exhibit their technology development. In Mela, two magazines published by KVK and newsletter were also released.

Honours bestowed upon :

- Prof. A. P. Singh, Vice Chancellor, DUVASU was awarded with rank of Honorary Colonel, NCC. Dr. Rajneesh Sirohi, Assistant Professor, LPM was commissioned as Associate NCC Officer of I UPR & V Sqn, NCC Mathura.

Co-curricular and Sports Activities :

- Forty Four cadets qualified in B certificate examination while twelve cadets qualified in C certificate examination.



- NCC cadets exhibited horse show on closing ceremony of Annual Sports meet and donated blood in CATC Camp.
- All India Educational Tour was organized for 9th Semester B.V.Sc. & A.H. students and visited Bombay Veterinary College, Fisheries Institute at Goa, Veterinary College, Bangalore; TANUVAS, Chennai and Veterinary College, Hyderabad and Kolkatta.
- North India educational tour to NDRI, NBAGR, Karnal, CIRB, NRCE and Veterinary College, Hisar, Ludhiana and Palampur was organized for two batches of Eighth Semester students.
- A course tour for 5th semester students was organized to CARI and IVRI, Izatnagar.
- Annual Sports Meet was held on March 22-23, 2012, while Annual Cultural Programme was held on 23rd March, 2012. Literary events (Quiz, debate, essay and extempore), Fine arts events (Rangoli and Painting), slow cycling, musical chair for ladies and "Tug-of-War" between staff and students were special attractions. Dr. D. Swaroop, Director CIRG was the Chief Guest during closing function of the sports meet.
- Eighteen students of College of Veterinary Sciences & A.H. Mathura participated in All India Veterinary Colleges Badminton, TT and professional quiz competition organized by GBPUAT, Pant Nagar.
- Seventeen students participated in All India Inter University Youth Festival at NDRI, Karnal and won four first prizes in antakshari, solo light vocal, group Hindi filmi song and four second prizes in quiz, group (folk) and skit.
- Fresher's Day was organized with presentation of cultural events by first year students.
- Mr. Ashish Kumar, Km. Vishakha and Km. Deepanka excelled in Zydus AHL drawing and painting competition.

University Farms :

- Madhuri Kund farm produced fodder seed for National Seed Corporation, UP Seed Corporation and State Animal Husbandry Department under RKVY on an area of 1071.84 Acre with the production of 5103.94 quintals. For improving working efficiency at the farms, five harrows, three rotavater and one straw reaper were procured. The farm receipts for the year 2010-2011 finalized during this year was more than 1.2 crore.
- Almost all buildings of ILFC have been extensively renovated with the financial support from ICAR under modernization of farms. About 264 cattle (Hariana, Sahiwal, Hariana-cross breed) and 68 buffaloes are being reared. The total milk production of the farm was 1, 38, 866 liters compared to that of 1, 30, 499 liters during 2010-11.
- 110 acres of attached agricultural land was used for production of grains (674.35 quintals) and green fodder (15546.69 quintals) during different seasons of the year generating revenue of Rs. 38.66 lacs compared to that of Rs. 30.50 lacs during 2010-11.
- On poultry farm, broiler chickens, Japanese quail and turkey layers, cockerels, Aseel, Kadknath, Naked neck birds, Aseel peela birds, Guinea fowls and turkeys etc. are being reared for teaching and research purposes.
- Three entrepreneurial trainings were organized involving BVSc and AH students.

Human Resource Development :

Faculty recruitment :

- Seventeen faculty members including 1 professor, 2 associate professors and 14 assistant professors in College of Veterinary Science & Animal Husbandry, while two subject matter specialist in KVK were selected.

Symposia Organized:

- A three day XXVI Annual Convention of Indian Association of Veterinary Anatomists and National Symposium on 'Application of Structural Dynamics of Animals and Birds in relation to Health and Production with special reference to Biotechnology and Immunology' was organized by the Department of Anatomy & Histology.

- XXII National Congress of Veterinary Parasitology and National Symposium on 'Integrated Research Approaches in Veterinary Parasitology: From Basic to Molecular techniques' was organized by Department of Parasitology for three days.
- A five day 'Training Programme on Data Analysis using SAS' under NAIP project on 'Strengthening Statistical Computing for NARS' was jointly organized by DUVASU, Mathura and IASRI, New Delhi from 16-21 May, 2011 at DUVASU, Mathura wherein 28 faculty members and 15 PG and PhD scholars participated.

Faculty Development :

- Twenty four faculty members attended different trainings /short courses/ Winter/Summer Schools for augmentation of their professional competence
- Twenty nine faculty members attended different conferences/symposia/ seminars all over India and presented their research findings.

Infrastructure Added :

- International Hostel with a total cost of 100 lacs from Indian Council of Agricultural Research and Semen Biology Laboratory at a total cost of 43.5 lacs under RKVY from state government.
- Animal Feed Technology Unit, Animal Feed Godown, Dana choker Godam, nineteen toilets for IVth class employee quarters, underground irrigation channels of Pasteur land, tube-wells and roads in livestock farm with financial assistance from ICAR.
- Renovation of Polyclinic, ICU, Cattle sheds and paddocks at ILFC with financial assistance from ICAR.
- Repair of the boundary wall, poultry unit, dairy unit and fish seed production unit; Renovation of implement sheds and workshop at Madhurikund farm, diagnostic lab at TVCC and Pharmacology Laboratory have been carried out from ICAR strengthening and development grant.
- Foundation stone has been laid for establishment of Toxicology Laboratory and Squash Court. Girl's hostel is in its finalizing stages and is expected to be functional from next academic year.

Finance and Budget :

- The University received Rs. 4.00 crore as a result of cost escalation for construction of College of Fisheries and College of Livestock Products Technology from Govt. of UP.
- State Govt. provided a total budget of Rs. 433.23 lacs and 1685.9 lacs under the plan and non-plan schemes, respectively.
- Indian Council of Agricultural Research, New Delhi provided the financial assistance of Rs. 589.00 lacs under strengthening and development grant.
- University received a sum of Rs. 375.00 lacs under RKVY projects.

Other Activities :

- To augment the cultural life on the University and imparting sense of belongingness to one and all on the campus, University organized Ambedkar Jayanti, Independence Day, Pandit Deen Dayal Upadhyaya Jayanti, Gandhi Jayanti, University foundation day, Republic Day and University foundation day.
- World Veterinary day was celebrated with organization of vaccination and deworming camp for pets and infertility management in large animals.
- Celebrated World Veterinary Year with organization of two national symposia and conventions, one workshop on sciences and journalism and a series of invited lectures by eminent speakers- Dr. A. K. Srivastava, Director, NDRI; Dr. Gaya Prasad, ADG (AH), ICAR; Dr. Simrat Sagar Singh, Ex-Dean Veterinary College, GADVASU; Dr. Manoj Kumar, HOD, Biotechnology and Vaccination, Serum Institute of India; Dr. R. K. Vaid, Senior Scientist, VTCC and Dr. Satbir Josan, renowned private practitioner, Delhi and Gurgaon.



उ.प्र. सरकार द्वारा 25 अक्टूबर 2001 को उ.प्र. शासन के अधिनियम क्रमांक 27/2001 के अंतर्गत उ.प्र. पंडित दीन दयाल उपाध्याय पशु चिकित्सा विज्ञान विश्वविद्यालय एवं गौ अनुसंधान संस्थान, मथुरा की स्थापना की गयी जिसका मुख्य उद्देश्य पशुधन उत्पादन व उनकी उत्पादकता को बढ़ाकर एकीकृत शिक्षण, शोध व प्रसार कार्यक्रमों के सुनियोजित प्रयोग द्वारा पशु स्वास्थ्य में इजाफा करना था और इसी लक्ष्य को मूर्तरूप देखने हेतु पशु चिकित्सा एवं पशु विज्ञान महाविद्यालय को इस विश्वविद्यालय के मुख्य संघटक का स्थान दिया गया। विश्वविद्यालय के पास एक कृषि विज्ञान केन्द्र के साथ-साथ 782.34 एकड़ भूमि मुख्य परिसर में तथा 1400 एकड़ भूमि मुख्य परिसर से 20 किमी. दूर स्थित माधुरीकुण्ड प्रक्षेत्र पर उपलब्ध है। वर्तमान में विश्वविद्यालय के अंतर्गत दो संकाय कार्यरत हैं। प्रथम, पशु चिकित्सा एवं पशु स्वास्थ्य महाविद्यालय एवं द्वितीय, जैव प्रौद्योगिकी महाविद्यालय। विश्वविद्यालय के अधिनियम के तहत तीन अन्य परिकल्पित घटक महाविद्यालय - मत्स्य विज्ञान महाविद्यालय, पशुधन उत्पाद प्रौद्योगिकी महाविद्यालय तथा पशु उद्योग एवं व्यवसाय प्रबंधन महाविद्यालय के निकट भविष्य में शीघ्र ही कार्यरत हो जाने की आशा है।

वर्तमान में प्रस्तुत सूचना की अवधि (2011-2012) में कार्यकारी परिषद् की एक तथा शैक्षणिक परिषद् की पाँच बैठकें आयोजित की गयी।

शिक्षण कार्य :

- बी.वी.एस.सी. एवं ए.एच. पाठ्यक्रम में प्रवेश हेतु पूर्व पशु चिकित्सा परीक्षा (पी.वी.टी.) दो चरणों में आयोजित की गयी। तथापि स्नातकोत्तर व डॉक्टरेट उपाधि के पाठ्यक्रम में प्रवेश वर्ष 2011 की पी.जी.ई.टी. परीक्षा की योग्यता सूची के आधार पर दिया गया।
- पशु चिकित्सा एवं पशु पालन महाविद्यालय में 63, 31 तथा 5 छात्रों ने क्रमशः स्नातक, स्नातकोत्तर व डॉक्टरेट पाठ्यक्रम में प्रवेश लिया तथा 69, 24 व 3 छात्रों ने विगत वर्ष में इन पाठ्यक्रमों को सफलता पूर्वक पूरा किया। जैव प्रौद्योगिकी महाविद्यालय में 2 छात्रों ने स्नातकोत्तर की उपाधि हेतु प्रवेश लिया।
- बी.वी.एस.सी. एवं ए.एच. पाठ्यक्रम में प्रवेश लिये प्रथम वर्ष के छात्रों हेतु दो दिवसीय महाविद्यालय-ध्रमण कार्यक्रम उन्हें विश्वविद्यालय, शैक्षणिक मंत्र संबंधी, पशु चिकित्सा विज्ञान के महत्व, पशु चिकित्सा की महत्ता, पाठ्यक्रम की जानकारी तथा अतिरिक्त गतिविधियों जैसे खेल-कूद, एन.सी.सी. व एन.एस.एस. से परिचित कराने हेतु आयोजित किया गया।
- आधुनिक नैदानिक उपकरणों से सुसज्जित पशु चिकित्सा शिक्षण परिसर न केवल रोग का निदान व चिकित्सा सेवाएँ प्रदान करता है वरन् एक रेफरल पशु चिकित्सालय के रूप में कार्य करने के साथ-साथ पशुओं को नवीनतम नैदानिक सुविधाएँ तथा छात्रों को प्रशिक्षण के अवसर भी उपलब्ध कराता है। नैदानिक प्रयोगशालाओं की कार्यक्षमता में वृद्धि हेतु कई आधुनिक सुविधाएँ व उपकरण जैसे रेडियोग्रामों मापक उपकरण, अल्ट्रासोनोग्राफी, डिजिटल एक्स-विकिरण यंत्र, रक्त व मूत्र के नमूने का रासायनिक विश्लेषण जैसी सुविधाएँ उपलब्ध हैं। शल्य-क्रिया कक्ष तथा सघन चिकित्सा इकाई, सी-आर्म इमेज इन्टेसीफायर, बड़े आकार वाले पशुओं को शल्य क्रिया मेज पर पहुँचाने वाली विद्युत संचालित मशीन, सॉस द्वारा एनेस्थेसिया दिये जाने की सुविधा, एण्डोस्कोप, लैप्रोस्कोप, नाडी तथा हृदयदर मापने के यंत्र, ताप प्रयोग द्वारा की जाने वाली शल्य क्रिया तथा अंगों को कम से कम प्रभावित करके की जाने वाली नैदानिक एण्डोस्कोपी जैसी आधुनिक लाभदायक सुविधाओं से परिपूर्ण है।
- चिकित्सालय में वर्ष 2010-2011 में दर्ज 6736 चिकित्सकीय सूचनाओं की तुलना में विगत वर्ष दर्ज मामलों (8678) की संख्या में इजाफा हुआ है। इसी प्रकार राजस्व में भी 2,32,850 रु. की अपेक्षा 2,89,170 रु. बढ़ोत्तरी हुई है।
- चिकित्सकीय नैदानिक प्रयोगशाला में 1045 नैदानिक नमूनों की जाँच की गयी।
- निकट के ग्रामीण क्षेत्रों में चल चिकित्सकीय सुविधाओं को उपलब्ध कराया गया। बड़ी संख्या में रोगी पशुओं का उपचार किया गया साथ ही छात्रों को ग्रामीण परिस्थितियों में कार्य करने का अनुभव प्राप्त हुआ।
- आपातकालीन चिकित्सा सुविधाएँ दिन के प्रत्येक समय अर्थात् 24 घंटे उपस्थित रहती हैं।
- लोकसभा के मथुरा जिले के एम.पी. माननीय श्री जयंत बीधरी जी द्वारा बड़े पशुओं की एक एंबूलेंस प्रदान की गयी है जो हाइड्रोलिक लिफ्ट सुविधा से परिपूर्ण है। यह चलने में असक्षम पशुओं के इलाज में सहायक सिद्ध हुयी है, जिसके कारण चिकित्सकीय गतिविधियों का दायरा बढ़ाने में मदद मिली है।
- चिकित्सालय में पशुओं की रखने की सुविधा तथा गहन देखभाल इकाईयाँ चिकित्सकीय परिसर के दो अन्य प्रमुख घटक हैं।
- महाविद्यालय के 17 छात्रों ने आई.सी.ए.आर. नूनियर रिसर्च छात्रवृत्ति प्राप्त की जबकि तीन अन्य छात्रों ने जे.एन.यू. जैव प्रौद्योगिकी कार्यक्रम की संयुक्त प्रवेश परीक्षा उत्तीर्ण की।
- तीन छात्रों ने डॉक्टरेट तथा 24 छात्रों ने स्नातकोत्तर की उपाधि हेतु शोध पत्र प्रस्तुत किये।
- गत वर्ष में विश्वविद्यालय के पुस्तकालय ने 2595 पुस्तकों का अधिग्रहण किया, जिससे पुस्तकों की संख्या बढ़कर 30,575 हो गयी है। विश्वविद्यालय की राष्ट्रीय ज्ञान नेटवर्क से जोड़ा गया है। सभी कार्यालय तथा विश्वविद्यालय के अनुभाग आपस में लोकल एरिया नेटवर्क के



माध्यम से जुड़े हुये हैं। एरिस कोष में छात्रों को कम्प्यूटर के साथ-साथ इंटरनेट सुविधा भी प्रदान की गयी है। कन्या छात्रावास में इंटरनेट सुविधा दी गयी है।

- प्रशिक्षण एवं स्थापन कोष ने व्यक्तिगत विकास हेतु ज्ञानवर्धक कार्यक्रम आयोजित किया जिसके लिये विशेष रूप से डॉ. आर.एस. दलाल, पूर्व रजिस्ट्रार तथा डॉ. ए.के. भटनागर, प्रोफेसर एवं विभागाध्यक्ष, भाषा विभाग, सी.सी.एस. एच.ए.यू., हिसार को आमंत्रित किया गया।
- महाविद्यालय में फीनिक्स समूह, अलाना समूह तथा इंडियन इम्प्यूनोलाजिकल्स लिमिटेड द्वारा कैंम्पस साक्षात्कार आयोजित किये गये जिसमें क्रमशः 12, 10 तथा 16 छात्रों का आकर्षक वार्षिक आय के साथ चयन किया गया।
- आई.सी.ए.आर. जे.आर.एफ. परीक्षा तथा सी.एस.आई.आर. जे.आर.एफ. छात्रवृत्ति हेतु कोचिंग कक्षाओं का आयोजन किया गया।

अनुसंधान गतिविधियाँ :

- शैष्य एवं विष विज्ञान विभाग में उत्कृष्टता के अंतर्गत विष क्षेत्र (निश एरिया आफ एक्सीलेंस) के तहत भारतीय कृषि अनुसंधान परिषद् द्वारा अनुकृत 4.67 करोड़ की लागत वाली एक नयी अनुसंधान परियोजना को मंजूरी दी गयी है।
- पाँच वाह्य वित्तपोषित अनुसंधान परियोजनायें विश्वविद्यालय में कार्यरत हैं।
- राष्ट्रीय कृषि विकास योजना के अंतर्गत पूर्व में चल रही चार अनुसंधान परियोजनाओं के अलावा उ.प्र. शासन ने 220 लाख रु. के कुल धन परिव्यय वाली दो नयी परियोजनाओं "विष विज्ञान में प्रयोगशाला की स्थापना" तथा "चयनित सहकारी डेरियों में उत्पादकता संबंधन कार्यक्रम" को मंजूरी दी है।
- सार्थक अनुसंधान कार्यक्रमों के फलस्वरूप तीन "सर्वश्रेष्ठ पोस्टर पुरस्कार" व एक "सर्वश्रेष्ठ पेपर" पुरस्कार प्राप्त किया गया। साथ ही संकाय के एक सदस्य को प्रसिद्ध "हाल ऑफ फेम" हेतु नामित तथा एक अन्य संकाय सदस्य को "फेलोशिप आफ सोसायटी" (वैज्ञानिक गोष्ठी फेलोशिप) से सम्मानित किया गया।

प्रसार कार्यक्रम :

- भदौरी, महारौली, भारतीय, मुकुंदपुर, रामपुर, हथौली, चिकली तथा कारव गाँवों में आठ पशु चिकित्सा एवं कल्याण शिविर आयोजित किये गये जिनमें 1325 से भी अधिक पशुओं का उपचार किया गया।
- मधुरा के कोसीकला में आयोजित किसान मेला एवं कृषि प्रदर्शनी में महाविद्यालय के पशुचिकित्सा एवं पशुपालन प्रसार विभाग ने स्टाल प्रदर्शन व प्रस्तुतिकरण में द्वितीय स्थान प्राप्त किया।
- पशु चिकित्सा अधिकारियों को कार्य क्षमता में वृद्धि तथा उनके कौशल को समुचित रूप से विकसित करने हेतु तीन प्रशिक्षण कार्यक्रम आयोजित किये गये।
- पशुधन प्रसार से संबंधित अधिकारियों को पशुधन प्रबंधन तथा पशु रोगों के रोकथाम के विषय में सूचना देने हेतु तीन प्रशिक्षण कार्यक्रम प्रसार विज्ञान में वर्णित सर्वमान्य विधियों के अंतर्गत संपन्न कराये गये।
- किसानों के हित में प्रथम दृष्ट्या निष्कर्ष प्राप्ति-सह-प्रशिक्षण हेतु 12 शिविर लगाये गये।
- आर्थिक रूप से प्रायोजित तथा व्यावसायिक शिक्षा की जानकारी देने हेतु 353 प्रशिक्षण शिविर आयोजित किये गये जिससे 10,431 व्यक्ति लाभान्वित हुये।
- आठ विभिन्न प्रकार के उद्देश्यों हेतु आठ परीक्षण फार्म पर तथा 38 प्रयास कुल मिलाकर तीस स्थानों पर संपन्न किये गये।
- कृषि क्षेत्रों में नवीन प्रौद्योगिकियों को उत्पादन क्षमता के प्रदर्शन हेतु 322 प्रदर्शन सीधी प्रथम रेखा में 100,20 हेक्टेयर से अधिक क्षेत्र में किये गये।
- चतुर्थ मंडल (उत्तर प्रदेश एवं उत्तरांचल) को पंचवर्षीय समीक्षा टीम ने आई.एल.एफ.सी. प्रक्षेत्र, वर्मी कम्पोस्ट इकाई तथा कृषि विज्ञान केन्द्र के फार्मों का दौरा किया तथा यहाँ किये गये कार्यों को विश्वविद्यालयीन समीक्षा बैठक के दौरान सराहना की।
- लगभग 1500 कृषकों ने किसान मेले में उपस्थिति दर्ज करायी। साथ ही विभिन्न सरकारी, अर्द्धसरकारी, निजी कंपनियों तथा महाविद्यालय के कई विभागों ने विकसित तकनीकियों के प्रदर्शन हेतु लगभग 25 दुकानें लगाईं। मेले में के. वी. के. द्वारा प्रकाशित दो पत्रकार्य तथा समाचार पत्र जारी किये गये।

सम्मान :

- माननीय कुलपति प्रो. ए. पी. सिंह, दुबामु विश्वविद्यालय को एन.सी.सी. के कर्नल कमांडेंट को मानद उपाधि से सम्मानित किया गया। एल.पी.एम. विभाग के सहायक प्राध्यापक डॉ. रजनीश सिरोही, यू.पी.आर. एवं वी. स्वैदुन एन.सी.सी. इकाई मधुरा को सहायक एन.सी.सी. अधिकारी का पदभार सौंपा गया।



सह-पाठ्यक्रम तथा खेल संबंधी गतिविधियाँ :

- एन.सी.सी. के 44 कैंडेट्स ने बी प्रमाणपत्र परीक्षा तथा 12 कैंडेटों ने सी प्रमाणपत्र परीक्षा उत्तीर्ण की ।
- एन.सी.सी. के कैंडेट्स ने सी.ए.टी.सी. शिविर में रक्त दान तथा वार्षिक खेल समारोह के समापन अवसर पर अश्व क्रीड़ाओं का प्रदर्शन किया ।
- बी.वी.एस.सी.एवम् ए.एच. नवम् सेमेस्टर के छात्रों ने अखिल भारतीय शैक्षणिक भ्रमण कार्यक्रम के अंतर्गत बाम्बे पशु चिकित्सा महाविद्यालय, मल्लय विज्ञान केंद्र गोवा, पशु चिकित्सा महाविद्यालय बंगलौर, तनुवास विश्वविद्यालय चेन्नई तथा हैदराबाद व कोलकाता के पशु चिकित्सा महाविद्यालयों का भ्रमण किया ।
- अष्टम सेमेस्टर के छात्रों के लिये दो समूहों में उत्तर भारत शैक्षणिक यात्रा कार्यक्रम का आयोजन किया गया जिसमें एन.डॉ.आर.आई, एन.बी.ए. जी.आर. करनाल, सी.आई.आर.जी. मखदूम, एन.आर.सी.ई. हिसार तथा पशु चिकित्सा एवं विज्ञान महाविद्यालय हिसार, लुधियाना तथा पालमपुर का दौरा किया गया ।
- पंचम सेमेस्टर के छात्रों को पाठ्यक्रम के अंतर्गत केन्द्रीय पक्षी अनुसंधान संस्थान तथा भारतीय पशु अनुसंधान संस्थान, इज्जतनगर का भ्रमण कराया गया ।
- वार्षिक क्रीड़ा समारोह का आयोजन 22 व 23 मार्च 2012 को तथा वार्षिक सांस्कृतिक कार्यक्रम का आयोजन 23 मार्च 2012 को किया गया । शैक्षणिक कौशल (प्रश्नोत्तरी, वाद-विवाद, निबंध तथा त्वरित भाषण) ललित कलाओं का प्रदर्शन (रंगोली तथा चित्रकारी), धीमी साइकिल प्रतिस्पर्धा, महिलाओं हेतु आयोजित संगीत-कुर्सों प्रतियोगिता तथा संकाय के सदस्यों व छात्रों के बीच रस्साकसी स्पर्धा खेल समारोह के विशेष आकर्षण रहे । खेलकूद प्रतियोगिता के समापन समारोह में मुख्य अतिथि के रूप में डॉ. डी. स्वरूप, निदेशक सी.आई.आर.जी. उपस्थित थे ।
- पशु चिकित्सा एवं पशुपालन महाविद्यालय, मथुरा के अठारह छात्रों ने गोविंद बल्लभपंत कृषि विश्वविद्यालय पंतनगर द्वारा आयोजित अखिल भारतीय अंतर महाविद्यालयीन बैडमिंटन, टेबिल टेनिस व व्यावसायिक प्रश्नोत्तरी प्रतियोगिता में भाग लिया ।
- सत्रह छात्रों ने एन.डी.आर.आई. करनाल में आयोजित अखिल भारतीय अंतर विश्वविद्यालय युवा महोत्सव में भाग लिया तथा चार प्रथम (अंताक्षरी, एकल गायन, सामूहिक हिन्दी, फिल्मी गीत) व चार द्वितीय (प्रश्नोत्तरी, समूह लोकगीत व प्रहसन) में पुरस्कार प्राप्त किये ।
- प्रथम वर्ष के छात्रों द्वारा सांस्कृतिक कार्यक्रमों की प्रस्तुति के साथ स्वागत दिवस का आयोजन किया गया ।
- श्री आशीष कुमार, कु. विशाखा तथा कु. दीपांका ने जयडस ए.एच.एल. द्वारा आयोजित रेखाचित्र व चित्रकला प्रतियोगिता में अपनी श्रेष्ठता का प्रदर्शन किया ।

विश्वविद्यालय प्रक्षेत्र :

- 1071.84 एकड़ क्षेत्रफल तथा 5103.04 क्विंटल उत्पादन की क्षमता वाला माधुरी कुण्ड प्रक्षेत्र चारे के बीज का उत्पादन करके राष्ट्रीय कृषि विकास परियोजना के अंतर्गत राष्ट्रीय बीज निगम, उ.प्र. बीज निगम तथा राज्य के पशुपालन विभाग को चारे के बीज उपलब्ध कराता है । फार्म पर कार्य कुशलता में सुधार लाने हेतु पाँच हेरो, 3 रोटावीलर और सूखे चारे की कटाई हेतु पुआल काटने की मशीन क्रय की गयी है । वर्ष 2010-2011 की तुलना में विगत वर्ष में प्रक्षेत्र की आय 1.2 करोड़ रु. से ज्यादा की है ।
- आई.एल.एफ.सी. की लगभग सभी इमारतें भा.कु.अ. परिषद् द्वारा दी जा रही वित्तीय सहायता के माध्यम से प्रक्षेत्रों के आधुनिकीकरण के तहत पुनःनिर्मित की जा रही हैं । लगभग 264 गायें (हरियाणा, साहीवाल तथा हरियाणा संकर प्रजाति) तथा 68 भैंसों का पालन किया जा रहा है । फार्म का कुल दुग्ध उत्पादन वर्ष 2010-11 के 1,30,499 लीटर की तुलना में बढ़कर 1,38,866 लीटर दर्ज किया गया है ।
- 110 एकड़ की संलग्न कृषि योग्य भूमि का प्रयोग करके 674.35 क्विंटल अनाज का तथा 15546.69 क्विंटल हरे चारे का उत्पादन वर्ष के विभिन्न मौसमों में किया गया जिससे वर्ष 2010-11 की 30-50 लाख रु. की तुलना में विगत वर्ष 38.66 लाख रु. के राजस्व की प्राप्ति हुई ।
- कुक्कुट प्रक्षेत्र में शिक्षण तथा अनुसंधान के उद्देश्य से ब्रायलर मुर्गियाँ, जापानी बटेर, टर्की के तरुण पक्षी, अण्डे देने वाले टर्की, असील, कड़कनाथ, गर्दन पर बिना रोये वाले पक्षी, पीला असील प्रजाति तथा गिनी मुर्गियाँ आदि प्रजाति के पक्षियों का पालन किया गया है ।
- बी.वी.एस.सी. एवं ए.एच. पाठ्यक्रम के छात्रों के सहयोग से तीन औद्योगिक प्रशिक्षण आयोजित किये गये ।

मानव संसाधन विकास :

संकाय सदस्यों का चयन

- पशु चिकित्सा एवं पशुपालन महाविद्यालय में एक आचार्य, दो सह आचार्य व चौदह सहायक आचार्यों का चयन किया गया । साथ ही कृषि विज्ञान केंद्र में दो विषय वस्तु विशेषज्ञों का चयन हुआ ।

संगोष्ठियों का आयोजन

- शरीर रचना विभाग द्वारा तीन दिवसीय भारतीय पशु शारीरिकी विज्ञान चिकित्सकों के संगठन की 26 वीं राष्ट्रीय संगोष्ठी व वार्षिक सम्मेलन का आयोजन किया गया । इस सम्मेलन की प्रमुख धारा थी 'शारीरिक गतिकी का पशु-पक्षियों के स्वास्थ्य व उत्पादन प्रदर्शन विशेष



रूप से जैव प्रौद्योगिकी व प्रतिरक्षी प्रयोग द्वारा प्रभाव'।

- पशु परजीवी विज्ञान विशेषज्ञों की राष्ट्रीय कांग्रेस का 22 वां राष्ट्रीय सम्मेलन परजीवी विज्ञान विभाग द्वारा आयोजित किया गया। चर्चा का विषय था - पशु परजीवी विज्ञान शास्त्र में एकीकृत शोध प्रयास पारम्परिक प्रचलित तकनीकों से लेकर आणविक तकनीकों तक।

संकाय विकास :

- चौबीस संकाय सदस्यों ने व्यवसायिक क्षमता व कौशल में वृद्धि हेतु विभिन्न प्रशिक्षण/लघु पाठ्यक्रम/ग्रीष्म तथा शीतकालीन शिविरों में भाग लिया।
- संकाय के उन्नीस सदस्यों ने भारत के भिन्न-2 प्रांतों में आयोजित विभिन्न सम्मेलन/संगोष्ठियों/वैज्ञानिक चर्चाओं/कार्यशालाओं में भाग लेकर शोध के निष्कर्ष को प्रस्तुत किया।
- एन. ए. आई. पी. परियोजना के अन्तर्गत, एन. ए. आर. एस. स्टेटिस्टिकल कम्प्यूटिंग व्यवस्था को मजबूत करने के उद्देश्य से एक पाँच दिवसीय 'एस. ए. एस. प्रयोग द्वारा तन्त्र विश्लेषण प्रशिक्षण कार्यक्रम', दुवासु मधुरा द्वारा आई. ए. एस. आर. आई., नई दिल्ली के सहयोग से 16-21 मई, 2011 में आयोजित किया गया, जिसमें 28 संकाय सदस्यों तथा 15 स्नातकोत्तर व डॉक्टरेट पाठ्यक्रम वाले छात्रों की भागीदारी रही।

विश्वविद्यालय के आंतरिक ढाँचे में वृद्धि :

- भा. कृ. अनु. समिति द्वारा सी लाख की कुल लागत से बना अंतर्राष्ट्रीय छात्रावास तथा रा. कृ. वि. यो. के तहत प्रदेश शासन द्वारा कुल 43.5 लाख रु. के खर्च से वीर्य जीव विज्ञान प्रयोगशाला का निर्माण किया गया।
- भा. कृ. अनु. परिषद् द्वारा प्रदत्त वित्तीय सहायता से पशु खाद्य प्रौद्योगिकी इकाई, पशु खाद्य भण्डार, दाना-चोरक गृह, चतुर्थ श्रेणी कर्मचारियों के घर में उन्नीस शौचालय, फसल वाली जमीन हेतु अंतः भूमि सिंचाई नहरें, ट्यूबवैल तथा पशुधन प्रक्षेत्रों में सुचारु आवागमन हेतु सड़कों का निर्माण किया गया।
- आई. सी. ए. आर. द्वारा प्रदत्त आर्थिक सहायता से पॉलीक्लीनिक, सघन देखभाल इकाई तथा आई. एल. एफ. सी. प्रक्षेत्र पर पशुओं के निवास स्थान व खुले में विचरण करने के स्थान का नवीनीकरण।
- कुक्कूट इकाई, डेयरी इकाई, मत्स्य बीज उत्पादन इकाई तथा चारदीवारी की मरम्मत, माधुरी कुण्ड प्रक्षेत्र पर बनाये गये निवास स्थान व कार्यशालाओं, शैक्षणिक चिकित्सालय पर नैदानिक प्रयोगशाला तथा भेषज विज्ञान प्रयोगशालाओं का नवीनीकरण भा. कृ. अ. सं. द्वारा इन्हें सबल दिये गये विकास अनुदान से किया गया।
- विषय विज्ञान प्रयोगशाला तथा स्ववैश कोर्ट के निर्माण हेतु प्रतीक चिन्ह के रूप में स्थापना पत्थर लगाया गया। कन्या छात्रावास का निर्माण पूर्ण होने के अंतिम चरण में है तथा इसके अगले शैक्षणिक वर्ष में कार्यरत हो जाने की आशा है।

वित्त तथा बजट :

- विश्वविद्यालय ने मत्स्य विज्ञान महाविद्यालय तथा पशुधन उत्पाद प्रौद्योगिकी महाविद्यालय के निर्माण हेतु उ.प्र. शासन से 4.00 करोड़ रु. की आर्थिक सहायता प्राप्त की।
- प्रदेश शासन ने योजना तथा गैर योजना स्कीमों के तहत क्रमशः 433-23 लाख तथा 1685-9 लाख रु. का कुल बजट प्रदान किया।
- भारतीय कृषि अनुसंधान परिषद्, नई दिल्ली ने विश्वविद्यालय को शैक्षणिक दृष्टि से मजबूत बनाने हेतु विकास अनुदान के रूप में 589.00 लाख रु. की वित्तीय सहायता की।
- राष्ट्रीय कृषि विकास योजनाओं के अंतर्गत विश्वविद्यालय ने 375.00 लाख रु. की राशि प्राप्त की।

अन्य गतिविधियाँ :

- विश्वविद्यालय परिवार में सांस्कृतिक गतिविधियों के सुचारु परिचालन तथा परिसर में प्रत्येक सदस्य के बीच अपनेपन की भावना के समुचित संवहन हेतु अम्बेडकर जयंती, स्वतंत्रता दिवस, पं. दीनदयाल उपाध्याय जयंती, गांधी जयंती, विश्वविद्यालय स्थापना दिवस तथा गणतंत्र दिवस का आयोजन विश्वविद्यालय द्वारा किया गया।
- विश्व पशु स्वास्थ्य दिवस का आयोजन बड़े पशुओं में बांझपन/प्रजनन अक्षमता के प्रबंधन तथा छोटे पालतू पशुओं में टीकाकरण व कृमिनाशन शिविर लगाकर उत्साहपूर्वक किया गया।
- दो राष्ट्रीय सम्मेलनों व संगोष्ठियों, विज्ञान व पत्रकारिता पर एक कार्यशाला का आयोजन तथा प्रख्यात कवताओं के आमंत्रित व्याख्यानों की श्रृंखला के माध्यम से विश्व पशुचिकित्सा वर्ष प्रसन्नतापूर्वक मनाया गया। इसमें विख्यात व्यक्तियों डॉ. ए.के. श्रीवास्तव, निदेशक एन.डी. आर.आई., डॉ. गंगा प्रसाद, ए.डी.जी. (पशुपालन आई.सी.ए.आर.), डॉ. सिमरत सागर सिंह, पूर्व अधिष्ठाता पशु चिकित्सा महाविद्यालय, गडवासु लुधियाना, डॉ. मनोज कुमार विभागाध्यक्ष, टीकाकरण - जैवप्रौद्योगिकी विभाग तथा भारतीय सौरम संस्थान, डॉ. आर. के. वैद्य, वरिष्ठ वैज्ञानिक, वी.टी.सी.सी. तथा गुडगाँव व दिल्ली के प्रसिद्ध निजी चिकित्सक डॉ. सतवीर जोशान ने ज्ञानवर्धक व्याख्यान दिये।



M I S S I O N

University was established by U.P. Govt. in 2001 with the basic objective of imparting quality veterinary and allied education, undertake need-based and basic research, integrate education and research and offer efficient extension services for the farmers and livestock owners.

V I S I O N

- Produce competent and skilled human resource in the field of animal health and production and allied sectors who are socially sensitive and responsible professionals;
- Undertake region-based, need-based and basic research for improving animal health and productivity adopting modern technology;
- Validate indigenous traditional knowledge (ITK) on scientific basis;
- Provide efficient extension services at the doorstep of poor and marginal farmers and livestock owners and motivate them to adopt animal husbandry, poultry, fishery and related vocations as an engine of economic growth and social empowerment ;
- Social empowerment of women to become "knowledgeable stake holders" and giving them economic identity;
- Interface Industry and stakeholders in the newer perspectives of open global market;
- Ensure enhanced production from rural and urban livestock through effective disease surveillance and diagnosis, health care and vaccination programme; and
- Empower rural youth for self-employment adopting integrated farming practices.

M A N D A T E

University is the premier Veterinary and Animal Science Institution and is known for quality education and research on various aspects of animal health including disease diagnosis and providing advisory and extension services through scientific knowledge and expertise for :

- Strengthening hands on training to students with special emphasis on capacity building;
- Providing opportunity to Faculty and staff to improve their scientific and working capacity and capability to make the University a vibrant organization;
- Undertaking need-based, applied and basic research;
- Bringing livestock owners, poor and marginal farmers and rural women to the Center of Technology Information System and catalyze them for continuous improvement in production and productivity of their livestock and economy;
- Collaborate with State Agriculture and Animal Husbandry functionaries, SAU's, Indian Council of Agricultural Research Institutes related to animal health and production, Livestock Industry and NGO's in an attempt to develop resurgent, sustainable, profit-oriented market-based production system for livestock, poultry, fishery and allied sectors.

CHALLENGES

Concept of integrated farming which includes agriculture, livestock, poultry and fishery has been recognized as "high power engine" for sustainable agricultural and rural economy. Therefore, to translate the idea into reality, it is imperative:

- To produce Veterinarians and other technocrats related to animal health and allied sectors who become "Job providers" not the "Job seekers";
- To substantially improve the faculty strength to a level which commensurates with the minimum requirements as per the specifications of Veterinary Council of India for undergraduate teaching ;
- To improve laboratory facilities for imparting quality education including training of post-graduate and doctoral degree programme students in an attempt to make them capable enough to meet the current and emerging challenges;
- To re-establish and achieve at par research excellence through optimized internal and external research fund support from the State and Central Govt. agencies; and
- To muster sufficient financial support in conformity to what a Veterinary University needs under resurgent economy and global education and trade scenario.

Challenges enumerated above have to be faced through concerted efforts of University Academia with full support of the Government of U.P. And ICAR.

UNIVERSITY TARGETS

- Revamp teaching programmes and "Teaching Methodologies", set up e-learning classrooms, introduce net-based "virtual class-rooms" and promote e-teaching and learning;
- Set up "State of the Art" Instructional Livestock Farms, Demonstration Units, Teaching Veterinary Clinical Complex, Disease Investigation and Research Laboratories;
- To achieve at least 15 per cent increase per annum in the number of University graduate and postgraduate students qualifying for national competitive examinations;
- To produce competent and skilled clinicians, entrepreneurs and livestock business managers and team leaders;
- Faculty up-gradation, filling vacant teaching posts and creating faculty positions in newer and upcoming faculties;
- Encourage faculty members to garner more financial assistance from outside agencies through externally funded research projects and support atleast one University funded research project in each department to give impetus to research;
- As per University Act, to obtain state support for generating trained and competent human resource in fisheries, biotechnology, livestock products technologies and industry and business management through designated colleges/faculties; and
- To augment University financial resource and refurbish infrastructure.



I. Introduction



U.P. Pandit Deen Dayal Upadhyaya Pashu-Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan Mathura, first of its kind in the State and fourth in the Country, was established vide Act 27 of 2001 on 25.10.2001 by Govt. of U.P. with the erstwhile U.P. College of Veterinary Science & AH, Mathura as its main constituent College with all its moveable and immovable assets. University is having 782.34 acres prime land in Mathura, which includes all the buildings of Veterinary College, residential complex, hostels, Dairy Farm, Poultry Farm and agriculture land and another agriculture farm of around 1400 acres at Madhurikund, about 25 Km from the main campus.

After establishment of the University in 2001, initially the University offices were located in the Administrative block of Veterinary College, however, after inauguration of the Administrative Block of University by His Excellency Shri T.V. Rajeshwar, Hon'ble Chancellor and Governor of U.P. on February 24, 2009, all the central offices of University were shifted to new campus. The employees and teachers have occupied the newly constructed houses in new campus. The newly constructed College of Biotechnology building was inaugurated by John George, Advisor DBT, Ministry of Science and Technology, Government of India in the august presence of Prof. M.L. Madan, the Hon'ble Vice Chancellor, Dr. Lal Krishna, ADG (Animal Health) ICAR, New Delhi and other officers of the University on September 25, 2009.

The Act of University envisages opening of four more colleges, namely - College of Biotechnology, College of Fisheries, College of Livestock Products Technology and College of Animal Industries and Business Management. However, these colleges could not be started inspite of the best efforts of University due to financial constraints and non-sanction of any teaching or other positions by the Govt. During 2009, Government permitted the University to start College of Biotechnology under self-finance scheme. Accordingly, the University started College of Biotechnology from the academic session 2010-11. In an endeavor to augment research and extension activities, Directorate of Research and Directorate of Extension have also been created to coordinate research and extension activities, respectively.



University Administrative Block



II. Organizational Set-up



The organizational set-up of the University (Flow Chart 1) is in almost conformity with other state agricultural, veterinary and academic universities. Various bodies and authorities of the University exercise their powers at various levels to coordinate and regulate administration, education, research and extension activities.

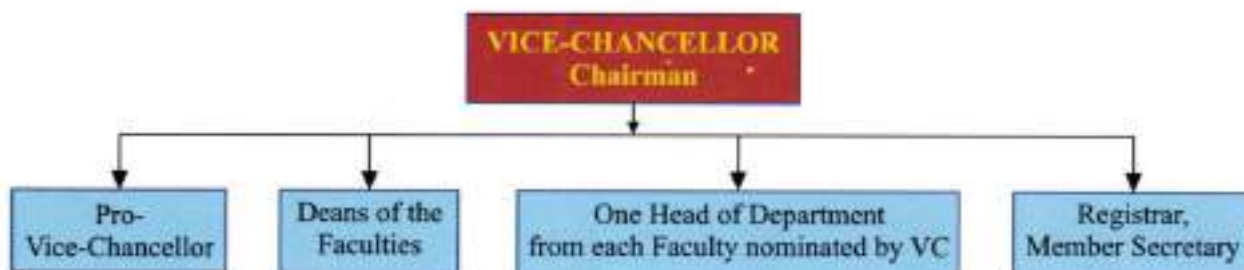
A. AUTHORITIES OF THE UNIVERSITY :

1. Executive Council

Executive Council (EC) of the University is the main executive body empowered to monitor, supervise and control the University affairs. Vice Chancellor is the Chairman of EC and other members of the EC are Pro-Vice Chancellor, Secretary Animal Husbandry and Fisheries, Secretary Finance, Secretary Higher Education, Govt. of U.P., Director of Animal Husbandry U.P., one reputed Industrialist nominated by Govt. of U.P., two eminent Veterinarians nominated by the Chancellor on the recommendation of UP Govt., two livestock farmers/breeders nominated by U.P. Govt. and one social worker nominated by Govt. of U.P.

2. Academic Council

Academic Council of the University is the principal academic body which controls and frames all the academic regulations and responsible for maintenance of standards of instruction, education and examination in the University. The flow chart of Academic council composition is presented below :



3. Finance Committee

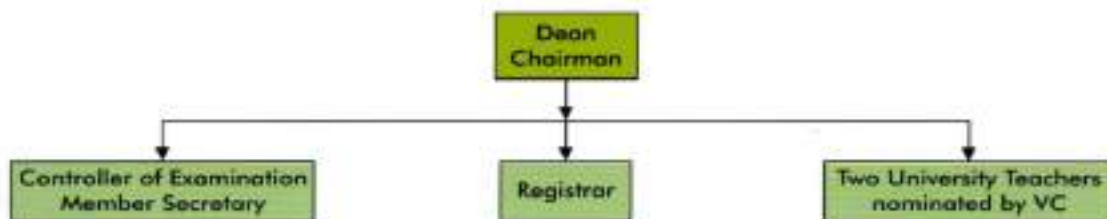
Finance Committee of the University advises the Executive Council on matters relating to administration of property and funds of the University. The flow chart of Finance Committee composition is presented below :



4. Examination Committee

Examination Committee of the University coordinates and supervises all the examinations of the University including Pre Veterinary Test (PVT), appointment of examiners, tabulation and moderation of results and make recommendations to the Academic Council for improvement in examination system. The flow chart of the composition of the Examination committee is presented below :



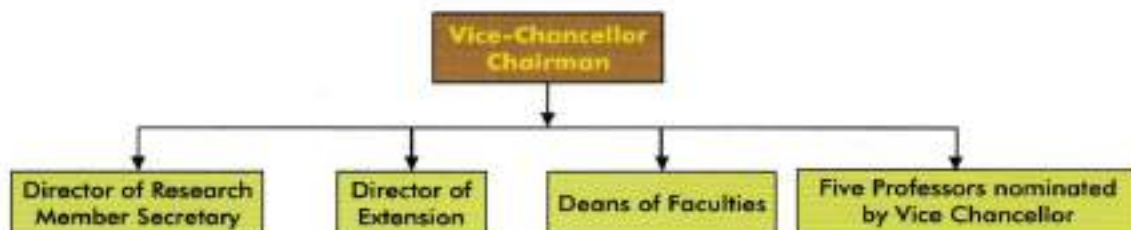


5. Board of Faculty

Board of Faculty is for framing the curricula for undergraduate and post graduate programmes and to make recommendations to the Academic Council for the establishment of new departments, abolition / subdivision or otherwise reconstitution of the existing departments. Dean of the Faculty is the Ex- Officio Chairman of Board of Faculty, and Faculty Secretary is elected on the basis of consensus amongst the faculty members. All Professors, Associate Professors and Assistant Professors of the faculty are the members of Board of Faculty.

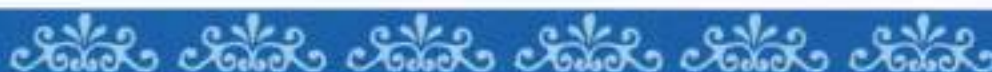
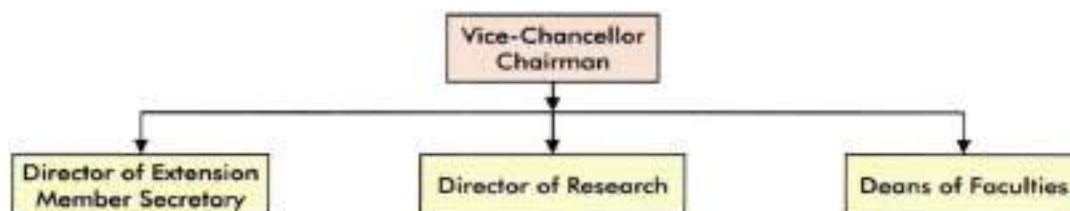
6. Research Advisory Committee

Research Advisory Committee is the policy making body on research activities of the University with Vice Chancellor as its Chairman and Director of Research as the Member Secretary. The set up of this Committee is shown below :



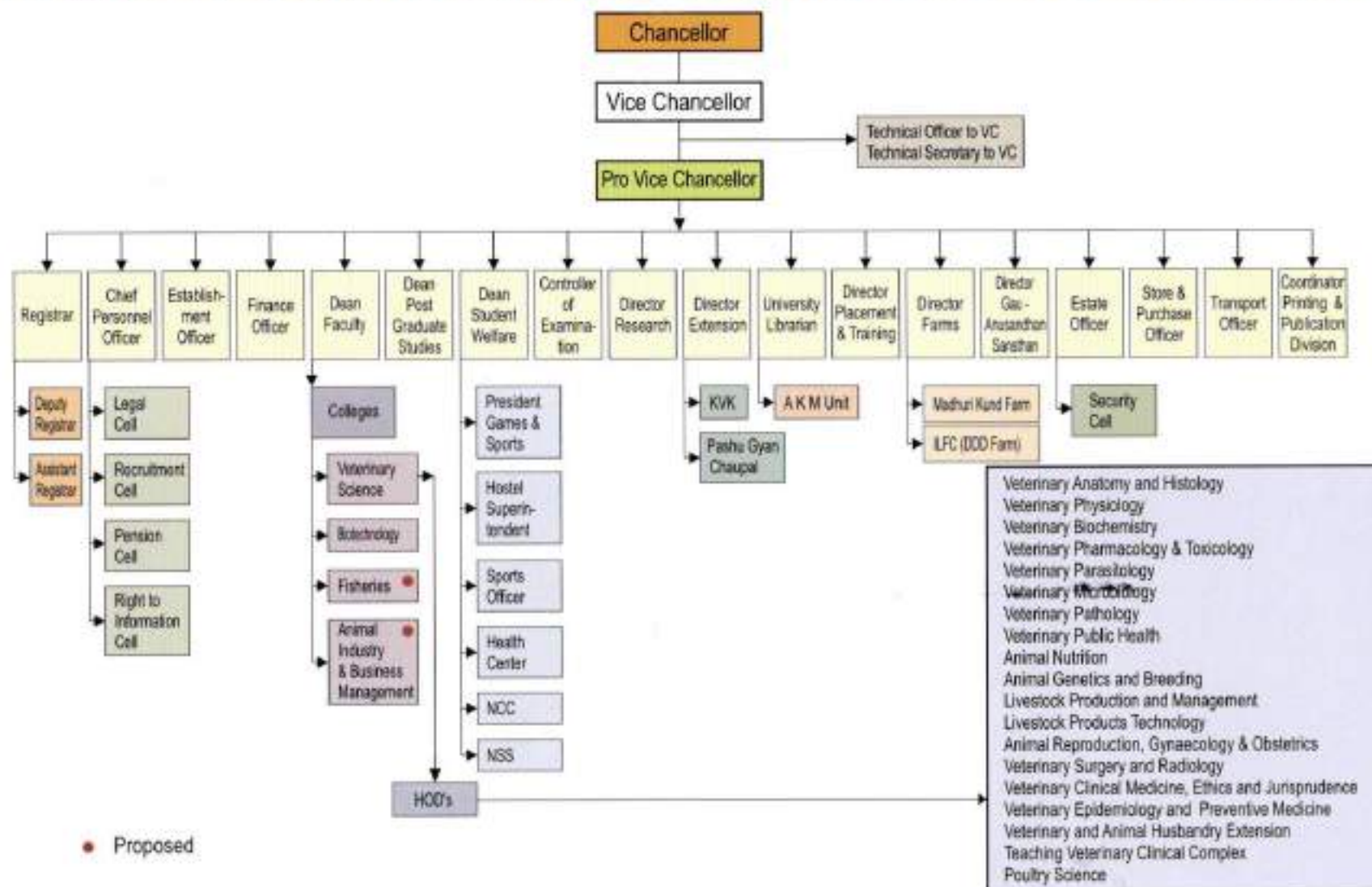
7. Extension Advisory Committee

The Extension Advisory Committee is the policy making body on extension activities of the University with Vice Chancellor as its Chairman and Director of Extension as the Member Secretary. The set-up of this committee is as shown here :



ORGANIZATIONAL STRUCTURE

U.P. Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalya Evam Go-Anusandhan Sansthan (DUVASU), Mathura



B. ORGANIZATIONAL MEETINGS FROM APRIL 2011 TO MARCH 2012

S.No.	Authority	Meetings No.	Date	Venue
1	Executive Council	19 th	07.10.2011	UPCAR, Lucknow
2	Academic Council	33 rd	28.07.2011	DUVASU, Mathura
		34 th	09.08.2011	
		35 th	13.09.2011	
		36 th	11.01.2012	
		37 th	23.01.2012	

C. OFFICERS OF THE UNIVERSITY (2011-2012)

1	Chancellor	His Excellency Sh. B. L. Joshi, Governor of Uttar Pradesh
2	Vice Chancellor	Prof. A. P. Singh (Feb. 08, 2010 - continuing)
3	Registrar	Dr. Sharad Kumar Yadav (Nov. 23, 2009 to Jul. 01, 2011) Dr. Bharat Singh (officiating w.e.f. Jul. 01, 2011 - continuing)
4	Finance Officer	Sh. Sushil K. Yadav (w.e.f. Aug. 28, 2009 - Nov. 30, 2011) Smt. Laxmi Mishra (w.e.f. Dec. 20, 2011- continuing)
5	Dean Veterinary College	Prof. Satish K. Garg (w.e.f. Jun. 30, 2009 - continuing)
6	Controller of Examination	Dr. R. P. Pandey (officiating w.e.f. Dec. 02, 2009 to Mar. 20, 2012) Dr. Atul Saxena (officiating w.e.f. Mar. 21, 2012 - continuing)
7	Dean P.G.S	Dr. A. K. Srivastava (officiating w.e.f. Dec. 01, 2009 - continuing)
8	Dean Students Welfare	Dr. M. M. Farooqui (officiating w.e.f. Dec. 01, 2005 - continuing)
9	Director of Research	Dr. Atul Saxena (officiating w.e.f. Nov. 24, 2009 - continuing)
10	Director of Extension	Dr. Sarvajeet Yadav (officiating w.e.f. Nov. 24, 2009 - continuing)
11	University Librarian	Dr. Bharat Singh (officiating w.e.f. Sep. 08, 2008 to Sep. 22, 2011) Dr. Basanti Bisht (officiating w.e.f. Sep. 23, 2011 - continuing)

III. Teaching



A. Teaching Institutes

Presently there are two colleges in the University; College of Veterinary Science and Animal Husbandry and College of Biotechnology. Three other colleges are likely to start in the coming years in phased manner.

COLLEGE OF VETERINARY SCIENCE AND ANIMAL HUSBANDRY

College of Veterinary Science and Animal Husbandry was established in the state in 1947 with the mandate of generating trained manpower for catering to the needs of society in terms of qualified veterinarians. With the passage of time, the College attained newer heights and resulted in establishment of Veterinary University in the state and became the sole constituent college of University. The College presently has well qualified faculty members and is also shouldering the responsibility of running College of Biotechnology. College has following academic programmes:

1. Bachelor of Veterinary Science and Animal Husbandry (as per Veterinary Council of India Regulations)
2. Master of Veterinary Sciences
3. Doctor of Philosophy



ADMISSIONS AND TURN OUT OF STUDENTS DURING 2011-12

Degree Programme	Capacity	Students Admitted			Students Turn Out		
		Boys	Girls	Total	Boys	Girls	Total
BVSc & AH	78	57	06	63	55	14	69
MVSc	43	23	08	31	18	06	24
PhD	14	02	03	05	03	--	03
Total	135	82	17	99	76	20	96



COLLEGE OF BIOTECHNOLOGY

College of Biotechnology was started from the academic session 2010-11 to impart post graduate degree in Biotechnology to generate human resource; to undertake molecular biology based clinical research and to develop / augment bioinformatics technology.

MSc degree programme of 4 semester's duration and admissions are made based on the merit in Entrance Examination conducted by the University.

The College has very spacious, beautiful and modern building. Different laboratories in the College are well equipped and laboratory facilities are being further strengthened with latest state of the art instruments. The University has also signed a M.O.U. with Central Institute for Research on Goats (CIRG) Makhdoom, Farah to further augment teaching and research activities in the College.

University envisages starting of Ph.D. and under graduate degree programmes in Biotechnology in near future.



ADMISSIONS AND TURN OUT OF STUDENTS DURING 2011-12

Degree Programme	Capacity	Students Admitted			Students Turn Out		
		Boys	Girls	Total	Boys	Girls	Total
MSc/MVSc	25	01	01	02	00	00	00

B. Clinical Services

The hub of the clinical services, Teaching Veterinary Clinical Complex (TVCC), the erstwhile Kothari Veterinary Hospital, is a multi-speciality Veterinary Clinics and is the place for hands on training to students while providing clinical services to farmers and animal owners. The TVCC has well equipped operation theatres for small and large animals, radiology unit having 500 mA and 100 mA X-Ray machines, a 9 inch C-arm image intensifier, electrically operated hydraulic large

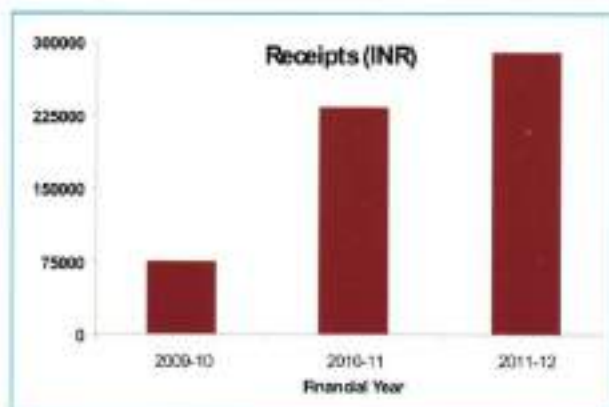
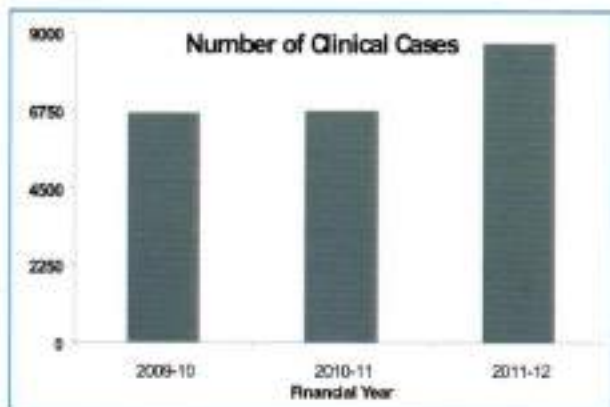


animal operation table, facilities for inhalation anaesthesia, endoscope, laproscope, digital X-ray, ultra sonography, pulse oxymeter, electrocardiograph and solid-state surgical diathermy unit and well equipped ICU and a dental unit. Sick animal imaging received a boost with ultra-sonography, digital radiography and minimally invasive diagnostic endoscopy facilities. Management of long bones fractures using "closed interlocking nailing technique" in small and large animals is a routine practice and during the year 934 diagnostic and operative cases were handled with 100% success.



With the upgradation of facilities and availability of well trained and expert human resource in TVCC, the number of clinical cases has tremendously increased (28% more compared to last year).

Year	No. of Clinical Cases	Receipts (Rs.)
2009-10	6680	74212.00
2010-11	6736	232850.00
2011-12	8678	289170.00



For proper diagnosis of diseases and successful treatment, facilities in the diagnostic laboratory have been improved for haematological examination, urine analysis, faecal examination, skin scrapping analysis etc. The samples requiring microbiological, toxicological and histo-pathological examinations were sent to the concerned departments. Students have free access to all these facilities under the guidance of faculty members for practical training as well as for extending diagnostic facilities for lab diagnosis of diseases. Clinical diagnostic laboratory in TVCC processed 1045 samples during the year.



Type of Sample	Number
Blood	952
Urine	25
Feecal	55
Milk	13
Total	1045



Dry slide Auto-analyzer



Semi-auto analyzer



Flame Photometer



Auto Urinalizer



Auto Blood Analyzer

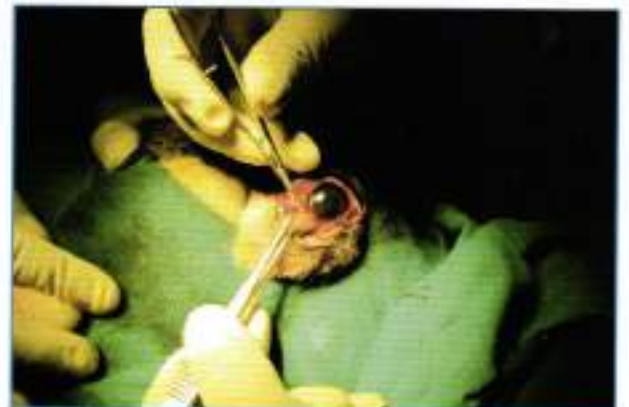


Digital Camera Microscope

FACILITIES IN DIAGNOSTIC LAB



For imparting effective training to students under field conditions and extending clinical facilities to society, ambulatory services were extended on routine roster basis to different villages under the supervision of teachers of clinical departments. Large number of clinical cases including those for pregnancy diagnosis and treatment of anestrus, repeat breeding, etc. were handled by students under the supervision of the faculty members. During the year, 87 major surgeries, 144 minor surgeries, 148 dystokia, 952 artificial inseminations and 294 X-rays in TVCC provided ample opportunity to students for hands on training on clinical cases. In addition, emergency clinical services were provided round the clock which were manned by undergraduate and postgraduate students under the direct supervision of teachers from clinical departments including those on on-call duty during late night hours. Indoor and intensive care unit (ICU) facility for serious patients are two other important components of clinical complex.



Activities in TVCC



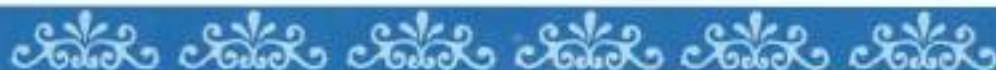
Clinical services received a further boost when Sh. Jayant Chaudhary, Member of Parliament from Mathura donated an animal ambulance fitted with hydraulic lift platform under MPLAD scheme of Govt. of India. It was formally dedicated to the service of livestock and people on 05.07.2011 in the august presence of Sh. Puran Prakash, MLA, Goverdhan, Sh. Chetan Malik, Chairman, Zila Panchayat, Mathura, Prof. A. P. Singh, Hon'ble Vice Chancellor and faculty members of the college. With procurement of animal ambulance, reach of the clinicians has multiplied several folds and has helped the College in extending its arms beyond the regular scope of clinical activities in TVCC through services to farmers for transporting their sick animals for specialized treatment.



Hands on training were also provided to internship students in TVCC and dairy farm of the University through round the clock duty.

C. Experiential Learning Programmes

Feed production and processing : An experiential learning project, funded by ICAR has been initiated. Under this project, feed manufacturing unit and urea molasses mineral block unit has been installed. Demonstration and hands on training in Feed manufacturing unit is helping the student in learning feed processing for different category of livestock to make them self reliant in processing of feeding so that they can start their own enterprises after degree. It will provide nutrients in the form of a block to animals and students will be greatly benefitted by such training in latest nutritional tools.

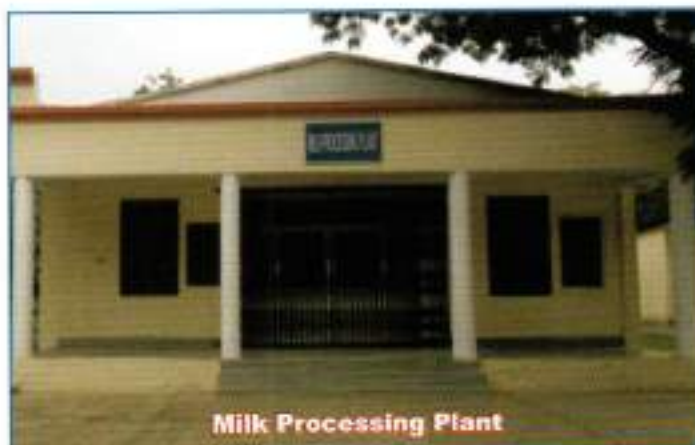


Entrepreneurship in broiler and layer production : During the period under report, the experiential learning project was sanctioned by ICAR with a total cost of 89 lacs with the objective of hands-on training for undergraduate students in poultry production as part of their course curriculum and to cultivate capabilities suiting emerging job markets and build entrepreneurship spirit and business management competence among students so that they are able to create employment for themselves and others. Under this, 48 lacs were spent for construction of a new poultry shed and up gradation and renovation of the hatchery, and maintenance of three existing poultry sheds. One incubator and hatcher along with the other essential equipments have been procured.



Training under Entrepreneurship Programme

Milk and meat processing : The scheme was funded by Indian Council of Agricultural Research under "Experiential Learning Programme". In the year 2010-11, an amount of 50.0 lacs was provided for the purchase of milk and meat processing equipments. The major equipments procured included Milk Pasteurizer, Ice-Cream Making Unit, Meat Mincer, Bowl Chopper, Vacuum Packaging Machine, Sausage Filler, etc. The equipments were used by the students pursuing B.V.Sc. & A.H. programme under courses offered by the Department of LPT. The post-graduate students also used the equipments for their practical training and research. Milk Pasteurization Unit is being used to process the part of milk produced by University ILFC for the purpose of hands on training to UG and PG students of the University. The revolving fund has been initiated by the Department of Livestock Products Technology to process meat and milk for value added products for sale. The Department is also training UG students under "Entrepreneurial Training Programme" which is essential part of their course curriculum as per new regulations of Veterinary Council of India.



Milk Processing Plant



Class in progress at Milk Processing Plant



Class in progress at Milk Processing Plant



Emulsion-making by bowl chopper



Cooking of meat patties



Milk, Egg and Meat products prepared in the department



Entrepreneurship training on dairy farm management and practices : This project was initiated during the year with a total budget of 94.40 lacs from ICAR, New Delhi. Sixty nine Sahiwal cows and twenty nine Murrah buffaloes alongwith milking machine, reaper, mist cooling system, milk distribution van, hydraulic trolleys and weighing scales were procured for modernization of farm practices. Under this programme, hands on training is provided to students for augmenting their capabilities in farm management.



Students Undergoing training for various stages of farm practices with upgraded facilities





Herd of Sahiwal cattle and Murrah buffaloes at ILFC

D. Internship Training Programme

Internship students were trained on different aspects of livestock production and management including poultry and small animals. Each batch of internship students were attached to Biological Products Division of Department of Animal Husbandry, Govt. of UP; Kanpur Zoo and National Institute of Animal Welfare, Ballabgarh for understanding, handling and care and management of small animals including animal welfare issues. During this period, different pharmaceutical companies visited the University for interaction with interns and acquainted them with different pharmaceutical formulations available in the market and their uses in treatment of animals.

E. Educational Tours

Educational tours for enriching the academic and professional knowledge of students is a regular feature. Dr. Ajay Pratap Singh and Dr. Shanker Singh accompanied the students of 9th Semester B.V.Sc. & A.H. on All India Educational Tour (15th Dec., 2011 to 2nd Jan. 2012) and visited Bombay Veterinary College, Fisheries Institute at Goa, Veterinary Colleges, Bangalore, Chennai, Hyderabad and Kolkatta. Students of 8th semester students visited NDRI, NBAGR, Karnal, CRB, NRCE and Veterinary College, Hisar and also, Veterinary Colleges at Ludhiana and Palampur under the supervision of Dr. Devashish Roy, Dr. Amit Jaiswal, Dr. Munendra Kumar and Dr. Vijay Kumar while 5th semester students were sent to CARI and IVRI on 24th to 25th March 2012 under the guidance of Dr. A. Bhattacharya.



F. Academic Attainments of Students

As a result of regular counseling and rigorous training, large number of students of College of Veterinary Science and Animal Husbandry excelled in the national level competitive examinations. During the year under report, seventeen students were awarded the Junior Research Fellowship by ICAR, New Delhi. Besides this, three students also qualified Combined Entrance Examination of JNU Biotechnology Programme. Honble Vice-Chancellor and Dean of Veterinary College not only congratulated the awardees for bringing laurels to the Institution but also congratulated the faculty members for their effective teaching, counseling and coaching to students for JRF examinations 2011.



G. Academic Research

During the year, three students have submitted their PhD and twenty four their MVSc theses which were accepted by the University for award of respective degrees.

DOCTORATE OF PHILOSOPHY IN VETERINARY SCIENCES

S.No.	Title of the Thesis	Name of the Student	Name of the Guide	Co-Guide	Department
1.	Gross morphological, histological, histochemical, and ultrastructural studies of the intestine in guinea fowl (<i>Numida meleagaris</i>)	Dr. Sri Prakash Singh	Dr. R. S Katiyar	-	Veterinary Anatomy
2.	Studies on the anti bacterial and anti-viral effect of the leaves of <i>Ocimum sanctum</i> and <i>Argemone maxicana</i> with reference to immunomodulatory effect	Dr. Puneet Varshney	Dr. A. K. Bhatia	-	Veterinary Microbiology
3.	Pathology of paratuberculosis in goat in reference to vaccine strategy	Dr. Ashwani Kumar Singh	Dr. A. K. Srivastava	Dr. S. V. Singh	Veterinary Pathology

MASTER OF VETERINARY SCIENCES

S.No.	Title of the Thesis	Name of the Student	Name of the Guide	Co-Guide	Department
1.	Genetic studies on production traits of Gangatiri cattle	Dr. Umakant Jaiswal	Dr. K. K. Chauhan	-	Animal Genetics and Breeding
2.	Genetic studies on reproduction traits in Gangatiri cattle breed	Dr. Ram Sahay Yadav	Dr. Deepak Sharma	-	Animal Genetics and Breeding
3.	Comparison of different methods for efficient sire evaluation and genetic study of economic traits in Sahiwal cattle	Dr. Peaush Kumar Singh	Dr. V. K. Singh	-	Animal Genetics and Breeding
4.	Screening of medicinal plants as herbal feed additive by <i>invitro</i> gas production test	Dr. Jyoti Sachan	Dr. Ravindra Kumar	Dr. Vinod Kumar	Animal Nutrition



S. No.	Title of the Thesis	Name of the Student	Name of the Guide	Co-Guide	Department
5.	Studies on reproductive management of dairy heifers using progesterone releasing intravaginal device along with other hormonal combination	Dr. Brijesh Kumar	Dr. Atul Saxena	-	Animal Reproduction, Gynaecology & Obstetrics
6.	Studies on effect of progesterone releasing intravaginal device and other hormonal combination on reproductive performance of bovines.	Dr. K Sai Gunaranjan	Dr. Atul Saxena	-	Animal Reproduction, Gynaecology & Obstetrics
7.	Studies on cryopreservation of Haryana bull semen	Dr. Arun Kumar	Dr. Atul Saxena	-	Animal Reproduction, Gynaecology & Obstetrics
8.	Gross, histological and certain histochemical observations on the prenatal thymus of goat (<i>Capra hircus</i>)	Dr. Madhav Prasad	Dr. Ajay Prakash	Dr. Archana Pathak	Veterinary Anatomy
9.	Gross, histological and certain histochemical observations on prenatal liver of goat (<i>Capra hircus</i>)	Dr. Gajendra Singh	Dr. M. M. Farooqui	Dr. Ajay Prakash	Veterinary Anatomy
10.	A study on evaluation of Vitamin C and <i>Chlorophytum borivillianum</i> extract supplementation for adaptogenic activity in stress-induced rats	Dr. Narjeet Singh	Dr. Rajesh Nigam	-	Veterinary Biochemistry
11.	A study on status of lipid peroxidation and antioxidant system when supplemented with Vitamin C and <i>Andrographis paniculata</i> extract in stress induced rats	Dr. Dheerendra Singh	Dr. Rajesh Nigam	-	Veterinary Biochemistry



S. No.	Title of the Thesis	Name of the Student	Name of the Guide	Co-Guide	Department
12.	Epidemiological and clinical investigations on canine dermatological disorders particularly bacterial pyoderma and its management with immunomodulation	Dr. Alok Kumar Chaudhary	Dr. Ashok Kumar	Dr. Mukesh Srivastava	Veterinary Clinical Medicine, Ethics and Jurisprudence
13.	Studies on the levels of drug resistance amongst ticks against flumethrin, amitraz and ivermectin in cattle and buffaloes	Dr. Geeta Patel	Dr. Daya Shanker	-	Veterinary Parasitology
14.	Studies on the level of resistance in gastrointestinal nematodes of sheep against different benzimidazole drugs.	Dr. Pradeep Kumar	Dr. Daya Shanker	-	Veterinary Parasitology
15.	Chlorpyrifos-induced toxicity in broilers with ameliorative effect of selenium	Dr. Upendra Kumar	Dr. A.K. Srivastava	-	Veterinary Pathology
16.	Pharmacological studies on <i>Trachyspermum ammi</i> and <i>Raphanus sativa</i> with particular reference to their uterotonic, anti-inflammatory and antibacterial activities	Dr. Sarfaraz Alam	Dr. Satish K. Garg	-	Veterinary Pharmacology and Toxicology
17.	Evaluation of oxytocic, anti-inflammatory and antibacterial activities of <i>Adhatoda vasica</i> and <i>Moringa oleifera</i> leaves extracts	Dr. Kamlesh Chand Prakash	Dr. Satish K. Garg	Dr. Anu Rahal	Veterinary Pharmacology and Toxicology
18.	Pharmacological screening of <i>Cimicifuga racemosa</i> and <i>Mimosa pudica</i> for their oxytocic, anti-inflammatory and antibacterial activities	Dr. Richa Rathore	Dr. Anu Rahal	Dr. Satish K. Garg	Veterinary Pharmacology and Toxicology



S. No.	Title of the Thesis	Name of the Student	Name of the Guide	Co-Guide	Department
19.	Characterization of segment specific epididymal spermatozoa in bucks	Dr. Prashant Swarnkar	Dr. J. Kumar	-	Veterinary Physiology
20.	Prevalence of VTEC in faeces of healthy cattle and dairrhoic calves, milk and milk products in certain parts of U.P.	Dr. Preeti Pandey	Dr. Basanti Bist	Dr. Udit Jain	Veterinary Public Health
21.	Prevalence of Verotoxic <i>E. coli</i> in meat, meat products and water from certain areas of Uttar Pradesh	Dr. Seema Singh	Dr. Basanti Bist	Dr. Udit Jain	Veterinary Public Health
22.	Prevalence of <i>E. coli</i> with special reference to Verotoxic <i>E. coli</i> in faeces of dairy cattle, milk and milk products in Mathura and Vrindavan region (U.P.)	Dr. Shashi Kumari	Dr. Basanti Bist	-	Veterinary Public Health
23.	A comparative study of close interlocking nailing and open interlocking nailing in management of canine femur and tibia fracture	Dr. Viram Varshneya	Dr. R. P. Pandey	Dr. Gulshan Kumar	Veterinary Surgery and Radiology
24.	Studies on chemotherapy of mammary tumor in bitches	Dr. Neeraj Yadav	Dr. Bharat Singh	Dr. Sanjay Purohit	Veterinary Surgery and Radiology

H. Students Welfare Activities And Amenities

I. NATIONAL CADET CORPS

Apart for NCC activities of cadets including horse riding during the period under report, 44 cadets appeared in NCC 'B' certificate examination and 12 cadets appeared in 'C' certificate examination. All the cadets qualified the examination.

NCC cadets also took part in celebration of National festivals escorting the Hon'ble Vice-Chancellor on horseback during unfurling of the National flag and saluting the National flag on the



occasions. NCC cadets exhibited a befitting horse show on the closing ceremony of Annual Sports meet on 22nd March 2012. NCC Cadets also donated blood in CATC Camp and also took active part in the organization of Animal Treatment Camp Organized by NCC officers with the assistance of experts from the University.



PARTICIPATION IN NCC CAMPS

S. No.	Camp	Location	Date	No. of Cadets
1.	CATC-35	J. S. Bhaduria Institute of Technology, Kosi Khurd	22.08.11-31.08.11	32
2.	Army attachment camp	RVC Center, Meerut	25.09.11 to 10.10.11	22

2. SPORTS AND CO-CURRICULAR ACTIVITIES

A. Annual Sports Meet :

Annual Sports Meet 2012 of the University was inaugurated by Prof. A.P. Singh, Hon'ble Vice Chancellor of the University on 22nd March, 2012. The meet was declared open by Hon'ble Vice Chancellor after the march-past, salutation and sports oath. Doves were released as a token of peace and freedom. Dr. Daya Shankar, President. Games and Sports, welcomed the Chief Guest, other guests, teachers and students. Almost all the inter-class competitions of in-door and out-door games and sports including some athletic events were completed before the sports day. The remaining athletic events were completed on 22nd and 23rd March, 2012. Mr. Bhoodev Singh, IIIrd year student and Km Mrinalini Singh of Ist year were respectively, adjudged the best male and female athletes of the year. Slow cycling, musical chair for ladies and "Tug-of-War" between teachers and students and horse show and tent pegging by NCC cadets were special attractions of the afternoon. The closing ceremony was held on 23rd March, 2012, where Dr. D. Swaroop, Director CIRG, an alumnus of this college, was the Chief Guest.





B. Annual Cultural Programme and Literary Events :

Literary events- quiz, debate, essay and extempore competitions were organized preceding the sports week. Mr. Surender Kr. Singh was adjudged as best speaker, while Mr Anand Kushwaha and Miss Deepanka, IInd year were adjudged the best performers in male and female categories, respectively in the Annual Cultural Programme.



3.EXTRA CURRICULAR ACTIVITIES

All India Veterinary College Table Tennis, Badminton and Quiz Competition

Eighteen students of College of Veterinary Sciences & A.H. participated in the competition organized by Gobind Ballabh Pant University of Agriculture & Technology, Pant Nagar (U.S) Uttarakhand from March 19th to 21st, 2012.

Participation in Reverie 2012 at NDRI, Karnal

All India Inter University Youth Festival (*Reverie*) was organized at National Dairy Research Institute, Karnal from April 4th to 6th 2011 wherein seventeen students participated from our university. The students participated with zeal and zest and won four first prizes in antakshari, solo light vocal, group Hindi filmi song and four second prizes in quiz, group (folk) and skit. The prizes were distributed by Prof. A. K. Srivastava, Director, NDRI.



4th All India Zydus Drawing and Painting Competition 2011

Mr. Ashish Kumar, Km. Vishakha and Km. Deepanka excelled in Zydus sponsored drawing and painting competition. These students were honoured with certificates and cash prizes of Rs. 1500.00, 1000.00 and 500.00, respectively. Hon'ble Vice Chancellor, Dean, Veterinary College and Dean, Students Welfare congratulated the students.

Fresher's day

Students of 2nd year B.V.Sc. & A.H. alongwith senior students, faculty and staff formally welcomed the newly admitted students of 2011 batch to veterinary fraternity on 21st Aug. 2011. First year students presented different cultural events in which Mr. Abhishek Verma and Miss Mrinalini Saini were adjudged as Mr. and Miss Fresher. Hon'ble Vice Chancellor graced the occasion and gave away the prizes. Speaking on the occasion, Hon'ble Vice Chancellor, Prof. A. P. Singh advised the students to work hard and understand their responsibility on being admitted to veterinary profession. Dr. Satish K. Garg, Dean, Veterinary Faculty presided over the function.



I. Other Academic Facilities

I. Library Services

University library acquired 2595 books during the year. With this, the total book strength in the library has gone upto 30575 out of which 30325 books are for academic puposes while 250 books are for general purposes. The library has sufficient space for 120 persons and has CD ROM, internet, online database and Xerox facility for readers and visitors. Data entry, bar coding and cataloging of six thousand books, one thousand five hundred journals, one thousand five hundred theses, nine thousand computerized catalogue cards and computerized reader cards have been completed successfully. University has created abundant facilities for e-learning which is a rich library resource and technical information for students and staff. Large numbers of journals are available online through CERA to research scholars and teachers of the University.



II. Agriculture Knowledge Management Unit

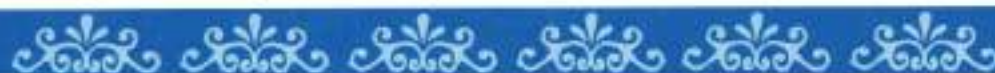
To augment and strengthen the academic activities including teaching and research, internet connectivity is of utmost importance for keeping the faculty and students well abreast with the latest developments in the field of interest. Keeping these in view, the AKMU cell was established in the University and this year, the University has been connected to National Knowledge Network (NKN) and profile of all faculty members have been uploaded on University website. All the offices and sections of University have been connected through LAN either through optical fiber or wireless access. University has provided the internet access and computer facility not only in the ARIS Cell but also the individual departments. For girl students, internet connectivity has also been provided in their hostel through wireless access. The website of the University (www.upvetuniv.edu.in) is also being maintained and updated regularly by AKM Unit. In addition, the hardware and software troubles in different departments and sections of the University are also addressed by AKM Unit.



III. Directorate of Counseling, Training and Placements

The training and placement cell of University is providing latest information to students regarding recent developments in the field of veterinary sciences and employment opportunities. The directorate organized campus interviews at DUVASU, Mathura where three companies viz., Phoenix Group (6th May 2011), Allana Group (7th May 2011) and Indian Immunologicals Limited (14th May 2011) selected 12, 10 and 16 students, respectively.

Directorate also invited distinguished speakers for the special course for improving English language, communication skills and personality development of students. Under this, Dr. R. S. Dalal former Registrar and Dr. A. K. Bhatnagar, Professor and Head, Department of Languages, CCS HAU, Hisar were invited on 16th April 2011. Directorate also arranged regular coaching classes for ICAR-JRF entrance examination. As a result of intensive coaching and teaching, seventeen students were selected for ICAR-JRF fellowship in veterinary and animal sciences streams with excellent ranks based on which they were able to take admissions in subjects and institutes of their interest.



IV. Research



During the year under report, following externally funded research projects were operational or sanctioned:

A. EXTERNALLY FUNDED RESEARCH PROJECTS

S.No.	Title of Project	PI	Co-PI	Agency	Sanctioned Budget (Rs.)
1.	Outreach programme on zoonotic diseases-VTEC	Dr. Basanti Bist	Dr. Udit Jain	ICAR	73.04 lacs
2.	Out-reach Programme on Ethnoveterinary Medicine: "Pharmacological studies and development of a polyherbal formulation for reproductive disorders in animals"	Dr Satish K. Garg	Dr. Rajesh Mandil Dr. Anu Rahal Dr. Atul Prakash	ICAR	80.00 lacs
3.	AICRP on Foot and Mouth Disease	Dr. Sharad Yadav	-	ICAR	-
4.	Niche area of Excellence project on "Toxicodynamic studies on impact of environmental pollutants on bovine reproduction with particular reference to regulatory pathways"	Dr. Satish K. Garg	Dr. Soumen Chaudhary	ICAR	467.00 lacs
5.	Comparative efficacy of supplementation of herbal liver tonic products on growth performance, nutrient utilization and carcass traits in broilers	Dr. Satish K. Garg	Dr. Amitav Bhattacharya	Ayurvet Limited	62,040.00
6.	Evaluation of different varieties of high quality protein maize fodders for their composition and production performance in lactating cows	Dr. Vinod Kumar	-	CIMMYT	-
7.	Niche area of excellence project on "Livestock production and augmentation through monitoring and health intervention"	Dr. Sharad Yadav	-	ICAR	20 lacs



RESEARCH ACHIEVEMENTS IN EXTRA MURAL FUNDED PROJECTS

Project 1 : Outreach programme on zoonotic diseases-VTEC : Verocytotoxic strains of *E.coli* are highly pathogenic causing hemorrhagic colitis, Hemorrhagic Uremic Syndrome and Thrombotic Thrombocytopenic Purpura in humans. These affect mainly young children's i.e below 5 years of age and elderly. This is due to the production of toxins i.e. SLT1 and SLT11 governed by VT1 and VT2 genes along with other virulence factors like congo red binding ability, Eae gene and haemolysin. Besides O157:H7 serotype of VTEC, non O157:H7 have also been found associated with occasional outbreaks and sporadic cases. A total no. of 1042 samples comprising of food samples of animal origin (milk, meat and their products) and faecal samples of healthy cattle and diarrheic calves were collected from different part of U.P. and subjected to PCR to know the prevalence of VTEC. In Mathura district, the prevalence of VTEC in raw milk and milk products was found to be 5.19% (4/77) and 1.73% (2/115) respectively. Among milk products only peda samples were positive for VT genes showing 13.33% (2/15) isolation of VTEC. Prevalence of VTEC in milk products was 1.73% (2/115). Pasteurized milk was found free from VT genes. In Kanpur district, the prevalence of VTEC in milk products was found to be 1.53% (1/65). The serotypes of VTEC in milk samples reported were O22, O55 and O20 and in milk products O55 and O120. The prevalence of VTEC in healthy cattle and diarrheic calves of Mathura district was reported as 15.86% (36/227) and 14.11% (12/85) respectively. The serotypes reported from faecal samples were, O22, O5, O2, O56, O103, O116, O136, O11, O168, O5, O85, O8, O32, O60, O154, O172 and O91. Most of the VTEC isolates harboured stx2 gene. The overall prevalence of VTEC in meat samples of Mathura district were found 16.14% (31/172) and in Aligarh district 20% (4/20). The prevalence of VTEC in meat products was 6% (3/50). The VT genes were found in pork patties and chicken curry. The serotype reported from meat and meat products were O5, O112, O119, O168, O169, O97, O123, O172, O43, O6, O108, O14, O41, O102 and O104. The overall prevalence of VTEC in water samples of Mathura was 4% (3/134), in Etawah district 8% (2/25) and 4.55% (1/22) in Allahabad. The highest percent of VTEC was found in bore well water source of Etawah . i.e. 13.33% (2/15) and in river Yamuna it was 12.50(1/8). In river water samples from Allahabad, the VTEC isolation rate was 4.55% (1/22). The serotypes reported from water were O108, O11 and O102. All the VTEC strains of water carried VT2 gene. Detection of Verocytotoxic *E.coli* strains in healthy cattle and diarrhoeic calves indicate that these animals are reservoir of VTEC and may act as a source of infection. VTEC strains were also detected from raw milk indicating that raw milk get contaminated from faeces of reservoir cattle or diarrhoeic calves. VTEC strains reported from milk products indicated that either milk has not properly heat treated or has contaminated during processing or recontamination after processing. Awareness of risk associated with drinking raw milk and eating milk products should be known to consumers and various agencies involved in the sale of the same. Presence of VTEC strains in meat and meat products shows that either the meat animals are reservoirs of VTEC or proper hygiene has not been taken during slaughter, processing and distribution. Detection of VTEC in bore well water indicates the seepage of fecal material in ground water. Presence of VTEC strains in river water indicates the pouring of untreated water of sewers directly to the river. Constant monitoring and surveillance programme are very essential to keep record of prevalence from time to time and hygienic measures should be applied to reduce chances of infection. The antimicrobial susceptibility of VTEC isolates from meat and meat products, norfloxacin (93.18%) was found highly sensitive followed by ofloxacin (90.19%), chloramphenicol(88.64), ciprofloxacin (88.64%) and gentamicin (86.36%). All the 44 VTEC strains were 100% resistance to penicillin G, novobiocin, fusidic acid, carbenicillin and methicillin followed by oxytetracyclin (81.82%), ceftazidime (79.55%), cefalexin (77.27%), sulphamethiazole (77.23%) and trimethoprim (70.45%). The antibiotic sensitive/ resistance patterns of 13 antibiotics against 55 strains of VTEC isolated from faecal samples, milk and milk products revealed that, Ceftazidime, Cefuroxime, Chloramphenicol, Ciprofloxacin and Gentamicin were highly sensitive (58-80%), followed by



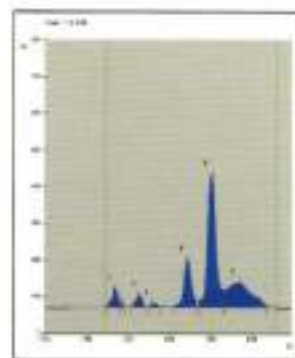
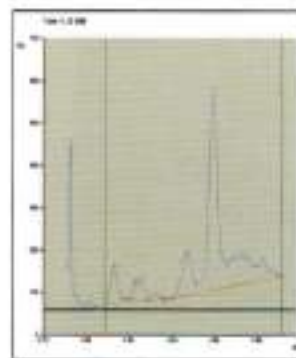
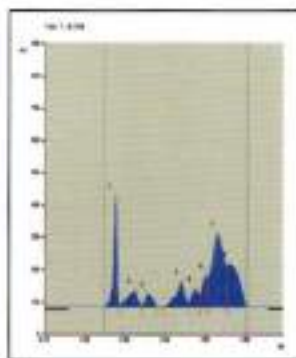
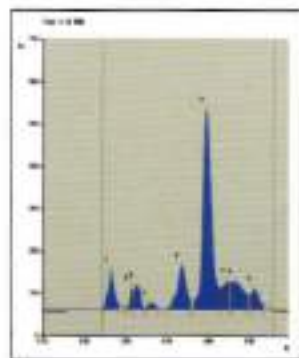
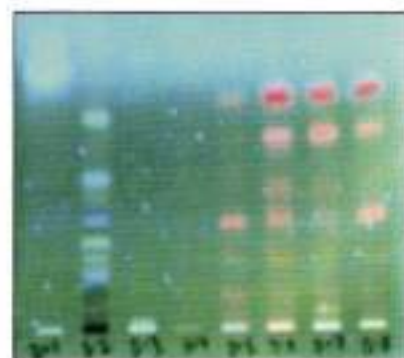
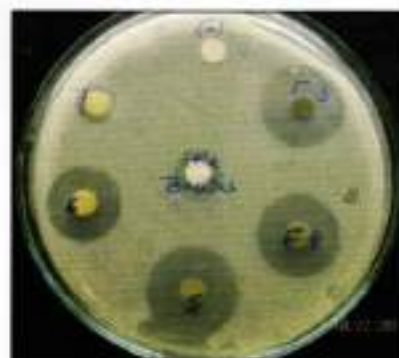
Netillin which was found to be 43.63% effective. The drugs like Ampicillin, Tetracycline, Erythromycin and Sulphamethizole had displayed resistance between 50-65%, while drugs like Streptomycin and Nalidixic acid showed resistance from 40-50%. Novobiocin was observed to be almost resistant to all VTEC isolates.

Project 2: Pharmacological studies and development of a polyherbal formulation for reproductive disorders in animals : During the year under report, extracts of 22 plants in four different solvents, namely-water, methanol, chloroform and ethyl acetate were prepared and screened for phytochemical analysis and antibacterial activity, uterotonic and tocolytic activities of some plants. Total 83 extracts (crude extracts, fractions of plant extracts and combinations) were tested against different certified bacterial cultures, namely-*Staphylococcus aureus*, *Bacillus subtilis*, *Escherichia coli* and *Klebsiella pneumoniae*. Based on exhaustive screening, four plants were found to possess excellent antibacterial potential worth exploitation in drug development.

Phytochemical analysis revealed the presence of flavinoids, alkaloids, triterpinoids, glycosides, steroids, saponins, fixed oils and fats, proteins, tannins, phenolic compounds in different extracts. In addition to the above, HPTLC analysis of 71 different extracts using CAMAG HPTLC and column chromatography of four promising plant extracts was also studied.

Eighteen plant extracts were tested for their uterine activity, out of which four plant extracts were found to be promising for oxytocic activity while three for tocolytic activity. Further detailed work including filing of patents etc. is in progress.

Out of the total available budget of Rs. 16,62,520.00 during the year, Rs. 16,34,130.00 was spent. Apart from routine items, fluorescent detector along with temperature oven for HPLC system has been procured during the year.



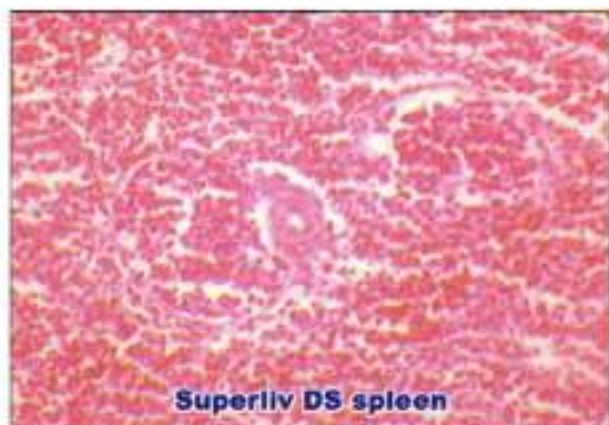
Project 3: AICRP on Foot and Mouth Disease : During the period under report a total of three specimens (Tongue epithelium) were collected from clinically affected cattle and buffalo from four outbreaks recorded at the centre. These outbreaks were reported from Mathura (Vill. Damodarpura, Gadsouli), Etah and Etawah districts of UP. Of the three specimens collected, two were typed as sero-type O. All the four outbreaks were detected during surveillance visit. Detailed epidemiological analysis revealed an overall morbidity of 10.6%. Species - specific attack rate was higher in pigs (28.57%) followed by cattle (23.40%), goat (9.56%) and buffalo (9.04%). Although sheep were found to be positive in two outbreaks but did not show the symptoms of disease. The overall case fatality rate was 34.87%. A total of 2762 sera samples of pre-vaccination and 3002 samples of post vaccination (9 phase) have been tested during the year 2011-12. The overall percentage of protective animals during 9th phase of pre vaccination was 33.56%, 22.34% and 21.61% against type "O", "A" and "Asia-1" respectively. The percentage of protected animals after vaccination increased to 39.91%, 36.48% and 35.71% in comparison to pre vaccination. A total of 44 sera samples of 10th pre vaccination were tested and revealed the percentage of protective titre to be 18.81%, 0% and 0% against O, A and Asia-1 respectively. To conduct FMD surveillance study, 98 villages /Gaousala /farm were visited. A total of 181 random sera samples of 12 districts under FMD-CP were tested with LPB ELISA. The overall percentage of protective animals was 40.33% for serotype O, 30.93% for serotype A and 26.51% for serotype Asia-1. Out of 181 sera samples, the 24 samples were found positive in DIVA ELISA.



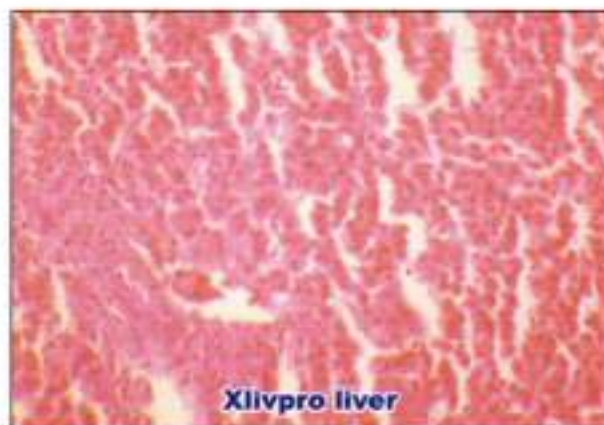
✓ **Project 4: Toxicodynamic studies on impact of environmental pollutants on bovine reproduction with particular reference to regulatory pathways :** During the year under report, ICAR sanctioned a NAE Project with a total outlay of Rs. 467 lacs. Out of which, a sum of Rs. 100.00 lacs was released by ICAR under the head of civil works for construction of laboratory animal house and laboratories. Construction work is in progress. Research work using the already existing laboratory facilities has been initiated.

Project 5 : Comparative efficacy of supplementation of herbal liver tonic products on growth performance, nutrient utilization and carcass traits in broilers : One hundred and fifty day old commercial broiler chicks were procured, wing banded and then kept in deep litter system under standard managerial and hygienic condition for one week. The chicks were given standard starter ration for first week. At the end of the first week, chicks were weighed individually and randomly divided in to five groups, each consisting of three replicates and ten chicks in each replicate. The birds were provided the dietary treatments till 49 days of age. First group was provided basal diet (without supplementation) Control (23% CP & 2800 K cal/kg ME). Second group was provided basal diet supplemented with Superliv DS @ 250gm/tonne. The third group was provided basal diet supplemented with Superliv Concentrate @ 500gm/tonne. The fourth group was provided basal diet supplemented with Superliv Liquid @ 5ml/100chicks/day during 1-3 wks of age and 20ml/ 100 birds/ day during 4-7 wks of age. The fifth group was provided basal diet supplemented with Xlivpro @ 250gm/tonne. Body weight was significantly higher (P<0.05) in the Superliv DS group compared to Superliv liquid group and numerically higher in the Superliv DS group compared to other groups at 6th week of age. Superliv DS group birds had significantly higher (P<0.05) body weight gain compared to other groups at 6th week of age. Superliv DS had significantly better (P<0.05) FCR compared to the other groups at 6th week of age. Further, Superliv DS had significantly better (P<0.05) FCR compared to Superliv liquid during 4-6 week period (2.15 vs 2.85) and 1-6 week period (2.09 vs 2.45). In addition, Superliv DS had apparently better FCR





Superliv DS spleen



Xlivpro liver

compared to other treatment groups during 4-6 week period and 1-6 week period. Total immunoglobulins, and mercaptoethanol resistant IgG antibody titer in response to 1% sheep red blood cells was apparently higher in the Xlivpro group followed by Superliv liquid compared to the other groups. Similarly, mercaptoethanol sensitive IgM antibody titer in response to SRBC was apparently higher in the Superliv liquid followed by Xlivpro group compared to the other groups. Foot web index was significantly higher ($P < 0.05$) in the Xlivpro group compared to Superliv DS, Superliv conc and control groups. There was no significant difference in the percent nutrient retention among the different treatment groups. Shrinkage percent was significantly higher ($P < 0.05$) in the Superliv liquid group compared to the Superliv DS group. However, no significant difference was recorded between the various herbal liver tonic groups and the control group though Superliv DS group had apparently lower shrinkage percent compared to the various treatment groups. Similarly, Superliv liquid had significantly higher ($P < 0.05$) gizzard weight compared to the control group and apparently higher compared to the other treatment groups. Superliv DS group birds had significantly higher ($P < 0.05$) percent of drumstick yield compared to the Xlivpro group and apparently higher percent drumstick and breast yield compared to the other treatment groups which was also well reflected in the body weight and body weight gain. Yield of percent wing was significantly higher ($P < 0.05$) in the Superliv liquid group compared to the Superliv DS group. Small intestine length was significantly higher ($P < 0.05$) in the Superliv liquid group compared to the Superliv DS group. Similarly, small intestine weight was significantly higher ($P < 0.05$) in the Superliv liquid group compared to the control group. Superliv DS group had significantly lower ($P < 0.05$) caecal length compared to the other treatment groups. The present investigation indicated that the feeding of Superliv DS liver tonic @ 250gm/tonne had a significant impact on the growth performance and improved the FCR of broilers. The results obtained in the present study indicate that the addition of Xlivpro @ 250gm/tonne to the diets of broilers may enhance immunity. Hence, it may be concluded that feeding of Superliv DS may enhance growth performance and addition of Xlivpro to the feed may elicit immuno competence traits of commercial broilers.

Project 6 : Evaluation of different varieties of high quality protein maize fodders for their composition and production performance in lactating cows : Four normal maize varieties (HTHM 5101, DHM 117, HM 5 and Saktiman) and three high quality protein maize varieties (HQPM-5, HQPM-7, Vivek QPM-9) were evaluated for nutritive value and feeding effect on milk yield and its composition on 32 Sahiwal cows in pre and post stage in a 45 days trial. From the result it was concluded that HQPM-5 and HQPM-7 varieties of quality protein maize fodders are best in terms of milk yield, higher milk fat content and production efficiency. However, under traditional Indian system of feeding lactating animals especially for ruminant with 30 % concentrate and 70 % roughage, normal varieties of maize HTHM 5101, DHM 117 and HM-5 may also be a good substitute as green fodder. The maize cobs may be harvested for providing quality protein and energy





rich grains for consumption of human and monogastric animals and remaining whole plant may be used as fodder even in post cob stage.

B. ONGOING AND NEWLY SANCTIONED PROJECT UNDER RKVY SCHEME OF GOVT. OF U.P.

S. No.	Title of Project	PI	Co-PI	Sanctioned Budget (Rs.)
1.	Pashu Gyan Chaupal for field health and production interventions	Dr Sarvajeet Yadav	Dr Amit Singh Dr Sanjev Kr Singh	50.00 Lacs
2.	Fish seed production unit	Dr. Vikas Pathak	Dr. Mukesh Bhagat	30.00 Lacs
3.	Conservation of Haryana cattle and Bhadawari buffalo through modern technique of AI	Dr Atul Saxena	Dr. Vijay Singh	50.00 Lacs
4.	Quality fodder and seed production	Dr. S. K. Sharma	Dr. Y. K. Sharma	25.00 Lacs
5.	Establishment of toxicological investigation laboratory	Dr. Satish K. Garg	-	125.00 Lacs
6.	Productivity enhancement program in selected dairy cooperatives of Uttar Pradesh through implementation of information-management system (IMS)	Dr. Mukesh Srivastava	Dr. Satish. K. Garg Dr. Atul Saxena	70.00 Lacs



Project 1 : Pashu Gyan Chaupal for field health and production interventions : The Chaupal under RKVY project is working as the main center for disseminating scientific information to livestock owners of Mathura district. The project was initiated to cover the objective of providing technical information, facilities of disease diagnosis and health monitoring of livestock directly at the doorstep of livestock owners. This information hub is working to build a direct chain of interaction and linkages of farmers with the University experts. The technical information regarding feeding, breeding and management were the key priority which were included in the first phase of the work. The Pashu Gyan Chaupal is reaching to farmers after a brief rural appraisal to deliver the 'goods and services' at the doorstep of farmers. Motivation of people is the key of success for any programme. To initiate this, various clinical/ treatment camps were organized in selected villages in coordination with the Directorate of Extension, KVK and various departments of the college. During the year, 11 clinical/treatment camps were organized in different villages in which 1717 livestock owners were directly benefited. Pashugosthi for delivering the animal husbandry technology, knowledge sharing and clarification of their doubts were also part of the clinical camps.



Project 2 : Fish seed production unit : During the year, a sum of Rs. 36.0 lacs was received for Fish Seed Production Unit which was utilized for creating infrastructure *viz.* three nursery ponds and a pump house for storing fish seeds of different variety and ensuring essential water supply. Aerators and oxygen diffusers were also procured to provide oxygen to brooders and seeds in different ponds. The brooder stock of different fish varieties was also purchased. The breeding of common carp was successfully done in January-February and



fish seed was made available to farmers of Mathura district and adjoining areas. In the coming year, the breeding of Rohu, Catla, Mrigal and Grass Carp will also be done and the seed produced will be made available to farmers of the state at nominal rates. The integration of fish farming with duck rearing will also be attempted as ducks not only act as live aerator by splashing water with their webbed feet but also control the aquatic weed, aquatic insects, molluscs, tadpoles etc.



Project 3: Conservation of Haryana cattle and Bhadawari buffalo through modern technique of AI : Under this project, 3009 semen doses of Haryana semen, 2734 doses of Bhadawari semen and 2734 doses of Murrah semen were prepared. From these 93 artificial inseminations were done in cattle and 69 inseminations were performed in buffaloes. Using this semen, 301 AI in cows and 406 AI in buffaloes were performed in clinical cases reported in clinics. Unit is now in a position to supply semen to state animal husbandry department and private entrepreneurs.





Project 4 : Quality fodder and seed production : During this year under report, with a budget of Rs. 35.50 lacs, 31.50 quintal certified sorghum seed, 290.31 quintal of raw seed of oat and 31.79 quintals of berseem seed was produced and the seed was supplied to State Animal Husbandry Department on their request.



Project 5 : Establishment of toxicological investigation laboratory : Project was sanctioned towards the end of last financial year with an outlay of Rs. 125.00 lacs. Building for the establishment of laboratories is under construction. Major equipments purchased for laboratories include GCMS, fluorescent microscope, myograph, microdigestion system, ultracentrifuge, semi-autoanalyzer for blood biochemistry. Apart from this, fully-furnished training hall is also being developed with multi-media projection facility and public address system.

Project 6 : Productivity enhancement program in selected dairy cooperatives of Uttar Pradesh through implementation of information-management system (IMS) : Out of a total budget outlay of Rs. 70 lacs, 69.53 lacs were utilized and a well furnished and renovated animal data server room, herd health diagnostic laboratory have been developed. Villages for registration of animals have been identified and about 560 animals have been registered.



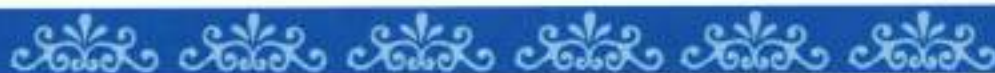
C. ACADEMIC RESEARCH

Research 1: Gross morphological, histological, histochemical, and ultrastructural studies of the intestine in guinea fowl

The present work was aimed to study changes in the Gross morphological, histological, histochemical, and ultrastructural studies of the intestine in guinea fowl from day 1 through 180. There was significant increase in the weight, length thickness and diameter of all the segments of intestine with age. Maximum increase in the length and weight was observed during first 30 day of the post hatch life. Histologically, the wall of the intestine consisted of tunica mucosa, tunica muscularis, tunica submucosa and tunica serosa. Mucosa of entire intestine showed villi of variable shape and size. The surface epithelium consisted of columnar shape chief cells, the goblet cells, rounded oval shaped globular leukocyte, and intraepithelial lymphocyte. The goblet cells were neatly shaped goblet, the globular leukocyte were observed in the basal half of the intestinal epithelium. The lamina propria was composed of loose connective tissue which had collagen and reticular fibers which increased with advancement of age. The cellular components observed in lamina propria were mainly large and small lymphocytes together with a few eosinophilic leucocytes. Histochemically, the intestinal goblet cells and brush border of villi showed strong PAS reaction. Pronounced activity of alkaline phosphatase, acid phosphatase and lipase were observed in villus epithelium of 15 to 180 day old guinea fowl. Ultrastructurally, the structural variations among similar type of cells were not observed in different parts of intestine. The chief cells had basally located oval nuclei and prominent nucleolus. Globular leucocytes and lymphocyte were sandwiched between epithelial cells throughout the intestine in all age groups. Mast cells were located in lamina propria just beneath epithelium. The results indicated that the changes observed in different age group may contribute significantly in satisfying the functional requirements of guinea fowl during development.

Research 2: Studies on the antibacterial and antiviral effect of the leaves of *Ocimum sanctum* and *Argemone mexicana* with reference to immunomodulatory effect

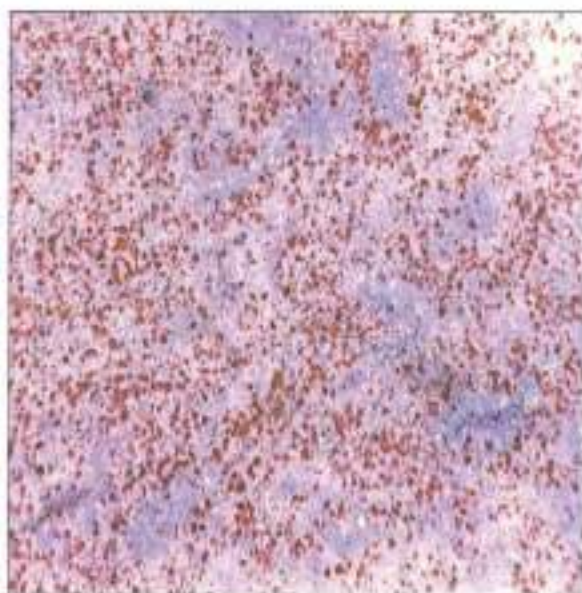
The present study was undertaken to evaluate the antibacterial (*in vitro* and *in vivo*), antiviral (*in vitro* and *in vivo*) and immuno modulatory effect of *Ocimum sanctum* (OS) and *Argemone mexicana* (AM) plants in chicken model and also studied the effect of these two plants on splenocyte proliferation and IFN- γ induction in rat model. 250 mg/kg body weight dose of OS and AM was found non toxic and growth promoter in chickens. The gain in weight recorded was about 74% in OS and 67% in AM fed chickens. Immuno modulating effect of hot aqueous extract (HAE) of OS and AM was studied. Humoral immune response using *S. Typhimurium* 'O' antigen was measured by quantitating the serum antibody level by ELISA test. There was a significant rise in antibody titre of OS and AM fed chickens in comparison to control group. This work indicated that the extract of both plants enhanced the antibody level and acted as a humoral immuno stimulant. Cell mediate immune response using DNCB as an antigen was conducted to evaluate the effect of extract of these two plants. This test demonstrated 29.89% increase and 34.02 % decrease in skin thickness of OS and AM fed chickens, respectively. This study indicated the T cell suppressive impact of hot aqueous extract of AM and stimulator effect of OS. To study the antibacterial activity of OS and AM, two well established pathogens viz; *S. Typhimurium* and *E. coli* (O26) were used using different concentrations (20mg/10mg/5mg/2mg/ disc of OS and AM) of different extract preparations (hot aqueous, cold aqueous, methanolic and hydromethanolic) of both plants. This study indicated that antibacterial effect was dose dependent and methanolic extract of both plants comparatively were more effective antibacterial. Antiviral properties of the above said extracts against RD and IBD virus was also investigated. *In vitro* study was done on chicken embryo fibroblast (CEF) cells. 15 mg of HAE of OS and 2.5 mg of AM were found safe to CEF. To determine the *in vitro* antiviral effect of these two plants, chicken embryo fibroblast cells were used with challenge dose of RD and IBD viruses and the cytopathic effect (CPE) of treated and untreated CEF cells. To assess the *in vivo* antiviral property against RD and IBD viruses on the basis of clinical signs, body weight gain, haematology and gross lesions on visceral organs of fed and unfed groups were studied. The immunomodulatory properties of HAE of OS and AM on con-A stimulated rat splenocytes and IFN- γ induction was studied. *Ex-vivo* study showed 45.35% increase and 11.68% inhibition in splenocyte proliferation of OS and AM treated. OS showed 38.12% increase and 14.37% decrease in OS and AM treated in presence of 250 μ g/ml concentration. These findings indicate stimulatory/inhibitory effect of HAE of OS and AM on splenocytes. 84.61% and 27.23% induction and 57.85%



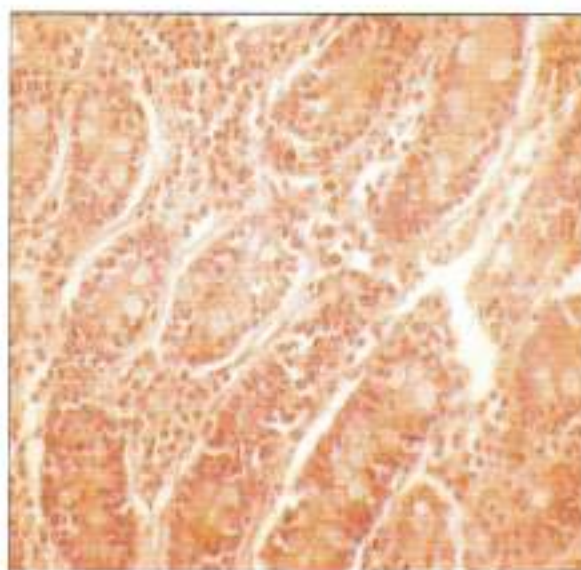
and 27.23% inhibition of IFN- γ were recorded in ex vivo and in vitro study respectively. This study demonstrated the antagonistic property of hot aqueous extract of OS and AM.

Research 3: Pathology of paratuberculosis in goat in reference to vaccine strategy

The present study was conducted to compare efficacy of laboratory prepared indigenous vaccine and imported commercial vaccine (Gudair) in protecting the MAP infection in goats. For this study 40 goats was divided in to three groups, comprising 10 goats (Sham-immunized) in group I, comprising 15 goats (Indigenous vaccine) in group II and 15 goats (Gudair vaccine) in group III. All the groups were challenged twice with 3×10^9 MAP Bison type strain S5 on 50 DPV and with 5×10^9 MAP Bison type strain S5 on 270 DPV. The goats of group II & III gained higher body weight as compared to sham-immunized goats while, there was no significant difference in body weight gain observed in between the vaccinated groups. The studies of cell mediated immunity revealed the impact of both vaccinated and experimental infection by MAP S5 strain on the proliferation of PBMCs. The CMI response (SI value) increased at 30 DPV and showed down regulation from 90 DPV and onwards in vaccinated goats and control goats. The studies on humoral immune response revealed, that at 180 DPV significant increase in vaccinated goats and maintained till 450 DPV. Microscopic examination of faecal samples showed at 180 DPV, 5 animals of control group started showing positive results, while at 400 DPV one goat of each vaccinated group was found to shed bacilli. Culture of faecal samples shows growth on HEY medium with mycobactin J confirmed the goats as positive for JD. IS 900 PCR applied in the DNA samples of all goats of each group revealed that at 360 DPV, 100% (4/4), 11.9% (1/9) & 11.9% (1/9) were positive for MAP DNA in animals of group I, II & III respectively. The control animals at 200 DPV showed emaciation and depletion of body fat and mild to moderate lesions of focal/diffuse thickening of small intestine with or without corrugations specifically at ileocaecal junction characterized by mild to moderate catarrhal enteritis with infiltration of mononuclear cells and epitheloid cells. The remaining goats sacrificed at 450 DPV showed thickening of small intestine in 5 cases each in group II and III with chronic catarrhal enteritis and shortening, thin, atrophied and ballooned villi with infiltration of mononuclear cells and epitheloid cells, which at places fused to form giant cells. In vaccinated groups there were focal thickening of intestines in 5 cases each at 450 DPV with lesions of chronic catarrhal enteritis adorned with presence of lymphocytic, plasma cells and macrophages with a few epitheloid cells. MLN collected at 200 DPV sacrificed goat revealed presence of oedematous fluid and focal infiltration of mononuclear cells with



Pink colour clusters of acid fast bacilli in faecal smear of goat of group I. (Ziehl Neelsen stain 100 X)



Intestine showing infiltration of large number of mononuclear cells and epitheloid cells around glandular crypts in goat of group I. (H&E stain 400X)

scattered presence of epitheloid cells and few giant cells and on 450 DPV showed mosaic like arrangement of epitheloid cells with presence of multinucleated giant cell. In vaccinated groups, the MLN showed infiltration of MNC and a few epitheloid cells. The study of body score at 200 and 450 DPV on the parameters of body conformation, carcass components fat measurements revealed better marks in vaccinated animals (groups II & III) than control (group I). These parameters in both the vaccinated groups did not differ significantly.

Research 4 : Genetic studies on production traits in Gangatiri cattle breed

The present study was under taken on Gangatiri cattle, a dual purpose breed. The data comprising of performance records of 202 Gangatiri cows, progeny of 11 sires, maintained at Government Livestock Farm, Arazilines Varanasi (U.P.). The statistical analysis of data were carried out by utilizing LSMLMW (Least Squares and maximum likelihood method- W.R. Harvey, 1990) PC-2 version computer programme in which method 3 of Henderson (1953) was used. The overall unadjusted means of age at puberty (AP), age at first conception (AFCON), service period (SP), age at first calving (AFC), gestation length (GL), first calving interval (FCI) and breeding efficiency (BE) were estimated as 1324.80 ± 12.40 , 1328.6190 ± 181.63 , 174.9059 ± 114.69 , 1612.4310 ± 182.16 , 283.8119 ± 5.31 , 458.2475 ± 115.10 , and 83.7857 ± 12.31 respectively. The corresponding coefficients of variations were estimated as 13.31, 13.67, 65.57, 11.29, 1.87, 25.11, and 14.70 per cent respectively. The estimates of heritability of age at puberty, age at first conception, age at first calving, gestation length, service period, first calving interval, breeding efficiency and first lactation total milk yield were obtained as 0.266 ± 0.203 , 0.324 ± 0.218 , 0.315 ± 0.216 , 0.023 ± 0.135 , 0.398 ± 0.236 , 0.408 ± 0.238 , 0.283 ± 0.208 and 0.639 ± 0.289 respectively. The genetic and phenotypic correlations between age at puberty, age at first conception and age at first calving were estimated as high positive and significant indicating that similar genes were involved for the expression of these traits.

Research 5 : Genetic studies on reproduction traits in Gangatiri cattle breed

The present investigation was undertaken to study the estimation of genetic parameters of Production traits of Gangatiri Cattle. The data on 202 Gangatiri cows progeny of 11 sires calved during 1993 to 2008 maintained at Government Livestock farm, Arazilines, Varanasi were utilized. The statistical analysis was carried out for genetic study of production traits viz. first lactation milk yield (MY), first lactation peak yield (FPY), First lactation length,(FLL),First dry period(FDP), and for body measurements or morphometric characters viz. heart girth , paunch girth, body length, and height at withers.. The overall means for first lactation milk yield (MY), first lactation peak yield (FPY), First lactation length,(FLL),First dry period(FDP) were 1032.57 ± 300.53 , 4.91 ± 1.29 , 256.74 ± 60.04 , and 201.51 ± 93.26 respectively. The CV for first lactation milk yield (MY), first lactation peak yield (FPY), First lactation length, (FLL), First dry period (FDP) were 29.1050, 26, 26.2729, 23.3855, 46.2805 respectively and these values was high indicating possibility of selection for each traits. The highest average for milk yield was recorded in P1 (1993 to 97) while the lowest milk yield was observed in P2 (1998 to 2001). The effect of period on Peak yield was found highly significant ($P < 0.01$) while on milk yield and first lactation length and dry period was found non significant. The effect of season and AFC groups on milk yield, Peak yield and first lactation length and dry period was found non significant. Sire effect had significantly for all the traits. The heritability estimates for First lactation milk yield (MY), First lactation peak yield (FPY), First lactation length, (FLL), First dry period (FDP), were estimated as 0.639 ± 0.29 , 0.127 ± 0.17 , 0.352 ± 0.23 , and 0.701 ± 0.30 , respectively. All estimates of heritability were low to moderate except dry period. The genetic correlations of first lactation milk yield with peak yield, First lactation length,(FLL), and First dry period(FDP) were obtained as 1.158 ± 0.45 , 1.030 ± 0.10 , -0.287 ± 0.44 , respectively and of First lactation length,(FLL),with first lactation peak yield (FPY), First dry period(FDP), was 1.114 ± 0.64 , and -0.355 ± 0.48 and it is high, negative and significant. The genetic correlations between first lactation peak yield (FPY), and First dry period (FDP) was -0.128 ± 0.73 . For improvement of Gangatiri cattle production traits, the breeding strategies followed to bring genetic improvement needs accurate selection and progeny testing bulls, for improving productivity along with improvement in managerial practices.



Research 6 : Comparison of different methods for efficient sire evaluation and genetic study of economic traits in Sahiwal cattle

For present study the data were collected regarding first lactation performance of 506 Sahiwal cows for the period 1986 to 2009 maintained at State Livestock cum Agriculture Farm Chak-Ganjaria, Lucknow. The breeding values of different sires for various first lactation traits were estimated by LSQM, SRLS & BLUP methods. The data of MY 90, MY 120, MY 150, MY 180 days & MY 300 days, Lactation period of first lactation, Age at First Calving and First Calving Interval were analyzed by Least Square Analysis (Harvey, 1960) PC2 Version. Estimates of BLUP method were emerged as most reliable among three methods because it has more precise values. Ranking of sire was done on the basis of their breeding values estimated through BLUP method of sire evaluation. Ranking of sire is useful in case of better sire for future generation. The least square means for MY 90, MY 120, MY 150, MY 180, MY 300 days and Lactation Period were 518.504 ± 19.366 , 687.717 ± 25.956 , 840.796 ± 31.820 , 988.978 ± 37.575 , 1389.916 ± 59.528 kg and 358.378 ± 16.617 days respectively in Sahiwal cattle. The effect of period on MY 90 & MY 120 days was found significant ($P < 0.05$) & on MY 150, MY 180 & MY 300 days was found non-significant. The effect of season on MY 90, MY 120, MY 150, MY 180 & MY 300 days was found significant ($P < 0.01$). Effect of AFC groups on MY 90, MY 120, MY 150, MY 180, MY 300 days was found non-significant. The genetic and phenotypic correlations between cumulative part yields and first lactation yield were positive and highly significant. According to regression equation analysis, the actual value of 300 days milk yield is very close to the predicted values on the basis of 90 days milk yield others. It was concluded that performance of daughters in their first lactation on the basis of 90 days milk yield may be used to select sires with good reliability rather than to wait for 300 days or total lactation milk yield. Among reproduction traits Calving interval is a trait which reveals the management and environment condition of the farm animal. Larger calving interval is counter-checked and could be controlled by reducing service period and dry period. The effort should be made to reduce the calving interval up to standard (12 months) prescribed for Sahiwal cattle.

Research 7 : Screening of medicinal plants as feed additive using *in vitro* gas production test.

Plants rich in secondary metabolites (saponins, tannins, essential oils, etc.) have antimicrobial activity which can be exploited for selective inhibition of a particular group of microbes in the rumen. We have screened a large number of plant extracts for their potential to change the digestibility and gas production in *in vitro* gas production test using buffalo rumen liquor. Out of 10 plant extracts/spices tested using *in vitro* gas production test, 4 increased the gas production and digestibility potential by *in vitro* gas production test with buffalo rumen liquor. Rumen liquor pH was not affected by incorporation of herbal feed/spices tested as compared to control. Gas production (ml/gDM) was significantly higher on *Syzygium aromaticum* (130.87) and *Ferula asafetida* (138.33) as compared to control (119.49). The *In vitro* true digestibility was significantly ($p < 0.05$) higher by addition of *Cuminum cyminum* linn (seed) and *Trigonella foenum-graecum* (Seed). The *In vitro* organic matter digestibility was significantly ($P < 0.05$) for addition of *Trigonella foenum-graecum* (Seed) higher by compared to control. Addition of *Ferula asafetida* and *Aloe barbadanis* (Plant extract) tends to improve DMD and OMD in dose dependent manner. *Cucurma longa* and *Piper nigrum* had no effect on the various Parameters studied. *Acacia Concinna* extracts suppressed IVDMD and IVOMD of feed, various levels of the extract should be tested to find out a suitable. From present study this can be concluded that *Cuminum cyminum* Linn, *Trigonella foenum-graecum*, *Ferula asafetida* and *Aloe barbadanis* has potential to be used as feed additive to improve the digestibility of feed.

Research 8 : Studies on reproductive management of dairy heifers using progesterone releasing intravaginal device along with other hormonal combination

The success of dairy heifer economic lies in ensuring proper and optimal reproductive rhythm with in physiological limits. This synchronization protocol viz., PRID + PMSG + EV and PRID + EV, were used in 28 dairy heifer (Experiment I, n= 16, Experiment II, n= 12). In order to obtain pregnancies, in both the protocols we obtained 25 % pregnancies. In experiment I, no significant differences were observed in the follicle size, rate of growth of follicle and progesterone concentration between pregnant and non- pregnant animals. Effect of PMSG has resulted in early ovulation. In experiment II, all the parameters considered in experiment I also did not differ significantly between pregnant and non- pregnant animals. However, in non- pregnant group, no significant difference could be observed between different stages, suggesting persistency of follicles.



Research 9 : Studies on effect of progesterone releasing intravaginal device and other hormonal combination on reproductive performance of bovines.

The study was carried out to study the fertility rate, growth pattern of the largest follicle and hormonal relationship (progesterone) during the treatment in two estrus synchronization protocols. Two estrus synchronization protocols were carried out on 24 parous bovines. In the first trial 17 parous bovines (n= 17) including 7 parous cows and 8 parous buffaloes were subject to ovsynch + PRID protocol. In the second trial 9 parous cows (n=9) were subject to EV + P4 + PGF2 α + PRID protocol. In trial I, 57.14 % and 50.00 % pregnancies were obtained respectively in parous cows and in parous buffaloes. No significant differences were observed in the follicle size, rate of growth of follicle and progesterone concentration between pregnant and non- pregnant animals in either cattle or buffaloes. In trial II, 33.33 % pregnancies were obtained in the parous cows and all the parameters considered in trial I also did not differ significantly between pregnant and non- pregnant groups of animals.

Research 10 : Studies on cryopreservation of Haryana bull semen

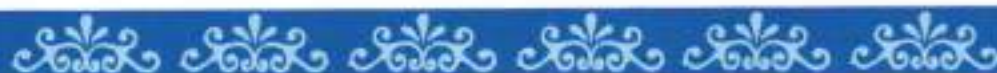
This experiment was designed to compare GEYT extender with GEYC extender for cryopreservation of Haryana bull semen. For this purpose, ejaculates were collected from four Haryana bulls using artificial vagina at biweekly interval. Semen ejaculates were diluted (80×10^6 motile spermatozoa ml⁻¹) in GEYT and GEYC extender. Diluted semen was equilibrated for 5h at 5°C, filled in straws at 5°C, kept in liquid nitrogen vapours for 10 min and then stored in the liquid nitrogen. Thawing was performed after 12 h of storage, at 37°C for 45 s. Progressive motility, live spermatozoa, abnormal spermatozoa, plasma membrane integrity and acrosomal integrity were assessed at different stages of cryopreservation (Start of equilibration, End of equilibration and post-thawing). Amongst the two extenders used, GEYT was found to be better as it preserved the maximum seminal attributes considered for the study.

Research 11: Gross, histological and certain histochemical observations on the prenatal thymus of goat (*Capra hircus*)

Gross, histological and histochemical studies were conducted on the thymus of goat fetuses/embryos ranging from 16.87 to 151.32 days of gestation divided in to early, mid and late prenatal groups. Grayish to pale coloured cervical and thoracic parts of thymus were generally superficially lobulated. The cervical part extended from thoracic inlet up to the larynx and its right portion was connected with the thoracic part. Irregularly quadrilateral thoracic part lied on left side in cranial mediastinum thoracic opposite the first rib to third intercostal space. Biometric parameters of late prenatal period were significantly higher than the mid prenatal period goat thymus. At 16.87 days of gestation the thymic primordium consisted of eosinophilic and basophilic cell types where as in 24.37 days of old embryo the primordium had epithelial reticular cells, lymphoblasts, fibroblasts and mesenchyme cells. At 52.51 days of gestation the lobulation of thymic parenchyma was ill developed and poorly organized. The capsule, trabeculae and septae were more pronounced in the thymus of late prenatal period than the mid prenatal goat. The parenchyma of the lobules was not divisible in to cortex and medulla up to 73.13 days of gestation. Hassall's corpuscles were absent upto 73.13 days of gestation. The thymocytes and epithelial reticular cells were positive for PAS and glycogen, where as negative for acid mucopolysaccharides, alkaline phosphatase and acid phosphatase.

Research 12: Gross, histological and certain histochemical observations on prenatal liver of goat (*Capra hircus*)

Morphological, histological and histochemical observations were made on 18 goat embryos/foeti of either sex ranging from 17 days to full term. The experimental units were divided in to Group1 (1-30 days); Group 2 (31-90 days) and Group3 (91- till term), having 6 embryos/foeti in each group. A pea sized roughly quadrilateral bilobed brownish liver was observed at 1.4 cm CRL (27days) of gestation. It occupied almost whole of the abdominal cavity at 47 days of gestation. At this stage caudate lobe was distinct between right lobe and portal fissure of the liver. The falciform and lesser omentum ligaments were distinct at 92 days of gestation. At 126th day of gestation, the liver occupied about two third part of abdominal cavity and its long axis was extended from the 7th rib to 13th rib. The right lobe was larger than the left lobe. Microscopically at 0.9 cm CRL (17 days) of gestation, the primordium of the liver appeared as an irregular solid strand of hepatocytes



separated by irregular and broad blood spaces, the latter had haemopoetic cells along with, large multilobular basophilic nucleated and lighter eosinophilic cytoplasmic megakaryocytes. Thin reticular fibrils were first noticed around the hepatocytes on 17th day of gestation. The fine collagen fibres were first noticed at 47 days of gestation in the capsule which forms the bundles in the capsular connective tissue and blood vessel walls from the 92 days and onwards. At 49 days of gestation the radial arrangement of hepatocytes was observed bi nucleated to tetra nucleated; and many of these cells were differentiating triangular to star shaped Kupffer cells appeared on 49 days. The portal triad was first observed at 49 days of gestational stage and became distinct at 69 days of gestation. Beyond this stage further organization of parenchyma was continued due to differentiation of connective tissue. The cytoplasm of hepatocytes and hepatoblasts showed blue iron particles, argentaffin granules, mild alkaline phosphatase activity and distribution of lipid droplets. At full term stage the hepatocytes were compactly arranged and their cytological characters were identical to adult one. The number of megakaryocytes reduced near full term however, the number of RBCs was more and they were present in the lumen of blood vessels and in sinusoids. The hepatocytes were mild to moderate positive for glycogen, PAS, AMPS and their nuclei showed mild to moderate feulgen reaction.

Research 13 : A study on evaluation of vitamin C and *Chlorophytum borivillanum* extract supplementation for adaptogenic activity in stress induced rats.

The aim of this study was to investigate the adaptogenic effect of Vitamin C and *Chlorophytum borivillanum* extract supplementation in rats subjected to chronic cold restraint stress. The study comprised of four groups of rats namely, Group I (Control), Group II (Stress), Group III (Stress with *Chlorophytum borivillanum* (@ 250mg/Kg body weight), Group IV (Stress with Ascorbate @ 200mg/kg body weight). The blood, liver tissue homogenate and kidney tissue homogenate samples were analyzed for different biochemical parameters. The Triglyceride, Cholesterol and Lipid peroxidation concentration in all the samples revealed a similar trend recording significantly higher values in the stress group when compared to the control. The values for the treatment Groups reduced significantly almost equal to the control showing the effect of herb and Ascorbate. The enzyme Superoxide dismutase (SOD) recorded a significant decrease in the values under stress in all the three samples in blood, liver and kidney tissue. After treatment with *Chlorophytum borivillanum* and Ascorbate, the values rose to near control. The Catalase activity in the blood and liver tissue under stress exhibited a similar trend when compared with SOD. However Catalase activity in the kidney tissue showed significantly higher values under stress as compared to the control values. The values found to reduce comparable to control in treatment groups. The Vitamin C and Vitamin E levels recorded a significant fall in the values under stress in blood plasma and liver tissue. The values of Vitamin C rose near to control after treatment with *Chlorophytum borivillanum* and Ascorbate. Whereas treatment with Ascorbate showed significant effect on Vitamin E levels in liver tissue and no effect of treatment was observed in blood plasma. However no significant effect of stress as well as treatment was observed in kidney tissue regarding Vitamin E. Under in vitro DPPH radical scavenging assay and TBARS assay the *Chlorophytum borivillanum* extract considerably inhibited in a dose dependent manner the levels of DPPH free radicals and Thiobarbituric acid reactive substances, respectively thus showing significant antioxidant properties. The findings suggested that both *Chlorophytum borivillanum* and ascorbate brought about similar adaptogenic effects in the rats after chronic cold restraint stress and can be used as effective antioxidants.

Research 14 : A study on status of lipid peroxidation and antioxidant system when supplemented with vitamin C and *Andrographis paniculata* extract in stress induced rats.

The study investigated the antioxidative activity of aqueous *Andrographis paniculata* extract and Ascorbate supplementation in rats using chronic cold restraint stress model. The study comprised of four groups of experimental male wistar albino rats; group I (control), group II (stress), group III (stress with *Andrographis paniculata* @ 250 mg/kg body weight), group IV (stress with with Ascorate @ 200 mg/kg body weight). The blood, liver tissue homogenate, kidney tissue homogenate samples were analysed for different biochemical parameters. The Triglyceride, Cholesterol, and Lipid peroxidation in all the samples increased significantly in the stress group when compared to the control. The values for the treatment groups reduced to almost near the control showing the effect of the herb and Ascorbate. The enzyme Superoxide



dismutase (SOD) decreased significantly in stress among all three samples. After treatment with *Andrographis paniculata* and Ascorbate, the values rose near to the control. The Catalase activity in blood and liver tissue under stress exhibited similar trend as SOD. However, the Catalase activity in the kidney tissue showed significantly higher values under stress as compared to the control values and found to reduce significantly near to the control after treatment with *Andrographis paniculata* and Ascorbate. The Vitamin C levels reduced significantly under stress in all the samples and rose to near control after treatment with *Andrographis paniculata* and Ascorbate. The Vitamin E levels reduced significantly under stress in liver and kidney tissue and rose to near control after treatment with *Andrographis paniculata* and Ascorbate however, no significant effect of stress as well as treatment was observed in blood plasma regarding Vitamin E. *In vitro* DPPH and TBARS assay of *Andrographis paniculata* extract considerably inhibited in a dose dependent manner, the levels of DPPH free radicals and TBARS, respectively thus showing significant antioxidant properties. The findings indicated that both *Andrographis paniculata* and ascorbate brought about similar antioxidative effects in the rats after chronic cold restraint stress and can be used as effective antioxidants.

Research 15 : Epidemiological and clinical investigations of canine dermatological disorders particularly bacterial pyoderma and its management with immunomodulation.

Overall prevalence rate of canine dermatological disorder was 18.70% (282 cases) out of 1508 clinical cases of dogs. Prevalence rate of Pyoderma 23.04%; Demodectic mange 47(16.66%); Scabies 18(6.38%); Dermatomycosis 29 (10.28%); Allergic dermatitis 28 (9.92%); Ectoparasite infestation 39(13.82%); Mixed infection 52(18.43) and Hypothyroidism (1.47%) was recorded, Prevalence was higher in summer season as compared to rainy and winter season while the highest prevalence rate was found for dermatological disorder in August 2010 and canine pyoderma respectively in April 2011. Canine dermatological disorders were more common among animals between one to three years of age. Canine dermatological disorders were more common in long hair breed German shepherd. Dominantly isolated bacteria was *Staphylococcus* spp. (92.30 %), others were *E. coli* spp.; *Pseudomonas* spp. *Proteus* spp. *Klebsella* spp. *Streptococcus* spp.; Gram -ve coccobacillus spp. In biochemical analysis 87% samples were positive for *Staphylococcus intermedius*. Insignificant difference was recorded in rectal temperature, pulse rate and respiratory rate, routine haematology before and after treatment in Pyoderma cases in dogs among all groups. Isolated strains of *Staphylococcus intermedius* were susceptible to Ampicillin-Clavulanic acid, Cephalexin, Rifampicin, Doxycycline Enrofloxacin, and Oxytetracycline no 100%; 96.15%; 94%86 %;86 %; 84.61 %; and 0% respectively. Pyoderma treated with systemic cephalixin, topically shampoo with immunomodulator levamisole enhance the efficacy (83.33%) were recovered (15 days) while group treated with systemic cephalixin, topically shampoo only efficacy was less (66.6%) in 20 days of duration. Rifampicin, topically shampoo with immunomodulator Ranitidine (83.33%) were recovered (18 days) while group treated with systemic Rifampicin, topically shampoo without immunomodulator was (66.6%) was recovered in 30 days of duration. Systemic Amoxy-clav, topically shampoo with immunomodulator levamisole (100%) to short duration (18 days) while group treated with systemic Amoxy-clav, topically shampoo without immunomodulator was (66.6%) in 23 days of duration. Systemic Doxycycline, topically shampoo with immunomodulator Ranitidine (83.33%) duration (15 days) while group treated with systemic cephalixin, topically shampoo without immunomodulator was (50.0%) in 24days of duration. Systemic enrofloxacin, topically shampoo with immunomodulator levamisole (83.33 %) duration (18 days) while group treated with systemic enrofloxacin, topically shampoo was (50.0%) in 28 days of duration.

Research 16: Studies on the levels of drug resistance amongst ticks against flumethrin, amitraz and ivermectin in cattle and buffaloes

Ticks are economically important ectoparasites of livestock. Epidemiological studies of ticks are essential to evolve a suitable strategic control program. Epidemiology of tick infestations was studied in cattle and buffaloes at various locations of Mathura district from July 2010 to June 2011 to know the prevalence of ticks in relation to months of year, seasons of the year, age of the host, species of ticks involved and site of their attachment. During the study period, 3150 animals (2515 cattle and 635 buffaloes) were examined and found that overall prevalence of ticks in cattle and buffaloes was 58.41%, among these 60.07% (1511/2515) cattle and 51.81% (329/635) buffaloes were found positive for ixodid ticks. The present study revealed that the



prevalence rate of ticks is more in cattle (60.07%) as compared to buffaloes (51.81%). Maximum rate of prevalence was reported in month of September (cattle: 75%; buffaloes: 69.09%) and minimum in the month of January (cattle: 46.07%; Buffaloes: 37.74%). Maximum tick infestation was found in rainy season (cattle: 69.46%; buffaloes: 61.14%) followed by in summer season (Cattle: 62.55%; Buffaloes: 50.95%) and minimum in winter season (Cattle: 47.96%; Buffaloes: 43.46%). Overall maximum percentage of tick infestations was noticed in the young ones (Cattle calf: 80.21%; Buffaloes calf: 74.17%) followed by grownups (cattle: 68.48%; buffaloes: 60.93%) and minimum tick infestation was observed in adult cattle (Cattle: 44.85%; Buffaloes: 36.33%). Cattle were mostly infested with *Boophilus* species while buffaloes were mostly infested with *Hyalomma* species. On the basis of morphological studies, four species of ticks were identified namely *Boophilus microplus*, *Hyalomma anatolicum anatolicum*, *H. marginatum issaci* and *H. dromedarii*. Among these identified tick species, *H. marginatum issaci* and *H. dromedarii* were collected only from buffaloes. The most common feeding sites for adult ticks were neck, axilla, belly, groin, udder, perineal regions and tail. Present study focusing on the detection of resistance of *Boophilus microplus* ticks against three different acaricides was carried out in Mathura district. Laboratory tests were carried out on 14 days old larvae and fully engorged females *Boophilus microplus* ticks, to determine the levels of drug resistance against flumethrin, amitraz and ivermectin by use of larval packet test (LPT) and adult immersion test (AIT). Ticks collected from Adeeng, susceptible to all the three acaricides was designated as reference susceptible population. Concentration-mortality data were subjected to Probit analysis to generate lethal concentration (LC). Resistance Factor (RF) value of each tick sample was calculated by dividing its LC with that of acaricides susceptible strain. Results of LPT and AIT indicated that tick population collected from all target locations were found resistant against flumethrin with Resistance Factor (RF) value greater than 17.00 for tick population of all the locations. LPT bioassays results revealed that tick populations collected from Jay Gurudev dairy farm, Balajipuram and DDD farm were tolerant (low level of resistance) (RF=3-5) and tick population of Damodarpura was found susceptible (RF<3) against amitraz. Results of AIT showed that tick population of all four locations under study were found susceptible against amitraz. The results of both test for ivermectin indicated that the tick population of all target locations were found susceptible. The comparative study of LPT and AIT for the detection of acaricide resistance showed that LC50 values of the three drugs in different regions were found to be more by LPT as compared to the AIT for the same tick population.

Research 17: Studies on the level of resistance in gastrointestinal nematodes of sheep against different benzimidazole drugs

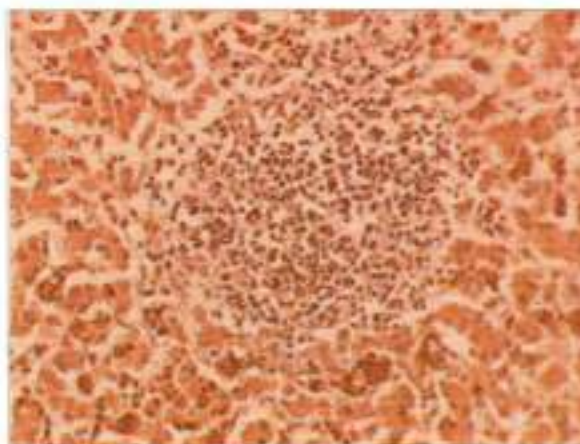
Present study was done to detect anthelmintic resistance in sheep against Benzimidazole group in four farms (Damodarpura, Balajipuram, Aurangabad and Madhurikund sheep farm). Faecal Egg Count Reduction Test (FECRT), Egg Hatch Test (EHT) and Larva Development Test (LDT) were conducted to detect anthelmintic resistance. The overall prevalence of GI nematodes was found 67.17% in these farms. Coproculture study showed maximum presence of *Haemonchus* spp. followed by *Trichostrongylus* spp., *Oesophagostomum* spp. and *Strongylus* spp.. Faecal egg count reduction test (in-vivo) results revealed that parasites were resistant against fenbendazole in all studied farms. Albendazole was found resistant against GI nematodes in all sheep farm except Damodarpura sheep farm where it was found susceptible to resistance. Oxfendazole was found susceptible against GI nematodes in all studied sheep farms. Egg hatch test (in-vitro) results revealed that all sheep farms were resistant against benzimidazole with maximum resistance found in Madhurikund sheep farm with ED50 value 0.58 µg TBZ/ml (RF=11.2) followed by Aurangabad farm (0.50 µg TBZ/ml, RF=9.6), Balajipuram (0.48 µg TBZ/ml, RF=9.3), and Damodarpura (0.39 µg TBZ/ml, RF=7.5) sheep farm. Larva Development Test (in-vitro) showed that GI nematodes of all studied farms were resistant against benzimidazole. Maximum resistance found in Madhurikund farm ED50 value 0.55 µg TBZ/ml (RF=12) followed by Aurangabad (0.47 µg TBZ/ml, RF=10.2), Balajipuram (0.45 µg TBZ/ml, RF=9.8) and Damodarpura (0.31 µg TBZ/ml, RF=6.8) sheep farm.

Research 18: Chlorpyrifos-induced toxicity in broilers with ameliorative effect of selenium.

In the present study entitled Chlorpyrifos induced toxicity in broilers with ameliorative effect of selenium was investigated. For this purpose a total of fifty four chicks were randomly divided into three equal groups. The chlorpyrifos was given @ 3 mg/kg body weight daily by oral route in birds of group-II and group-



III for 42 days. The feed of the birds of group III was supplemented with sodium selenite @ 0.25 ppm. The birds of the group-I were kept as control. At the intervals of 14, 28 and 42 days post feeding various parameters of study were carried out. Clinical signs of gasping, incoordination in movement, stiffness, difficult breathing, muscle twitching, inability to stand, dull, depressed, dry oral mucous membrane with mucous like substances present in the oral cavity, ruffled feathers, reduced appetite, listlessness, diarrhea etc. were observed after 14 days post feeding in the toxicity group but of milder intensity in the birds of group-III. The body weight gain of the birds of group II & III revealed significant reduction from third week to end of experimentation. The weight of lungs, heart, kidneys, brain and spleen was found to be significantly lower in group-II and group-III. Hematological observations revealed significant decrease in the values of Hb, PCV and TEC. The mean values of TLC revealed significant decrease at all intervals with neutrophilia and monocytosis with significant Lymphocytopenia in toxicity groups. The mean values of AST and ALT was significantly increased in between the groups and in between the intervals. The ALP revealed significant increase in the birds of group-II on day 42 as compared to control. The mean values of LPO depicted significant increase while the mean values of GSH revealed significant decrease and there was significant increase in the level of glucose, urea and creatinine and decrease in total protein level at different time intervals in toxicity groups. The values of various biochemical attributes were less severe and low frequency at different time intervals in birds of group III. Pathomorphological studies of the birds of group-II fed chlorpyrifos @ 3.0 mg/kg body weight showed degenerative to necrotic changes in liver; congestion, edema with or without focal consolidation, extravasation of erythrocytes in the lumen of air vesicles and parabronchi with or without infiltration of heterophils, lymphocytes, macrophages and occasionally giant cells in the lungs; mild to moderate congestion with degenerative changes in the tubular epithelium and endothelial cells of glomerular tufts with or without hypercellularity in kidneys; congestion, extravasation of erythrocytes and degenerative changes / necrosis of myofibres with or without infiltration of heterophils, lymphocytes and macrophages in heart; excessive glandular secretion in the secretory glands and degeneration, desquamation of epithelial lining the mucosa with or without inflammatory cells in proventriculus; mucinous degeneration and necrosis of the tip of the villi in intestine; perivascular and perineuronal edema, satellitosis and spongiosis in brain; mild depletion of lymphoid cells in malpighian corpuscles of spleen and in follicles of bursa of Fabricius. Similar mild morbid lesions except pneumonia and myocarditis were also recorded in birds of group III administered sodium selenite @ 0.25 ppm in feed as compared to the birds of group II which suggested ameliorative effect of antioxidants on the parenchymatous organs and other body tissues.



Liver showing focal areas of coagulative necrosis in hepatocytes with infiltration of heterophils and lymphocytes in bird of group-II on day 42. (H&E 400X)

Research 19: Pharmacological studies on *Trachyspermum ammi* and *Raphanus sativa* with particular reference to their uterotonic, anti-inflammatory and antibacterial activities.

Present study was undertaken to study the phytochemistry and evaluate the oxytocic, anti-inflammatory and antibacterial activities of *Trachyspermum ammi* seeds and *Raphanus sativa* roots extracts. The oxytocic effect was studied on isolated uterine strips of pregnant buffaloes, anti-inflammatory activity in wistar rats and antibacterial activity was evaluated using standard bacterial cultures. Phytochemical studies revealed that the cold methanolic and hot methanolic extracts of *Trachyspermum ammi* seeds were positive for alkaloids, flavonoids, saponins, fixed oils and tannins but negative for carbohydrates, resins, glycosides and amino acids. Hot aqueous extract of *Raphanus sativa* roots was positive for alkaloids, carbohydrates, tannins, resins and fixed oils while cold aqueous extract was positive for alkaloids, carbohydrates, tannins, resins and fixed oils and negative for flavonoids, saponins, glycosides and amino acids. Cold methanolic extracts of *Trachyspermum ammi* seeds-induced uterine contraction was concentration-dependent. Tissue tension data



suggested that atropine (1 μ M) failed to antagonize the effect of CMTASE but one of the representative tissues revealed that atropine antagonized the effect of CMTASE. Therefore, possible involvement of muscarinic receptors cannot be ruled out. CMTASE- induced uterine contraction was found to be mediated through excitatory α -adrenergic receptors and 5HT receptors but possible H1 receptors are not involved in mediating CMTASE-induced uterotonic effects. Complete/partial antagonism by atropine sulphate (1 μ M), phentolamine, mepyramine and ketanserin, phentolamine (1 μ M) suggest involvement of excitatory muscarinic receptors, α -adrenergic receptors, H1-histaminergic and 5HT receptors, however it requires further studies. Anti-inflammatory studies suggested mild to moderate but delayed activity of *Trachyspermum ammi* seeds and *Raphanus sativa* roots extracts following a single oral feeding at @ 100mg/kg. Cold methanolic extract of *Trachyspermum ammi* seeds at 10 and 20 mg/disc was effective against *Staphylococcus aureus*, *E.coli*, *Bacillus* and *Klebsiella* while hot methanolic extract of *Raphanus sativa* roots revealed marked antibacterial activity only against *Staphylococcus aureus*. Thus, based on the results of present study, it may be inferred that both these plants possess promising pharmacological activities worth further investigation for drug-development.

Research 20: Evaluation of oxytocic, anti-inflammatory and antibacterial activities of *Adhatoda vasica* and *Moringa oleifera* leaves extracts

Present study was undertaken to evaluate the oxytocic, anti-inflammatory and antibacterial activities of *Adhatoda vasica* and *Moringa oleifera* leaves extracts. The oxytocic effect was studied on isolated uterine strips of pregnant buffalo anti-inflammatory in wistar rats and antibacterial activity was evaluated using standard bacterial cultures. Cold methanolic extract of *A. vasica* leaves (CMEAVL)-induced uterine contractions were concentration-dependent and 1000 μ g/ml concentration produced the maximal uterotonic effect. Tissue tension data suggested that atropine (0.1 μ M) failed to antagonize the effect of CMEAVL but one of the representative tissues revealed that atropine antagonized the effect of CMEAVL. Thus, warrants further detailed investigations. Tissue tension data revealed the antagonistic effect of phentolamine on CMEAVL-induced uterine contractions; thus suggesting the involvement of excitatory α -adrenergic receptors in CMEAVL-induced uterotonic effect. Mepyramine (1 μ M) and ketanserin antagonized the effect of CMEAVL involvement of histamine H1-receptors and 5-HT receptors in mediating uterotonic effect. Complete/partial antagonism by atropine sulphate (0.1 μ M) and phentolamine suggest involvement of excitatory muscarinic receptors, α -adrenergic receptors. Competitive antagonism by mepyramine (1 μ M) and ketanserin (1 μ M) of the uterotonic effect of extract further suggested the involvement of excitatory H1-histaminergic and 5-HT receptors, however, it requires further studies. Anti-inflammatory studies suggested mild to moderate but delayed activity of *A. vasica* leaves extracts following seven days continuous oral feeding at @ 400 mg/kg but *M. oleifera* leaves failed to produce any such effect. Hot alcoholic extract of *A. vasica* leaves at 250 and 500 mg/ml was effective against *Staphylococcus*, *E. coli* and *Klebsiella* sp while hot alcoholic extract of *M. oleifera* leaves revealed marked antibacterial activity against *Staphylococcus*, *Bacillus* and *E. coli* at 500mg/ml concentration of the extract.

Research 21: Pharmacological screening of *Cimicifuga racemosa* and *Mimosa pudica* for their oxytocic, anti-inflammatory and antibacterial activities.

Present study was undertaken to evaluate the oxytocic/tocolytic, anti-inflammatory and antibacterial activities of *Cimicifuga racemosa* roots and *Mimosa pudica* seeds extracts. The oxytocic/tocolytic effect was studied on isolated uterine strips of pregnant buffalo, anti-inflammatory in wistar rats and antibacterial activity was evaluated using standard bacterial cultures of *Klebsiella* and *Bacillus* species. *Cimicifuga* roots methanolic extract was found to exert a myometrial relaxant effect which was potentiated after inhibition of excitatory muscarinic, α , adrenergic, H1-histaminergic and 5HT receptors and β -receptors. *M. pudica* seeds extract also produced concentration-dependent inhibitory effect on buffalo myometrium which seemed to be mediated through inhibitory β receptors. Calcium channels did not seem to regulate tocolytic effect of *Mimosa pudica* seeds extract. Both the plants lacked promising anti-inflammatory and antimicrobial activities against *Klebsiella* and *Bacillus* species. Further studies are indicated on mechanistic aspects of tocolytic effect of extracts of both the plants particularly to elucidate the involvement of Ca²⁺ and K⁺ channels, NO and other signaling mechanisms including second messengers.



Research 22: Characterization of segment specific epididymal spermatozoa in bucks.

Maturation of sperm requires epididymal transit during which a number of physiological and biochemical alterations occur in the sperm leading to the acquisition of motility and fertility. The physiological events occur in a segment specific manner and are dependent on bidirectional role of the interaction between epididymal epithelium and sperm. The putative role of epididymis in bucks is less defined in terms of sperm maturation especially in terms of acrosomal integrity, membrane integrity, DNA compaction and role of epididymal secretory and structural proteins. With this overview the present study was designed to characterize sperms in different segments of epididymis. The study was carried out in 15 pairs of testes. The study revealed that, the protein content increased significantly ($p < 0.01$) in tissue homogenate from caput to cauda epididymis where as protein content of epididymal fluid gradually decreased from caput to cauda epididymis. Sperm motility was increased significantly ($p < 0.01$) from caput to cauda epididymis where as sperm livability exhibited no significant difference between the three parts of epididymis. Significant difference was found for sperms having proximal droplet between all segments where as sperms having distal droplets were found to be significantly different between three segments. Sperms having no head were found to be significantly different between caput, corpus and cauda epididymis. Acrosomal integrity was found to be significantly different between three segments. Acrosomal integrity in terms of intactness increased from caput to cauda. Hypoosmotic swollen positive spermatozoa showed a significant difference between caput, corpus and cauda parts of epididymis and HOST positive spermatozoa was increased from caput to cauda epididymis. Comet assay was not done for the caput and corpus epididymal sperms due to low sperm count as required for the Comet assay while comet assay was done for the cauda epididymal sperm. The results revealed 92-93% of sperms with compact and intact DNA. SDS-PAGE revealed caput epididymal fluid containing 12 proteins; corpus exhibited 10 proteins and cauda exhibited 11 protein bands. SDS -PAGE showed caput epididymal tissue homogenate had 7 proteins, corpus 8 proteins and cauda exhibited 11 proteins. Proteins of molecular weight 90, 35, 6.5 and 3 KDa were purely secretory. Proteins having molecular weight 215 KDa, 205 KDa, 195 KDa, 45 KDa, 18 KDa, 15 KDa and 12 KDa were found to be both structural and secretory. Proteins of molecular weight 100 KDa, 95 KDa, 75 KDa and 70 KDa were purely structural. Further studies are required to validate the role of epididymal proteins in the process of sperm maturation and function.

Research 23: Prevalence of VTEC in faeces of healthy cattle and diarrhoeic calves, milk and milk products in certain parts of U.P.

A total of 252 faecal samples (177 of healthy cattle, 75 of diarrhoeic calves), 87 milk samples (57 of raw milk and 30 of pasteurized milk) and 120 milk product samples (30 each of curd, Rasgulla, peda, paneer, and milk powder) were collected and assessed for the presence of the virulence genes *stx1* and *stx2* by single gene polymerase chain reaction (PCR). In faecal samples, higher prevalence of VTEC was detected in healthy cattle (19.77%) than diarrhoeic calves (14.66%). Prevalence of VTEC was 7.01% and 2% in raw milk and milk products samples, respectively. Out of 53 VTEC isolates, 52 carried *stx2* gene except one VTEC isolates which harboured *stx1* gene and was isolates from healthy cattle faeces. 46 VTEC isolated from faeces belonged to 18 different serogroups and O84 (13.04%) being the most frequently isolated serotype followed by O22 (8.69%) and O20, O168 (6.52% each). While most common of the 4 different serogroups identified in



In vitro antimicrobial drug sensitivity test for Verotoxin E. coli isolates (Mucifer Hinton agar)

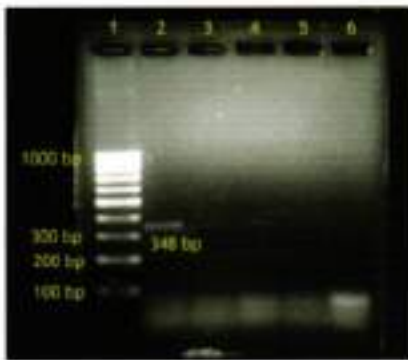


Brick red color colonies showing Congo red binding activity of Verotoxin E. coli.



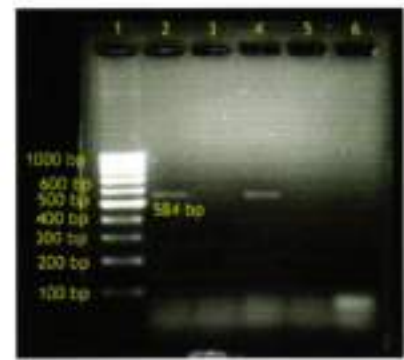
Colonies of non-O157 E. coli on MUG showing fluorescent colonies.





Agarose Gel showing PCR amplified product (348bp) for Stx1 gene in *E. coli* isolates from healthy cattle faeces.
Lane 1 - 100bp DNA marker
Lane 2 - Positive sample.
Lane 3, 4, 5, 6 - Negative samples.

Agarose Gel showing PCR amplified product (584bp) for Stx2 gene in *E. coli* isolates from milk and milk products.
Lane 1 - 100bp DNA marker
Lane 2 - Positive sample of paneer.
Lane 4 - Positive sample of raw milk.
Lane 3, 5, 6 - Negative samples.



milk and milk product VTEC isolates were O20 (42.85%), O55 (28.57%), O22 and O102 (14.28%). 22 of 53 (41.50%) VTEC isolates were found positive for haemolysis when tested on sheep blood agar. Among the 53 VTEC isolates screened for Congo red binding ability 50 (94.34%) were found positive. Further, the isolates were tested against 13 antimicrobial agents. VTEC isolates exhibited highest sensitivity to Gentamycin (79.24%) and lowest sensitivity to Novobiocin (100%).

Research 24: Prevalence of verotoxic *Escherichia coli* in meat, meat products and water from different sources in certain area of Uttar Pradesh.

A total of 372 samples comprising of 192 meat samples (40 Carabeef, 30 chevon, 30 mutton, 30 chicken, 32 fish, 30 pork), 50 meat products (5 fried chicken, chicken burger and 10 samples of Carabeef kabab) and 130 water (40 bore well, 40 community supply, 30 river, 20 pack/mineral) samples were collected and screened for presence of virulence genes stx1 and stx2 by PCR. Overall prevalence of VTEC in meat samples was found to be 18.23%. The highest prevalence of VTEC was detected in mutton (30%) followed by Carabeef (25%), chevon (20%), chicken (13.33%), pork (13.33%) and fish (9.38%). The serotypes of VTEC reported in meat samples were O108 (5), O97 (4), 2 strains each of O2, O112, O119, O41, O43. Out of 35 VTEC strains isolated from meat samples 7 strains harboured vt1, while 27 harboured vt2, and 1 strain was positive for both the genes. The overall prevalence of VTEC in meat products was 4.62% (6/130). The highest % positivity of VTEC strains were detected in river water 6.67% (2/30) followed by bore well water 5% (2/40) and community supply water 5% (2/40) and they belonged to 3 different serotypes. Serotypes O168 (3) was frequently detected followed by O102 (2) and O11. Out of 6 VTEC 5 carried vt2 gene and one carried both vt1 & vt2 gene. In the present study overall, 77.27% VTEC produced enterohaemolysin. The positive correlation between VTEC and enterohaemolysin was observed to be 77.27%, 66.67%, 83.38% for meat, meat products and water respectively. Overall 93.18% (41/44) VTEC strains were positive for Congo red binding activity. VTEC strains exhibited highest sensitivity to Norfloxacin (93.18%) followed by Ofloxacin (90.19%), Chloramphenicol (88.64%), Ciprofloxacin (88.64%) and Gentamycin (86.36%). The VTEC isolates were 100% resistant to Novobiocin, Penicillin G, Fusidic acid, Ticracillin and Methicillin.

Research 25: Prevalence of *E. coli* with special reference to verocytotoxic *E. coli* in faeces of dairy cattle, milk and milk products in Mathura and Vrindavan region (U.P.).

A study was undertaken to assess the prevalence, serotypes, antibiogram and virulence genes (stx1 and stx2 through PCR) of *E. coli*. A total of 405 samples comprising of 155 faecal samples, 100 milk samples and 150 milk product samples were screened for *E. coli*. Out of 405 samples processed, 147 *E. coli* isolates were obtained. The highest occurrence was observed in faecal samples (60%) followed by milk (22%) and milk products (21.33%). Serotyping results showed that out of 147 *E. coli* isolates, 18 isolates were rough, 19 isolates were untypable and 110 isolates belonged to 24 different 'O' serogroups. Serogroups O55 and O60 were obtained from all the three sources of samples. A total of 110 *E. coli* isolates (faeces-70, milk-20, milk products-20) were screened by PCR to detect virulence genes stx1 and stx2 in *E. coli* strain. Out of 110 samples tested, 3 isolates were found to be positive for stx gene One isolates (O55) from faeces of diarrhoeic cow was positive for stx1 gene whereas, 1 isolates (O60) from faeces of non- diarrhoeic cow revealed the presence of stx2 gene, while one isolates (O172) from faeces of diarrhoeic calf harboured both stx1 and stx2 genes. None of the samples from milk and milk products were found to be positive for the above mentioned



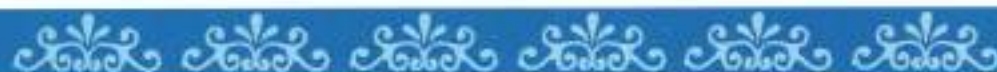
virulent genes. Thus on the basis of PCR the prevalence of VTEC in faecal samples was found to be 4.28% (3/70). The antibiotic sensitivity / resistant pattern of *E. coli* against 14 antibiotics revealed that Ciprofloxacin (100%) was highly sensitive followed by Nalidixic acid (92%), Ceftriaxone (88%), Cefotaxime (88%), Norfloxacin (82%), Gentamycin (80%), Erythromycin (78%) and Doxycycline (78%). Co- trimoxazole was found to be highly resistant (80%) followed by Penicillin- G (40%), Tetracycline (36%). Drugs like Amoxicillin, Amikacin had displayed resistance between 20-40%.

Research 26: A comparative study of close interlocking nailing and open interlocking nailing in management of canine femur and tibia fracture.

The present study was conducted on eight clinical cases (7 animals with one animal having bilateral femur involvement) of femur and tibial fractures in canines, divided into two groups. The animals of Group-A were subjected to Closed Interlocking Nailing, whereas, those of Group-B were subjected to Open Interlocking Nailing as reduction could not be achieved by closed method. The reduction and fixation were achieved under the guidance of C-arm image intensifier. Preoperative radiographs were taken in all clinical cases for assessment of procedure, nail and screw dimensions. Weight bearing in animals of Group-A was Excellent in three dogs and Fair in one, while in Group-B it was excellent in all the animals. Radiography on 30th post-operative day in group-A revealed stable implant and fracture fragments with evidence of mild to exuberant periosteal reaction which was indicative of initiation of fracture healing process. Good bone fragment positioning was observed in three cases. Immediate weight bearing did not disturb the reduction in three cases. However, in one case, the radiograph revealed breakage of proximal screw and a loose fractured segment on the plantar aspect of the distal fragment well incorporated in the callus. In Group-B in almost all the cases, signs of periosteal reaction were evident after 30th day of surgery. Radiography of the animals of this group revealed good apposition of the fragments and intact implant in all cases. It is concluded that open interlocking was easier to perform than CILN in delayed cases but in fresh cases CILN was easy to perform. Closed interlocking nailing can be the method of choice for diaphysary fractures of femur and tibia in dogs. The distinct advantages of closed nailing are preservation of primary fracture haematoma and early healing. Incidence of screw bending and breakage in large dogs necessitate the use of two screws for locking. Closed interlocking nailing gave acceptable to good results even in multiple fractures of the shaft. Interlocking nailing is distinctly superior method of fracture fixation as it completely negates the possibility of axial rotation and proximal or distal nail migration.

Research 27: Studies on chemotherapy of mammary tumor in bitches.

The present study was conducted on twelve cases of CMNs. The occurrence of CMNs was found to be 35.30% with maximum percentage of cases in the month of September followed by February. Various parameters recorded were age, breed, sex, duration of clinical signs, mode and rate of growth, recurrence, size of neoplasm, number of glands involved, location and consistency of neoplasm, attachment to the skin or body wall, nipple deformities and discharge, mated at first heat, neonatal deaths. All the animals were divided into three groups viz., Group S, Group A and Group C in which Group S animals were subjected to surgery alone (simple mastectomy, enblock dissection and lumpectomy), in Group A animals after surgery undergone to adjuvant chemotherapy with combination of doxorubicin @ 25 mg/m² I/V and cyclophosphamide @ 100 mg/m² and 3 doses of this treatment at 7 days interval and in group C animals undergone chemotherapy alone. Radiograph and Ultrasonograph of all the cases was also done. Histopathological evaluation revealed majority of tumors to be malignant (75%) and benign (25%). Combination of doxorubicin and cyclophosphamide was found to be effective as effective as adjuvant chemotherapy in treatment of CMNs which increases the longevity and survival of animals.



V. Extension



Extension services are rendered through Department of Veterinary and A.H. Extension, KVK and also the clinical and paraclinical departments. Extension programmes apart from trainings of Veterinary Officers and LEOs include on and off campus training of farmers and livestock owners, OFLDs, OFTs, laboratory trainings of soil and animal sample and all the clinical camps in different villages.

DEPARTMENT OF VETERINARY AND ANIMAL HUSBANDRY EXTENSION

Department of Veterinary and Animal Husbandry Extension is actively involved in organizing training and refresher programmes on innovative techniques of animal husbandry practices to farmers and animal husbandry workers. The department participated in Kisan Melas in Mathura District as well as at Kanpur and IVRI, Izatnagar focusing on the various achievements of the Veterinary University and disseminating information regarding livestock production. Department was also actively involved in providing orientation programme to farmers coming to visit to University from Uttar Pradesh, Madhya Pradesh, Rajasthan and Chhattisgarh. During the year under report, department organized the following training programmes :

TRAINING PROGRAMMES :

S.No.	Title	Beneficiaries	Dates
1.	Capacity Building and skill development in Veterinary Officers for diagnosis, controlling, Surveillance and Monitoring of emerging, existing and Zoonotic diseases along with Diagnostic and Clinical Procedures	Veterinary Officers	24 th May to 02 nd June 19 th July to 28 th July 06 th Sept. to 15 th Sept.
2.	Livestock Management and control of animal Disease through Validated extension methodologies	LEOs	24 th May to 02 nd June 19 th July to 28 th July 06 th Sept. to 15 th Sept.
3.	Scientific Goat Rearing	Farmers	28 th Nov. to 30 th Nov

EXPOSURE VISIT :

S.No.	Beneficiaries	Place from where visited / Sponsor	Number	Dates
1.	Farmers	Sitapur District, Uttar Pradesh	10	11.11.2011
2.	Livestock Farmers	Kota District, Rajasthan	12	27.11.2011
3.	Livestock Owners	Animal Husbandry Dept., Morena, M.P.	08	24.12.2011
4.	Livestock Owners	S. M. Gramin Vikas Sansthan, Bhilwara	44	03.02.2012
5.	Livestock Owners	Department of Agriculture, M. P.	17	13.02.2012
6.	Farmers	Department of SIRD, Lucknow	50	03.03.2012
7.	Farmers	Manav Kalyan Pratisthan, Etawah	05	13.03.2012
8.	Livestock Farmers	Animal Husbandry Dept., Morena, M.P.	08	14 to 15.03.2012
9.	Farmers	Ganna Kisan Sansthan, Shahjahanpur	30	22.03.2012
10.	Livestock Farmers	Ganna Kisan Sansthan, Gonda	27	23.03.2012
11.	Farmers	Anim. Husb. Department, Bulandshar	10	28 to 29.03.2012



KRISHI VIGYAN KENDRA (KVK) :

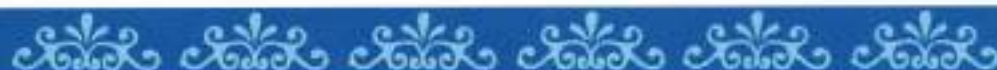
Since 2004, University is having only one KVK which is located on the main campus and responsible for transfer of technology to different stake-holders through the subject matter specialists and teachers of Veterinary College. Major activity of KVK during the year can be summarized below:

TRAINING PROGRAMMES :

Type of Training	No. of Courses	No. of Participants		
		General	SC / ST	Grand Total
Farmers & Farm women	232	3654	664	4318
Rural Youths	36	312	102	414
Extension Functionaries	28	1082	570	1352
Total (A)	296	5048	1336	6084
Sponsored Trainings				
1- Soil Conservation	17	2437	1070	3507
2- ATMA				
a. Capacity building	4	80	20	100
b. Farm School	4	80	50	100
c. Scientist farmers interaction	2	70	15	85
3. Para vets	2	15	2	17
4. Horticulture Mission	8	152	48	200
Total (B)	37	2834	1205	4009
Vocational Trainings	20	242	96	338
Total (C)	20	242	96	338
Grand Total (A+B+C)	353	8124	2637	10431

TECHNOLOGY ASSESSMENT (ON FARM TESTING)

Thematic Area	Crop wise / Enterprise	Achievements		
		No. of OFT	No. of Trials	No. of Locations
CROPS/ OTHER ENTERPRISE				
1. Varietal Evaluations	Paddy	01	02	05
2. Integrated Pest Management	Brinjal	01	02	05
3. Integrated Disease Management	Paddy	01	02	04
4. Weed Management	Wheat	01	02	05
5. Integrated Pest Management	Okra	01	02	05
6. Drudgery reduction	Home Science	01	10	02
7. Storage Technique	Home Science (Cereals)	01	10	01
8. Nutrition Management	AH & Dairying	01	03	02
TOTAL		08	38	30



FRONT LINE DEMONSTRATIONS

Objective of this programme is to demonstrate the production potential and to generate production data and feedback information of the newly released crop varieties and various production and protection technologies. Large number of front line demonstrations was conducted under the direct supervision of KVK scientists. Demonstration of each crop was generally conducted on 5 hectare land to prove impact of technologies generated. The details of front line demonstration conducted on crops were as follows:



Enterprise	Crop	Achievements	
		Demon.	Area (ha)
1. Oilseeds	Sesamum	20	05.0
	Mustard	62	25.0
	Total	82	30.0
2. Pulses	Green Gram	12	7.3
	Total	12	7.3
3. Cereals	Paddy (Scented)	10	5.0
	Bajra (Hybrid)	17	5.0
	Wheat	42	12.5
	Barley	13	5.0
	Total	82	34.5
4. Vegetables	Brinjal	3	0.2
	Okra	12	2
	Total	15	2.2
5. Fodder	Berseem	56	6.2
	Jowar	70	20
	Total	126	26.2
6. Home Science	Kitchen gardening	30	300 Sqm.
7. Livestock	Buffaloes	20	-
	Total	50	300 Sqm.
	Grand Total	322	100.20

During the year 322 demonstrations covering an area of 100.20 hectare were conducted on various crops to showcase the productivity potential of new technology on farmers' field.



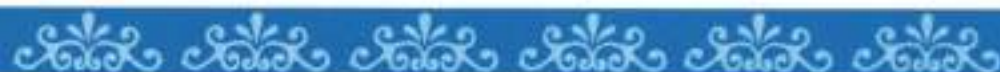
KISAN MELAS :

Kisan mela provides an excellent opportunity for transfer of technology in agriculture and allied field through a single window. Kisan mela 2012 was organized in the University premises on 21st March 2012. Prof. A. P. Singh, Hon'ble Vice Chancellor of the university inaugurated the kisan mela along with Dean, COVS and AH Dr. S.K. Garg. Various government, semi-government and private firms along with certain departments of College exhibited their technology through 25 stalls. In Mela, two magazines published by KVK and DUVASU newsletter were also released by the Chief Guest and dignitaries. More than 1500 farmers participated in Mela. Distribution of quality moong seed to farmers was special feature of the mela.



QUINQUENNIAL REVIEW TEAM (QRT) VISITED KVK

Dr. Kirti Singh, Chairman, Dr. M. P. Yadav, Dr. A. N. Shukla and Dr. A. K. Singh constituting the Quinquennial Review Team of Zone IV (UP and Uttarakhand) visited the University on 22.10.12 and interacted with University and KVK officials. The committee reviewed the progress of 5 years for the period 2005-06 to 2009-10. Dr. S. K. Garg, Dean, COVS and AH welcomed the members and Dr. S. K. Mishra presented the progress report for the period. Nine officials from KVK and various line departments of state govt. as well as 51 farmers participated actively in the deliberations. QRT team also visited ILFC, vermin-compost unit and KVK farm and appreciated various extension activities of KVK.



OTHER ACTIVITIES

Livestock production activities like demonstrations on deworming and feeding and management practices including use of mineral mixture, home science activities like stitching, knitting, health and hygiene, nutrition, safe storage of grain, drudgery reduction, preservation of fruits and vegetables were also conducted by the Subject Matter Specialist of KVK. Demonstration Unit on Napier and Guinea Grass, Vermicompost and NADEP compost has also been established. Many more activities like bringing out technical bulletins, leaflets, folders etc. and articles for print media were also regularly undertaken. KVK published its annual magazine "Braj Mein Krishi Evam Pashupalan" in simple Hindi language to cater to the need of rural people apart from dissemination of knowledge through print media, All India Radio and Telephonic advisory for promoting judicious and balanced use of fertilizers, soil water and plant analysis laboratory was established and made functional at KVK.

ANIMAL WELFARE AND HEALTH CAMPS

To render disease diagnostic and health services for welfare of animals and their owners in villages and also to impart hands on trainings to students under field conditions, University has been regularly holding disease diagnostic and health camps for animals in different villages of Mathura district involving the teachers and PG students from Department of Medicine, Surgery, Gynaecology, Parasitology, Veterinary Public



Health, Animal Nutrition and Pharmacology and also internship and B.V.Sc and A.H. final year students. During the year under report, eight such camps were organized in villages, namely Bhadauri, Mehrauli, Bhartiya, Mukundpur, Rampur, Hathauli, Chikuli, and Karab, in which 1325 animals were treated. Personnels from KVK and Pashu Gyan Chaupal (PGC) were also roped in to provide single window solutions to their agriculture and livestock related problems. Resources available under RKVY project of PGC and S&D grant of ICAR were utilized for these camps. Hon'ble Vice Chancellor Prof. A. P. Singh and Dean, Veterinary Sciences Dr. S. K. Garg have been regularly visiting these camps and monitoring the progress of camps.

VI. University Farms



MADHURI KUND FARM

Madhuri Kund farm is having about 1396 acres of land out of which 788.28 acres is under cultivation. The farm is undertaking fodder seed production programmes for National Seed Corporation, UP Seed Corporation and under RKVY. During the period under report, following types of fodder and grains were cultivated and produced in the farm.

Season	Name of Crop	Area Cultivation (Acre)	Production (Qtls)	
Kharif 2011	NDR-359	2.50	36.10	
	Paddy-Sugandh 2	80.00	710.0	
	Til	30.00	17.80	
	Jowar-fodder	66.00	1873.50	
	Dhencha-Seed	2.00	0.60	
	Dhencha-Green	99.52	For manure	
	Jwar-Seed (RKVY)	51.00	31.50	
	Total	331.56	2669.50	
Rabi 2011-12	Wheat seed	216.50	2400.64	
	Taramera	75.00	33.80	
	Jau seed commercial	290.10	The	
	Oat seed commercial	3.50	production	
	Barseem	1.70	statistics	
	Sarson	54.98	are not	
	Jaei seed (RKVY)	51.00	available	
	Barseem seed (RKVY)	47.50	presently.	
		Total	740.28	2434.44
		Grand Total	1071.84	5103.94

During the year five harrows, three rotavater and one straw reaper were procured for the farm for efficient functioning. The gross receipt of the farm for the year 2010-2011 was more than Rs. 121.95 lacs compared to Rs. 82.20 lacs during 2009-10.



INSTRUCTIONAL LIVESTOCK FARM COMPLEX (ILFC), The Erstwhile DISTRICT DAIRY DEMONSTRATION FARM

Almost all the buildings of six decades old dairy farm of University have been extensively renovated with the financial support from the ICAR under modernization of farms. About 250 cattle (Hariana, Sahiwal, Hariana-cross breed) and 65 buffaloes are being reared at the dairy farm. Total milk production of the farm during 2011-12 was 1, 38, 866 liters compared to that of 1, 30, 499 litres during 2010-11. Milk produced at the farm is supplied to students and employees of the University.

Apart from the milk production, dairy farm animals are being used for teaching and research purposes on different aspects of the animal health, production and reproduction. About 110 acres of attached agricultural land to the ILFC farm is used for production of grains and green fodder during different seasons of the year. During the year 2011-12, green fodder and grains production were 15546.69 quintals and 674.35 quintals as compared to 12,472.43 quintals and 253.35 quintals during 2010-11 exhibiting a sharp increase. The revenue generated from the farm was Rs. 38.66 lacs during 2011-12 compared to Rs. 30.50 lacs during 2010-11. Pasture farm also contributed and produced jowar and jau during both agricultural seasons and added Rs. 5, 11,513.00 to the income. This year jowar was sown in 13 acres and til on 20 acres.

A laboratory has also been established on the dairy farm for quick and regular examination of fecal, urine and blood samples of animals.



AZOLLA FARMING

Azolla farming has been taken up in the ILFC. Azolla has been found to be rich in proteins, essential amino acids, vitamins (vitamin A, vitamin B₁₂ and Beta-Carotene), growth promoter intermediaries and minerals like calcium, phosphorous, potassium, ferrous, copper, magnesium. On dry weight basis, it contains 25 - 35 per cent protein, 10 - 15 per cent minerals and 7 - 10 per cent of amino acids, bio-active substances and bio-polymers. It has been found that it is easily digestible for livestock, owing to its high protein and low lignin content. It can be mixed with concentrates or can be given directly to livestock. It can also be fed to poultry, sheep, goats, pigs and rabbits.



POULTRY FARM

College of Veterinary Science and Animal Husbandry is having its own poultry farm in Department of Poultry Science for teaching and research purposes. The variety of instructional flocks of different species of poultry are maintained on the farm providing students with adequate exposure.



As per VCI regulations 2008, three entrepreneurial trainings were organized involving students from 2nd year batch. The first training was held from 31st March 2011 to 21st May 2011, the second training was held from 30th September, 2011 to 7th November, 2011 and the 3rd training was held from 13th February, 2012 to 22nd



Aseel



Beltsville small white turkey



Lagers



Guinea fowl (Lavender)



Guinea fowl (Pearl)



Japanese quail



Kadaknath



Naked Neck

Flock maintained at Poultry Farm

March, 2012. In the first training, the profit generated was Rs. 2028.50, in the 2nd training the profit generated was Rs. 1639.00 and in the 3rd training the profit generated was Rs. 2046.00. The profit money was shared by students. All the technical aspects starting from purchase of chicks, rearing, feeding, management and sale were done by students. The main objective of these trainings earlier termed as 'Earn While You Learn' was not only financial gain of the students but also provided a vista for exploring the logistics of commercial broiler production. The scheme not only provided the required knowledge and skill for poultry production but also provided an opportunity to students to assess the market and study the intricacies of marketing management.

In the revolving fund scheme on broiler production in the Department, 3000 broilers were raised in six batches of 500 each and a net profit of Rs. 18,138.00 was generated.

Even with the limited availability of instructional flocks of birds, Department has been selling its produced and during the year under report, earned a profit of Rs. 56095.00.

Species	Number	Product	Rate (Rs.)	Qty.	Receipts (Rs.)
Cockerels	16	Layer eggs	80/ kg	1441 No. (59.375 kg)	4750.00
Layer birds	77	Desi eggs	100/kg	599 No. (21.5 kg)	2150.00
Japanese quail	42	Quail eggs	60/kg	1738 No. (22.75 kg)	1365.00
Kadaknath birds	39	Turkeys	150/kg	75 (257.2 kg)	38,500.00
Naked neck birds	14	Turkey eggs	50/kg	280 No. (20 kg)	1000.00
Aseel Peela birds	28	Cockerels	70/kg	70 (119 kg)	8330.00
Guinea fowls	16			Total	56095.00
Turkeys (Beltsville Small white)	8				



VII. Human Resource Development



CONFERENCES / SEMINARS ORGANIZED

XXVI Annual Convention of Indian Association of Veterinary Anatomists :

XXVI Annual Convention of Indian Association of Veterinary Anatomists and National Symposium on 'Application of Structural Dynamics of Animals and Birds in relation to Health and Production with special reference to Biotechnology and Immunology', was organized by the Department of Anatomy & Histology on 2-4 Nov 2011. Dr. Ajay Prakash, Professor and Head, Department of Anatomy was the Organizing Secretary. The convention was inaugurated by Prof. (Dr.) A. K. Srivastava, Director-cum-Vice Chancellor of N. D. R. I. Karnal on 2nd November 2011. Dr. Gaya Prasad ADG (AH) ICAR was the Guest of honour, Prof. (Dr.) A. P. Singh, Vice Chancellor, DUVASU, Mathura and the Chief patron of annual convention presided over the function. Dr. S. K. Nagpal, President IAVA, Dr. Y. L. Vyas, Secretary IAVA, Prof. (Dr.) S.K.Garg, Dean, COVSc & AH, DUVASU, Mathura and Dr. Ajay Prakash, Organizing secretary of



XXVI Annual Convention of IAVA were the other dignitaries on dais. The program started with the lighting of lamp and Saraswati Vandana. Technical programme of the convention and symposium was divided into nine oral sessions, two poster sessions, one theme session and Kanan Memorial lecture. Four theme lectures, Eleven Lead lectures and about 150 abstracts were received for presentation in the conference.



XXII National Congress of Veterinary Parasitology :

Under the aegis of Indian Association of Advancement of Veterinary Parasitology, XXII National Congress of Veterinary Parasitology and National Symposium on "Integrated Research Approaches in Veterinary Parasitology: From Basic to Molecular techniques" was organized by the Department of Parasitology, from 15-17th March, 2012. The National congress was inaugurated by Prof. (Dr.) KML Pathak, DDG (AS) on 15th March, 2012. Prof.(Dr.) Gaya Prasad ADG (AH) ICAR was the Guest of Honour, Prof. (Dr.) A.P. Singh, Vice Chancellor, DUVASU, Mathura and the Chief Patron presided over the function. During this conference, Dr. Placid D'Souza and Dr. S.S. Chaudhri, were conferred Fellow of IAAVP. Sh. S.M. Ismail Oration Award was given to Dr. C.P. Swarnkar, Smt. Nishamani Parija Oration Award was given to Dr. A. Sangaran and V.S. Alwar Memorial Award was given to Dr. B.C. Saravanan & co-workers from IVRI,



Izatnagar. Dr. K.P. Shyma won J.P. Dubey Young Scientist Award while Dr. Biswa Ranjan Maharana & Dr. Ajith Kumar won best Poster Award. The key note address was delivered by Prof. P.D. Juyal, Registrar, GADVASU on the importance of parasitic diseases and their impact on livestock production and concluded the need to generate epidemiological information on regular basis, due attention to transboundary and zoonotic disease as well as periodical revision of syllabi for under-graduate students as per need of society. About 140 scientists, academicians and students from all over the country and abroad attended the conference delivering more than 200 research abstracts. A compilation of twenty one lead papers entitled 'Integrated Research Approaches in Veterinary Parasitology' was also released during the inaugural function. Prof. Sri Krishna Garg, the former Vice Chancellor of the University was the Chief Guest of valedictory function and stressed upon the importance of Veterinary Parasitology in the course curriculum for UG students and recent research trends on molecular parasitology.



Training on Data Analysis using SAS :

'Training Programme on Data Analysis using SAS' under NAIP project on 'Strengthening Statistical Computing for NARS' was jointly organized by DUVASU, Mathura and IASRI, New Delhi from 16-21 May, 2011 at DUVASU, Mathura. Sh. Rakesh Goel, Incharge, Department of Animal Genetics and Breeding, was the Course Coordinator. A total of 28 faculty members from DUVASU and CIRG, Farah and 15 PG and Ph.D. scholars of College of Veterinary Science & AH and College of Biotechnology were provided this training programme. The training was inaugurated by Hon'ble Vice Chancellor Prof. A. P. Singh. On the concluding day, Dean Prof. Satish K. Garg distributed the certificates to participants after successful completion of the training programme.



PARTICIPATION IN TRAININGS BY FACULTY MEMBERS

Name	Title of Event	Date
Dr. Rajneesh Sirohi Dr. Mukesh Bhakat Dr. Jitender Kumar Dr. Udit Jain Dr. Mukul Anand Dr. Dilip Swain Dr. Vijay Pandey Dr. Amit Singh Dr. Sanjeev K. Singh Dr. Prabhakar Kumar	Training on 'Data analysis with SAS' organized by IASRI, New Delhi	May 16 th to 21 st 2011
Dr. Sanjeev K. Singh	Decision support system in agriculture using economic tools organized at NCAP, New Delhi	Aug. 02 nd to 22 nd 2011
Dr. Prabhakar Kumar	Short Course on Open source software/free software (OSS/FSS) tools in development of agriculture information and communication management system at CIRG, Makhdoom	Sept. 14 th to 23 rd , 2011
Dr. Debashis Roy	21 days training on 'Microbial and functional feed additives to improve livestock productivity' held at IVRI, Izatnagar	Sept. 1 st to 21 st , 2011
Dr. Madhu Tiwari Dr. Ambika Sharma Dr. Amit Kumar	Winter school on 'Advanced molecular biology tools used in animal disease diagnosis and development of new generation vaccines' organized at School of Animal Biotechnology, GADVASU, Ludhiana (Punjab)	Oct. 3 rd to 23 rd , 2011
Dr. Soumen Choudhury Dr. Rajkumar S. Yadav Dr. Amit Jaiswal Dr. Ruchi Tiwari Dr. Shanker K. Singh Dr. Vijay Pandey	Orientation and Sensitization Workshop on Science writing/Journalism at DUVASU, Mathura, (UP).	Nov. 26 th to 30 th , 2011
Dr. V. P. Singh	Winter school on 'Recent advances in functional fermented dairy foods and their quality assurance' at NDRI, Karnal, Haryana	Dec. 9 th to 29 th , 2011
Dr. Pawanjeet Singh	'Advances in nutrient use efficiency in livestock production system', CIRG, Makhdoom, Farah, Mathura	Jan. 28 th to Feb. 10 th 2012
Dr. Ashish Srivastava Dr. Sanjay Purohit	National Training on 'Current practices and protocols in veterinary emergency and critical care medicine, cardiology and gastroenterology' at Veterinary College, Chennai.	Feb. 1 st to 21 st , 2012
Dr. Vinod Kumar	21 days training on 'Precision dairy farming' at NDRI, Karnal	Mar. 3 rd to 23 rd , 2012



**PARTICIPATION IN NATIONAL CONFERENCES / SYMPOSIA / SEMINARS/ WORKSHOPS
BY FACULTY MEMBERS**

Name	Title of Event	Date
Dr Vikas Pathak	Seminar on Textural Analysis.	Aug. 8 th , 2011
Dr. Gulshan Kumar Dr. R. P. Pandey Dr. Deepesh Kumar	6th Annual Convention of UP Chapter of ISVS and Seminar, Lucknow.	Oct. 16 th , 2011
Dr. Archana Pathak Dr. Prabhakar Kumar Dr. Shri Prakash Singh Dr. Varsha Gupta Dr. Mukesh K. Srivastava	XXVI Annual Convention of IAVA and National Symposium on 'Application of Structural Dynamics of Animals and Birds in relation to Health and Production with special reference to Biotechnology and Immunology'.	Nov. 2 nd to 4 th , 2011
Dr. Dilip Swain	XX th Annual conference and international symposium on 'Advances in physiologic research for Sustainable development of livestock and poultry production' at WBUFAS, Kolkatta, West Bengal.	Nov. 2 nd to 4 th , 2011
Dr Vinod Kumar	14 th Biennial Conference of ANSI on 'Livestock productivity enhancement with available feed resources' College of Veterinary & Animal Sciences, Pantnagar (Uttarakhand).	Nov 3 rd to 5 th , 2011
Dr. Deepesh Kumar Dr. Sanjay Purohit Dr. Vivak Malik	35 th Annual convention and national symposium of ISVS, Kolkata.	Nov. 11 th to 13 th 2011
Dr. Amit Kumar	World Congress for Man and Nature 'Global climate change and biodiversity conservation' at Gurukul Kangari Vishwavidyalaya, Haridwar (U.K.), India.	Nov. 11 th to 13 th 2011
Dr. Satish K. Garg	XI th Annual ISVPT conference and National Symposia entitled on 'Bioinformatics in drug designing and challenges and opportunities in veterinary drug development'.	Nov. 17 th to 19 th , 2011
Dr. Rajneesh Sirohi	IPSA Conference - 2011 entitled 'Rural employment generation and nutritional security through poultry production'.	Dec. 22 nd to 24 th , 2011
Dr. Rashmi Singh	XX th National Conference on 'Managing emerging and re-emerging plant, animal, human and aquatic viral diseases: One health perspective' of Indian Virological Society at NRC Equines, Hisar.	Dec. 29 th to 31 st , 2011
Dr Udit Jain	Scientific developments and technical challenges in the progressive control of FMD in South Asia	Feb. 13 th to 15 th , 2012



Name	Title of Event	Date
Dr. Amit Kumar Dr. Anu Rahal	National conference on 'Emerging trends in Biotechnology and Pharmaceutical Research' at Mangalayatan University, Aligarh (UP)	Feb. 18 th to 19 th , 2012
Dr. Ambika Sharma	FICCI 'India – Africa S&T Ministers conference & Tech Expo' at Vigyan Bhawan, New Delhi	Mar. 1 st to 2 nd , 2012
Dr. Basanti Bisht Dr. Daya Shanker Dr. Jitendra Tiwari Dr. Amit Jaiswal Dr. Vikrant Sudan Dr. Mukesh K. Srivastava Dr. Shanker K. Singh Dr. Pratibha Sachan	XXII National congress of veterinary parasitology and national symposium on 'Integrated research approaches in veterinary parasitology: From basic to molecular techniques' at DUVASU, Mathura	Mar. 15 th to 17 th , 2012
Dr. Vikas Pathak	National Workshop on 'Strategies for modernization/ upgradation of service abattoirs in India'	Mar. 16 th to 17 th , 2012
Dr. Debashis Roy	National seminar on 'Animal disease control and health of livestock production' at IGFRI, Jhansi	Mar. 22 nd 2012

VIII. Finance and Budget



(Rupees in Lacs)

State Government			ICAR	RKVY	University Receipts	
Plan	Non Plan	Total				
433.23	1685.9	2119.13	Development Grant Experiential Learning Programmes	500.00 89.00	375.00	320.60



IX. Estate Organization



Estate department of the University looks after all the construction, electrification and maintenance works in the University and landscaping. During the year, University received Rs. 4.00 crore for remaining construction works in College of Fisheries and College of Livestock Products Technology from Govt. of Uttar Pradesh. These College buildings are in almost final stages of completion and are expected to be handed over to the University shortly. ICAR, New Delhi has been benevolent enough to fund a large number of projects and sanctioned 138.30 lacs for renovation and strengthening of infrastructure.

A. BUILDINGS DEDICATED IN THE SERVICE :

1. **International Hostel :** International hostel has been constructed at a total cost of Rs. 100 lacs with the grant from ICAR in phased manner over three years and was inaugurated on 15.03.2012 by Dr. K. M. L. Pathak, DDG (Animal Sciences), ICAR, New Delhi in the august presence of Dr. Gaya Prasad, ADG (Animal Health), ICAR, Prof. A. P. Singh, Hon'ble Vice Chancellor, officers, faculty members, employees and students of the University.



2. **Semen Biology Laboratory :** In the RKVY project entitled 'Conservation of Haryana Cattle and Bhadawari Buffalo through modern technique of AI', to produce and supply quality semen to state Animal Husbandry Department and also provide animal breeders, Semen Biology Laboratory alongwith bull sheds has been constructed with a total cost of 43.5 lacs. Semen



Laboratory was inaugurated on 15.03.2012 by Dr. Gaya Prasad, ADG (Animal Health), ICAR, New Delhi in the august presence of Dr. K. M. L. Pathak, DDG (Animal Sciences), ICAR and Prof. A. P. Singh, Hon'ble Vice Chancellor. Faculty members, employees and students of the University were also present on the occasion.

B. LAYING OF FOUNDATION STONES :

1. On 17th of March 2012, foundation stone for construction of New Toxicology block was laid in the Department of Pharmacology and Toxicology by Prof. Shri Krishna Garg, the Founder Vice Chancellor of the University in the august presence of Prof. A. P. Singh, Hon'ble Vice Chancellor, Dean, Dr. Satish K. Garg, faculty members and teachers for establishment of toxicology investigation laboratory under the state sponsored RKVY project.



2. With financial assistance from ICAR for creation of sports facilities, Foundation stone was laid along with bhoomi puja for construction of Squash Court by Prof. A. P. Singh, Hon'ble Vice Chancellor in the gracious presence of Prof. Shri Krishna Garg, the founder Vice Chancellor of DUVASU, faculty members, employees and students on 17th of March 2012.



C. OTHER CONSTRUCTION WORKS COMPLETED :

- Renovation of cattle sheds and paddocks at ILFC.
- Animal Feed Technology Unit under Experiential Learning Programme
- Animal Feed Godown
- Dana choker Godam
- Repair of the boundary wall and "Intensive Care Unit" in Teaching Veterinary Clinical Complex
- Renovation and repairs in TVCC
- Provision of toilets in IVth class employees quarters
- Provision of underground irrigation channels on Pasture land at Main Campus including new tube well
- Provision of Tubewells at block number 6 of ILFC
- Provision of roads in livestock farm
- Renovation of boundary wall at poultry and dairy unit.
- Renovation of implement sheds and workshop at Madhurikund farm.
- Renovation of diagnostic lab at TVCC and Pharmacology Laboratory.
- Boundary wall of fish seed production unit under RKVY.



D. WORK IN PROGRESS WITH FINANCIAL ASSISTANCE FROM ICAR

- Educational Museum
- Girls Hostel
- Seed Godown at Madhurikund Farm
- Squash Court
- Examination Hall
- Renovations of anatomy block building.
- Electrification of old campus of University.
- Renovation of Poultry sheds and hatching facilities
- Construction of Small Animal House and extension of Pharmacology laboratory under NICHE area of excellence
- Renovation of Sarojini Hostel





E. WORK IN PROGRESS WITH FINANCIAL ASSISTANCE FROM GOVT. OF UTTAR PRADESH UNDER RKVY

- Toxicology Investigation Laboratory
- Building of Pashu Gyan Chaupal
- Three fish ponds and pump house for fisheries project
- Laboratories in the department of medicine
- CC road at Madhurikund Farm



X. Other Highlights & Activities

Ambedkar Jayanti

Ambedkar Jayanti was celebrated by the staff, students, and officers of the University with enthusiasm in the University on 14th April, 2010. Prof. A.P. Singh Vice-chancellor of the University along with other officers, teachers and employees offered floral tributes to Dr. Bhim Rao Ambedkar.



World Veterinary Year Celebrations

World Veterinary day was celebrated on 30th April 2011 with the inauguration of vaccination camp in TVCC by Former Director General, RVC Lt. Gen. (Dr.) J.K. Srivastava in the gracious presence of Prof. A. P. Singh, Hon'ble Vice chancellor, Dean of the College, teachers and students. In the camp, 77 dogs were vaccinated against rabies and 75 dogs were de-wormed and several dogs were treated for other diseases. 27 cows & buffaloes were examined for pregnancy diagnosis and infertility problems. Lt. Gen. (Dr.) Srivastava, while addressing the students' faculty members and officers of the University shared his experiences of his illustrious career and also motivated them to take up



newer challenges in life. On this occasion Major Anup R & V SQN also made a presentation about career prospects for veterinarians in defense services.

During the World Veterinary Year, a series of lectures were organized wherein Dr. A. K. Srivastava, Director, NDRI delivered a talk on Dairying: Science led transformation-status and future roadmap, Dr. Gaya Prasad, ADG (AH), ICAR discussed 'Animal Biotechnology-Opportunities and Challenges' while Dr. Simrat Sagar Singh, Ex-Dean Veterinary College, GADVASU deliberated on 'Spinal cord injury and their management in canines', 'Colic in horses' and 'Laminitis in animals'. Dr. Manoj Kumar, HOD, Biotechnology and Vaccination, Serum Institute of India, Pune delivered a lecture on 'Vaccines and their potential applications while Dr. R. K. Vaid, Senior Scientist, VTCC, Hisar delivered a talk on 'Bioinformatics and its applications'. Dr. Satbir Josan a renowned private veterinary practitioner from Delhi and Gurgaon was invited on 4th May 2011 for interaction with the students and he discussed also about various avenues available to veterinarians in private practice.



Entrance Examinations

Pre-Veterinary Test (PVT-2011) was organized in two phases: preliminary exam and mains exam. The first phase of examination was conducted in five cities- Kanpur, Allahabad, Lucknow, Bareilly and Mathura while the second phase examination was conducted in Mathura. A total of 2285 candidates appeared in preliminary exam out of which 430 appeared in the mains examinations. Admission to BVSc and AH programme were made on the basis of merit in competitive examination under various categories. Admissions to Master's and PhD degree programmes were made on the basis of merit in PGET-2011. Thirty one students were admitted in MVSc and five students in PhD degree programme while two students were admitted to MSc Biotechnology degree programme.

Oath Taking Ceremony

The oath taking ceremony was organized in the Pant hall of the department of Gynaecology on July 6th, 2011. Dr. D. Swaroop, Director CIRG, Makhdoom and an alumni of this college, was the Chief Guest on the occasion. Prof. Satish K. Garg, Dean, COVS administered the oath of allegiance to the veterinary profession to 69 graduates. Toppers of the batch Dr. Surbhi and Dr. Mamta were awarded for their overall performance during the undergraduate programme. Faculty members and other staff also graced the function.



Orientation Programme of New Entrants

Two days orientation programme was organized on 22nd-23rd July 2011 for freshly admitted students of B.V.Sc & A.H. 2011 batch to acquaint them with Mathura city, Veterinary University importance of veterinary science, scope for veterinarian, course curriculum and extra curricular activities like NCC, NSS and sports. Dean, College of Veterinary Science welcomed the students and highlighted the value of veterinary education and scope for veterinarians. He also emphasized on maintenance of discipline in and outside the campus. Major Anup explained the importance of NCC in the light of future prospects for veterinarians. Dr. Ambika Sharma and Dr. Madhu Tiwari coordinated the programme. On second day visit to Dairy farm, departments of the college and city were organized.



Independence Day Celebration

Prof. A.P.Singh, Hon'ble Vice Chancellor hoisted National Flag at University Administrative buildings on 64th Independence Day and progress and achievements of the University were highlighted by him. He appreciated the efforts of teachers, supporting staff and students in accomplishing the teaching and research mandate. Floral tributes were paid to Father of the Nation followed by plantation of saplings, recitation of



patriotic songs and speeches by students and staff. In the speech and patriotic song competition Mr. Dinesh Kumar, Mr. Dheeraj Kumar and Miss Deepanka Yadav were adjudged as first, second and third best speaker respectively while Mrinalini Saini and Amit Chaturvedi stood first and second in solo patriotic song competition.

Pandit Deen Dayal Upadhyaya Jayanti

Pandit Deen Dayal Upadhyaya Jayanti was celebrated with lot of enthusiasm in the University on 25th September, 2011 Prof. A.P. Singh, Vice-Chancellor, staff of the University and students paid floral tributes to Pandit Deen Dayal Upadhyaya. Prof. A.P. Singh highlighted the contributions and sacrifices of Pandit Deen Dayal Upadhyaya.



Gandhi Jayanti

Gandhi Jayanti was celebrated with full enthusiasm in the University on 2nd October, 2011. Prof. A.P. Singh, Hon'ble Vice-Chancellor of the University along with officers, teachers employees and students presented floral tributes to father of nation. Students presented patriotic songs and expressed their views regarding Mahatma Gandhi's life style and his contribution to the nation. Prof. A.P.Singh emphasized the gathering to follow the path of non-violence shown by Gandhiji.

University Foundation Day

University foundation day was celebrated on 25th October 2011 with fervor and joy. All the major buildings of the University namely administrative blocks, Kothari Hospital and Main entrance gate were illuminated to mark the occasion. Plantation of trees by Dean Dr. S. K. Garg, other officers, teachers, employees and students on either side of the road starting from main gate to VIP guest house was a special feature of celebrations.



Republic Day Celebrations

63rd Republic Day was celebrated on 26th Jan., 2012 with hoisting of National Flag by Prof. A.P.Singh, Hon'ble Vice-Chancellor. Floral tributes were paid to the father of nation followed by recitation of patriotic songs and speeches. Speech and patriotic song competition was also organized. Hon'ble Vice-Chancellor Prof. A.P.Singh distributed the best worker award to the ministerial staff of this University namely Mr. Nizammudin, Mr. Ashok Kumar Yadav, Mr. Chandrabhan Saini and Mr. Bishan Dayal for their outstanding and devoted service.



XI. Awards and Recognitions

Professor A. P. Singh, Vice Chancellor, DUVASU was awarded with rank of **Honorary Colonel** in an investiture ceremony held on 24.02.2012 by Brig. D. S. Tripathi, Group Commander Aligarh, NCC and Lt. Col. Ranbir Singh, Commanding Officer, 1 UP R & V Sqn, NCC Mathura. The occasion was graced by all the faculty members and officers of the university.

Dr. Rajneesh Sirohi, Assistant Professor, LPM was commissioned as **Associate NCC Officer** of 1 UP R & V Sqn, NCC Mathura in piping ceremony organized on 30.07.2011. Prof. A. P. Singh, Hon'ble Vice Chancellor, DUVASU placed the ranks in the presence of Lt. Col. Ranbir Singh, Commanding Officer, 1 UP R & V Sqn, NCC Mathura and officers of university.

Professor A. P. Singh, Vice Chancellor, DUVASU was unopposed elected as the **President of Indian Society of Veterinary Surgery** in its 35th convention held at WBUAFS, Kolkatta from 11th to 13th Nov. 2011.

Seventeen students secured Junior Research Fellowship from Indian Council of Agricultural Research for their Masters degree programme in Veterinary and Animal Sciences while **Seven students** secured Junior Research Fellowship from Department of Biotechnology under JNU Biotechnology Program for their Masters with specialization in Biotechnology.

Dr Ajay Prakash, Professor and Head, Veterinary Anatomy and Histology was nominated as Secretary, Indian Association of Veterinary Anatomist.

Dr M.M Farooqui, Associate Professor, Veterinary Anatomy and Histology was conferred with Fellowship of Indian Association of Veterinary Anatomist and elected as member of editorial board of Indian Journal of Veterinary Anatomy.



Department of Veterinary and Animal Husbandry Extension received second position for stall presentation in the Krishi Mela Evam Krishi Pradarshani at Kosi Kalan, District Mathura.

Dr Basanti Bist, Professor and Head, Veterinary Public Health was nominated to Hall of Fame, 2011 by American Biographic Institute, USA.

Dr Prabhakar Kumar, Assistant Professor, Veterinary Anatomy and Histology was nominated as Treasurer, Indian Association of Veterinary Anatomist.

Dr Archana Pathak, Associate Professor, Veterinary Anatomy and Histology was awarded Best Paper Award by Indian Association of Veterinary Anatomist.

Dr Shriprakash Singh, Assistant Professor, Veterinary Anatomy and Histology was awarded Best Poster Award by Indian Association of Veterinary Anatomist.

Dr. Amit Kumar Verma and Dr. Amit Kumar awarded with Best Poster Presentation Award in Indian Society for Sheep and Goat Production and Utilization, Avikanagar

XII. Dignitaries Visited the University



Name	Designation
Sh. Jayant Chaudhary	Member of Parliament (Mathura), Lok Sabha
Lt. Gen. (Dr.) J. K. Srivastava	Ex Director General, Remount and Veterinary Corps
Dr. Kirti Singh	Ex-Chairman ASRB, ICAR and Ex-Vice Chancellor, NDUAT, Faizabad
Dr. K. Pradhan	Ex-Vice Chancellor, RAU, Bikaner & OAU, Bhubneshwar
Dr. Arvind Kumar	DDG (Education), ICAR, New Delhi
Dr. K. M. L. Pathak	DDG (Animal Science), ICAR, New Delhi
Dr. M. P. Yadav	Ex-Director, IVRI and Ex-Vice Chancellor, SVBPUAT, Meerut
Dr. S. K. Garg	Ex-Vice Chancellor, DUVASU, Mathura
Dr. A. K. Srivastava	Vice-Chancellor cum Director, NDRI, Karnal
Dr. R. S. Rathore	DDG, UPCAR, Lucknow
Dr. R. S. Dalal	Secretary Kisan Aayog, Government of Haryana
Dr. Gaya Prasad	ADG (Animal Health), ICAR, New Delhi
Dr. Rudra Pratap Singh	Director, Department of Animal Husbandry, Government of U. P.
Dr. D. Swaroop	Director, CIRG, Makhdoom
Dr. A. N. Shukla	Ex-ADG (KVK), ICAR
Dr. Simrat Sagar Singh	Ex-Dean Veterinary College, GADVASU, Ludhiana





XIII. Research and Other Publications

A. Paper Published in National and International Journals

- Alam M.S. and Garg S.K. (2011). Evaluation of antibacterial activity of extracts of *Trachysperma ammi* seeds and *Raphanus sativa* roots. *Journal of Veterinary Pharmacology and Toxicology*, **10**: 8-11.
- Archana, Katiyar R. S., Sharma D. N., Farooqui M. M. and Prakash Ajay. (2011). Age related structural changes in the Bulbourethral gland of Gaddi goat (*Capra hircus*). *International Journal of Morphology* **29**(2): 591-597
- Baitha D. K., Nigam R., Pandey V., Singh P., Swain D. K. (2011). SDS-PAGE Characterization of granulosa cell proteins of buffalo at different stages of estrus cycle. *Veterinary Practitioner*, **12** (1): 13-15
- Bansal G.R., Singh V.P. and Sachan N. (2011). Dried poultry excreta supplementation for enhancement of broilers performance. *Indian Journal of Animal Production and Management*, **27**(3-4):195-198.
- Bansal G.R., Singh V.P. and Sachan N. (2011). Performance of commercial broiler chicks as effected by enzyme Supplementation. *International Journal of Livestock Research*, **1**(1): 45-51.
- Bansal G.R., Singh V.P. and Sachan N. (2011). Carcass quality characteristics of broilers as affected by dried poultry excreta supplementation. *Asian Journal of Poultry Science*, **5**(3):116-123.
- Bansal G.R., Singh V.P. and Sachan N. (2011). Effect of Probiotic Supplementation on the Performance of Broilers. *Asian Journal of Animal science*, **5**(4): 277-284.
- Bashir Shanaz, Singh Rashmi, Sharma Barkha, Yadav Sharad. K. (2011). Development of a sandwich ELISA for the detection of bovine herpesvirus type 1. *Asian Pacific Journal Tropical Medicine*, **4** (6): 363-366.
- Chandra Gulab, Aggarwal A., Singh A. K., Kumar M., Kushwaha R., Singh A. and Singh Y. (2011) Negative Energy Balance and Reproduction: A Review. *Agriculture Reviews*, **32** (4): 246-254
- Chandra Gulab, Aggarwal A., Singh A., Singh A. K., Kumar M., Kushwaha R. and Singh Y. (2012) Oxidative stress in sperm biology- A Review. *Agriculture Reviews*, **33** (1): 54-61.
- Choudhury S, Garg SK, Singh TU, Mishra SK. (2011). Functional and molecular characterization of maxi K⁺-channels (BK(Ca)) in buffalo myometrium. *Animal Reproduction Science*, **126**(3-4):173-8.
- Dhama K., Verma V., Sawant P.M., Tiwari Ruchi, Vaid R.K. and Chauhan R.S. (2011). Applications of Probiotics in Poultry: Enhancing Immunity and Beneficial Effects on Production Performances and Health - A Review. *Journal of Immunology and Immunopathology*, **13**(1): 1-19.
- Farooqui M.M., Chandrapal, Archana and Prakash Ajay (2011). Histological and histochemical studies on the prenatal development of epididymis in goat (*Capra hircus*). *Haryana Veterinarian*, **50**: 40-43.
- Farooqui M.M., Chandrapal, Archana and Prakash Ajay. (2011). Anatomical study on the descent of testis in prenatal goat (*Capra hircus*). *International Journal of Morphology*, **29**(2): 318-324.
- Gangwar N.K., Srivastava A.K., Kumar Deepesh, Verma Santosh and Kumar Upendra (2012) Mixed mammary gland tumour in a dog *Indian Veterinary Journal*, **89**(3):62



Garg K.M., Garg S.K. and Sabir M. (2011). Evaluation of tocolytic efficacy of calcium channel blockers on buffalo (*Bubalus bubalis*) uterus. *Journal of Veterinary Pharmacology and Toxicology*, **10**: 8-11.

Gupta Amita, Kumar Sanjiv and Pawanjit (2011). Immunomodulatory effect of cow's urine in experimental rats. *Indian Veterinary Journal*, **88** (8): 121-122.

Gupta Amita., Srivastava A.K., and Kumar Sanjiv (2012) Anti microbial activity of Cow's urine *Indian Veterinary Journal*, **89** :28-31

Iqbal Asif and Tripathi A.K. (2011) Paraphimosis in a Great Dane Dog- A Case Report. *Journal of Advanced Veterinary Research*, **1**, 26-27

Kandasamy K., Prawez S, Choudhury S, More AS, Ahanger AA, Singh TU, Parida S, Mishra SK. (2011). Atorvastatin prevents vascular hyporeactivity to norepinephrine in sepsis: role of nitric oxide and α_1 -adrenoceptor mRNA expression. *Shock*, **36**(1):76-82.

Khan H.M., Mohanty T.K., Bhakat M., Raina V.S. and Gupta A.K. (2011) Relationship of blood metabolites with reproductive parameters during various seasons in Murrah buffaloes. *Asian Australian Journal of Animal Science*, **24**(9): 1192-1198.

Konwar P., Singh D. N., Meshram Balwant and Solanki C. P. S. (2011) Effect of feeding silk worm pupae meal on growth performance of broiler birds. *Royal Veterinary Journal of India* **7** : 24-28.

Kumar A., Swain D. K. and Yadav S. (2012). Effect of age and season on the DNA integrity of buck semen. *Veterinary Practitioner*, **12**: 253-255.

Kumar Amit, Verma Amit K., Gangwar Neeraj and Rahal Anu (2012). Isolation, characterization and antibiogram of *Mycoplasma bovis* in sheep pneumonia. *Asian Journal of Animal and Veterinary Advances*, **7**(2): 149-157.

Kumar Arun, Singh D. N., Singh R., Konwar P. and Yadav R.S. (2011) Effect of protein sources in the starter ration on the growth performance of suckling buffalo calves. *Indian Journal of Animal Production & Management*, **27** (1-2):12-14.

Kumar Avinash, Qureshi S.D., Pal, B.C., Yadav, Sharad K., Jain Udit, Khan Subuhi, Varshney Puneet (2011). Status of haemorrhagic septicemia in cattle and buffalo in Uttar Pradesh, India. *India. Applied Biological Research*, **13**(2), 99-104.

Kumar Deepesh and Pandey R.P. (2011). Clinicophysiological effects of epidural bupivacaine- xylazine or bupivacaine-butorphanol-xylazine combinations in dogs. *Indian Journal Veterinary Surgery*, **32**(1): 51-53.

Kumar Deepesh, Kumar Gulshan, Gautam Kuldeep Singh, Pandey R. P. and Kumar Sanjiv (2011). Surgical management of lipoma at neck region in a buffalo. *Indian Journal Veterinary Surgery*, **32**(2), 153.

Kumar Deepesh, Kumar Gulshan, Malik Vivak, Gautam Kuldeep Singh, Varshneya Viram and Pandey R.P. (2011). C-arm guided closed management of fractured radius-ulna in dogs. *Indian Journal Veterinary Surgery*, **32**(2), 138.

Kumar Deepesh, Pandey R.P., Gautam Kuldeep Singh and Singh Sanjiv (2011). Diverticula of urinary bladder and cryptorchid testicular tumor in a dog. *Indian Journal Veterinary Surgery*, **32**(2), 150.

Kumar Rajesh, Verma A. K., Kumar Amit, Srivastava Mukesh and Lal H. P. (2012). Prevalence and antibiogram of campylobacter infections in dogs of Mathura, India. *Asian Journal of Animal and Veterinary Advances*, **7**(5): 734-740.

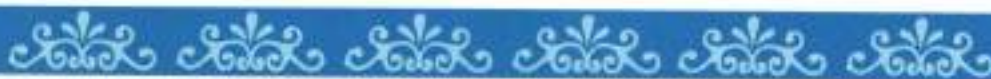
Kumar T., Kumar A., Swain D. K. and Yadav S. (2012). Influence of oral supplementation of zinc and selenium on post thaw semen quality of Barbari bucks. *Journal Animal Research*, **1**: 41-46.

Kumar A. and Singh V. P. (2011). Characterization of *Mycoplasma agalactiae* sonicated supernatant antigens (SSA). *The Indian Veterinary Journal*, **85**(5): 09-10.

Kumar A., Swain D.K., Pandey V. and Yadav S. (2011). Influence of season and age on DNA integrity of Barbari Buck spermatozoa. *Veterinary Practitioner*, **12** (2): 253-255.

Kumar P., Ahmad A. H., Rahal A. and Singh K.P. (2011). Bioavailability, bioequivalence and pharmacokinetics of florfenicol in buffalo calves. *Online Journal of Pharmacology & Pharmacokinetics*, **7**:1-9.

Kushwaha R. B., Gupta A. K., Bhadwal M. S., Kumar Sharad and Tripathi A. K. (2011) Incidence of fractures and their management in animals: A clinical study of 77 cases *Indian Journal of Veterinary Surgery*, **32** (1): 54-56.



- Kushwaha R. B., Gupta A. K., Dwivedi D. K., Tripathi A. K. and Soodan J. S. (2012) Surgical management of ventro-lateral abdominal hernia in a horse Indian Veterinary Journal, **89**(3):66-67
- Pandey Vijay, Khajuriya J.K., Sharma Neelesh, Upadhyaya S.R. and Katoch Rajesh (2011). Blood biochemical profile of strongyle and eimeria species infection in crossbred cattle - A comparative study. Veterinary Practitioner, **12** (1): 122-123
- Pandey Vijay, Sareen Meenaxi, Moolchandani Anil and Singh Raghvendra (2011). Influence of sex on thyroid hormone and biochemical profile in Marwari goats under arid tropical environment. Indian Journal of Small Ruminants, **17**(1): 48-52.
- Pandey Vijay, Sharma Neelesh and Singh N.K. (2012). Ear sore affected buffaloes (*Bubalis bubalis*). Indian Journal of Animal Science, **82** (2): 139-141
- Prasad Madhav, Prakash Ajay, Pathak Archana, Farooqui M.M. and Singh S. P. (2011). Gross Biometrical observations on prenatal thymus of goat (*Capra hircus*). Haryana Veterinarian, **50**: 37-39.
- Purohit S., Kumar G., Katiyar P., Malik V., Kumar D., Pandey R.P., Singh B. and Varshneya V. (2011). Retrieval of gastric foreign body in dog - review of 2 cases. Indian Journal Veterinary Surgery, **32**(2): 149.
- Purohit S., Malik V., Kumar Sanjiv, Kumar G., Kumar D., Katiyar P., Pandey R.P. and Singh B. (2011). Enucleation of eyelid cyst in a dog - A case report. Indian Journal Veterinary Surgery, **32**(2): 148.
- Sachan N., Agarwal R. K. and Singh V. P. (2011). Identification of a common protein moiety of aeromonas strains using western blot technique. International Journal of Livestock Research, **1**(1): 37-44.
- Sachan N., Agarwal R.K. and Singh V.P. (2012). Study on outer membrane protein (OMP) profile of *Aeromonas* strains using SDS-PAGE. Veterinary World, **5**(3):173-177.
- Sharma Ambika, Sharma Barkha, Kumar Ashish, Tiwari Madhu and Sagar Ram (2011) Incidence of haemoprotozoan infection in canines in an around Mathura Veterinary Practitioner, **12** (2): 149-150.
- Sharma Barkha, Sinha D.K. and Singh D.K. (2011) Immunochemical characterization of antigens of *Brucella canis* and their use in seroprevalence study of canine brucellosis. Asian Pacific Journal of Tropical Medicine, **4**(11): 857-861.
- Sharma Barkha, Srivastava Mukesh Kumar, Srivastava Ashish, Singh Rashmi. (2012). Canine streptococcal toxic shock syndrome associated with necrotizing fasciitis: An Overview. Veterinary World, **5** (5):311-319.
- Sharma Indu and Bist B. (2011). Examination of goat, pig and poultry meat for salmonella and coliform contamination. Journal of Pure and Applied Microbiology, **5**(1):359-363.
- Sharma J., Prabhakar P., Tanwar V.K., Das S.K. and Goswami M. (2012). Antioxidant effect of turmeric powder, nitrite and ascorbic acid on stored chicken mince. International Journal of Food Science and Technology, **47**(1): 61-66.
- Singh K.P., Ahmad A.H., Singh Vivek, Pant Kamal and Rahal Anu (2011) Effect of *Emblica officinalis* fruit in combating mercury-induced hepatic damage in rats. Indian Journal Animal Science, **81**: 55-59.
- Singh Ranjan, Singh, V.P., Yadav, S., Raizada, B.C. and Sachan, N. (2011). Comparative assessment of semen quality of Merino, Bikaneri and cross bred (Merino male x Bikaneri female) rams. Indian Journal of Animal Production and Management, **27** (1-2): 101-104.
- Singh S., Singh S.K., Kumar M., Chandra K. and Singh R. (2011). Ameliorative potential of quercetin against paracetamol-induced oxidative stress in mice blood. Toxicology International, **18**(2): 140-145.
- Singh S.K., Dimri U., Kataria M. and Kumari P. (2011). Ameliorative activity of *Withania somnifera* root extract on paraquat-induced oxidative stress in mice. Journal of Pharmacology and Toxicology, **6**(4): 443-449.
- Singh S.K., Dimri U., Sharma B., Saxena M. and Behera S.K. (2011). Treatment of generalized canine demodicosis by *Withania somnifera* root extract. Indian Veterinary Journal, **88**(5): 29-31.
- Singh S.K., Dimri U., Sharma M.C., Swarup D., Kumar M. and Tiwari R. (2012). *Psoroptes cuniculi* induced oxidative imbalance in rabbits and its alleviation by using vitamins A, D3, E, and H as adjunctive remedial. Tropical Animal Health and Production, **44**: 43-48.
- Singh S.K., Dimri U., Sharma M.C., Swarup D., Sharma B., Pandey H.O., and Kumari P. (2011). The role of apoptosis in immunosuppression of dogs with demodicosis. Veterinary Immunology and



- Immunopathology, **144**: 487-492.
- Singh S.P., Singh I., Singh G. K. and Gangwar Chetna (2011). Age related changes in the hematological parameters of guinea fowl. *Journal of Immunology and Immunopathology*, **13**(1):46-49.
- Singh S.P., Singh I., Singh G. K. and Gangwar Chetna and Kumar Prabhakar (2011). Evaluation of immune responses of T-cells in guinea fowl. *Journal of Immunology and Immunopathology*, **13**(1):38-41.
- Singh S.P., Singh I., Singh G. K., Gangwar Chetna & Kumar Prabhakar (2011). Postnatal development of bursa of fabricius in relation to humoral immunity in keets. *Journal of Immunology and Immunopathology*, **13**(1):42-45.
- Singh H. O., Singh V. P. and Singh H. N. (2011). Compatibility of various preservatives for quail meat (bone-in) pickle. *International Journal for Agro Veterinary and Medical Sciences*, **5**(3):290-297.
- Singh Rashmi, Basera S. S., Tewari K., Yadav Shweta, Joshi S., Singh B., and Mukherjee F. (2012). Safety and immunogenicity of Brucella abortus strain RB51 vaccine in cross bred cattle calves in India. *Indian Journal of Experimental Biology*, **50**: 239-242.
- Singh S.K., Srivastava A.K. and Kumar S. (2011). Diclofenac toxicity in experimental Japanese quails- egg quality and pathological studies. *Indian Journal of Veterinary Pathology*, **35**(1): 105-107.
- Singh V. P., Sanyal M. K., Dubey P. C., Sachan N. and Kumar V. (2012). Chicken snacks as affected by storage conditions under aerobic and vacuum packaging at 30±2°C. *African Journal of Food Science*, **5**(11): 620-625.
- Singh V. P., Sanyal M. K., Dubey P. C. and Mendiratta S. K. (2011). Quality assessment of vacuum packaged chicken snacks stored at room temperature. *Current Research in Poultry Science*, **1**(2):66-76.
- Singh V. P., Sanyal M. K., Sachan N. and Kumar V. (2011). Quality evaluation of rice flour snacks stored at ambient temperature under aerobic and vacuum packaging. *Beverage and Food World*, **38**(9): 54-56.
- Srivastava M. K., Srivastava Ashish and Sharma Barkha. (2011) Management of congestive heart failure in dog with Pimobendan. *Veterinary Practitioner*, **12**(2):190-191.
- Srivastava M. K., Srivastava Ashish and Purohit S. (2011). Medicinal management of electric shock in a monkey (*Rhesus macaque*). *Intas Polivet*, **12**(2): 189-190.
- Srivastava Mukesh, Gaikwad R. V., Samad Abdul and Srivastava Ashish (2011). Haemato-biochemical changes in dogs suffering from renal failure. *Indian Journal of Veterinary Medicine*, **31**(1)9-11
- Srivastava Mukesh, Gaikwad R. V., Samad Abdul, Sharma Barkha and Srivastava Ashish (2011). Relationship of serum creatinine and glomerular filtration rate by 99m-Tc- DTPA scintigraphy in dogs with renal failure. *Asian Journal Animal Science*, **5**(6): 381-386.
- Srivastava M. K. (2012). Prevalence and antibiogram of *Campylobacter* infections in dogs of Mathura, India *Asian Journal of Animal and Veterinary Advances*, **7**(5), 434-44
- Tripathi Arvind Kumar (2012) Surgical management of ventro-lateral abdominal hernia in a horse. *Indian Veterinary Journal*, **89**(3), 66-67.
- Tripathi K. K., Srivastava A. K. and Kumar S. (2011). Immunomodulatory effects of *Ocimum sanctum* in experimental birds. *Journal of Veterinary Pathology*, **35**(1): 97-100.
- Verma A. K., Sinha D. K. and Singh B. R. (2011). Detection of *Salmonella* from clinical samples of dogs by PCR. *Indian Journal of Animal Science*, **81**(6): 552-555.
- Verma Mahima, Kumar A. K., Rahal, A. and Kumar, V. (2012). Veterinarian for the sustainable development of the humanity. *Asian Journal of Animal and Veterinary Advances*, **7**(5):452-453.
- Verma S., Ahmad A. H., Singh K. P. and Rahal A., (2011) Acute toxicity study of albendazole formulations in rats. *Indian Journal of Veterinary Pharmacology & Toxicology*, **10**: 58-60.

B. Compendiums/ Monographs

- Ajay Prakash, M. M. Farooqui, Archana Pathak, Prabhakar Kumar, Shri Prakash Singh & Varsha Gupta (2012). Recent prospects in veterinary anatomy. Department of Veterinary Anatomy, College of Veterinary Science & Animal Husbandry, U.P. Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan (DUVASU), Mathura (UP).
- Daya Shanker, Jitendra Tiwari, Amit K. Jaiswal and Vikrant Sudan (Eds.) (2012). Integrated research approaches in veterinary parasitology. Department of Parasitology, College of Veterinary Science &



Animal Husbandry, U.P. Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan (DUVASU), Mathura (UP), India.

Ajay Prakash, M. M. Farooqui, Archana Pathak, Prabhakar Kumar, Shri Prakash Singh & Varsha Gupta (2012). Compendium on National Symposium on Application of Structural Dynamics of Animals and Birds in relation to Health and Production with special reference to Biotechnology and Immunology.

Daya Shanker, Jitendra Tiwari, Amit K. Jaiswal and Vikrant Sudan (Eds.) (2012). Souvenir cum Abstracts. XXII National Congress of Veterinary Parasitology (XXII NCVP), College of Veterinary Sciences & Animal Husbandry, U.P. Pandit Deen Dayal Upadhyaya Pashu Chikitsa Vigyan Vishwavidyalaya Evam Go Anusandhan Sansthan (DUVASU), Mathura, India.

C. Abstract presented/ published in different conferences :

The faculty participated in various conferences throughout India and a total of 107 abstracts were accepted and published in the compendiums

D. Manuals :

For efficient teaching and learning, faculty prepared 24 practical manuals ranging from basic to applied of subjects for B.V.Sc. & A.H. as well as Biotechnology PG programme.

E. Popular Articles :

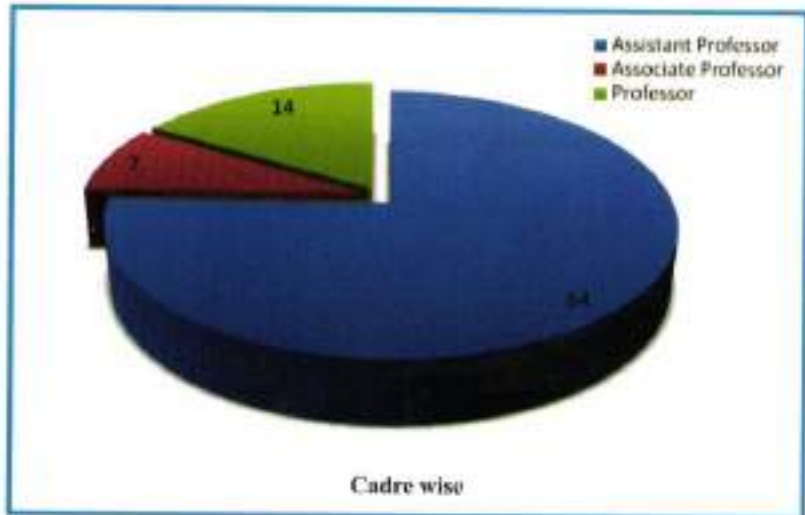
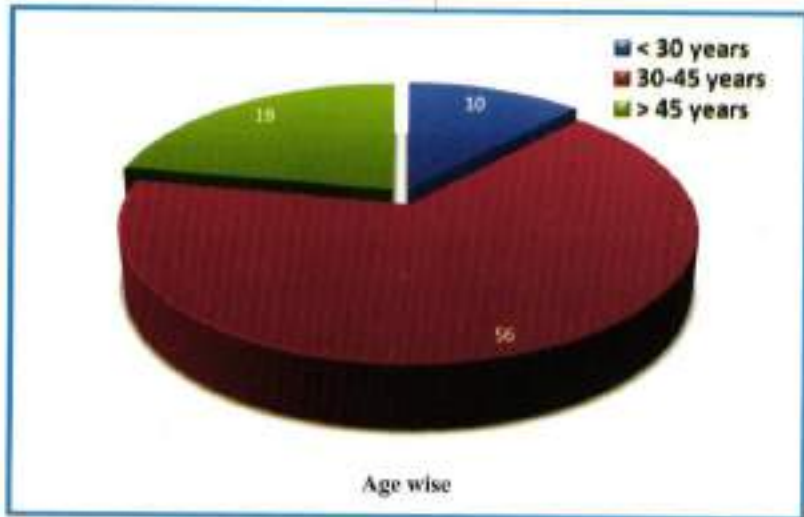
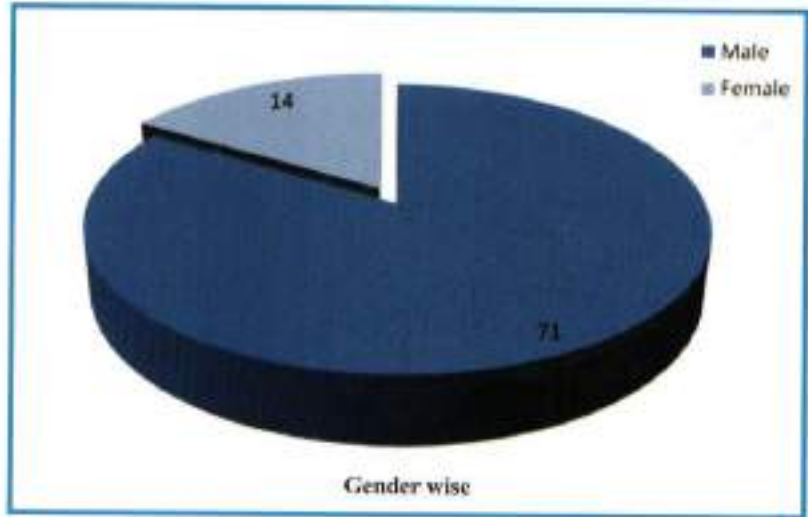
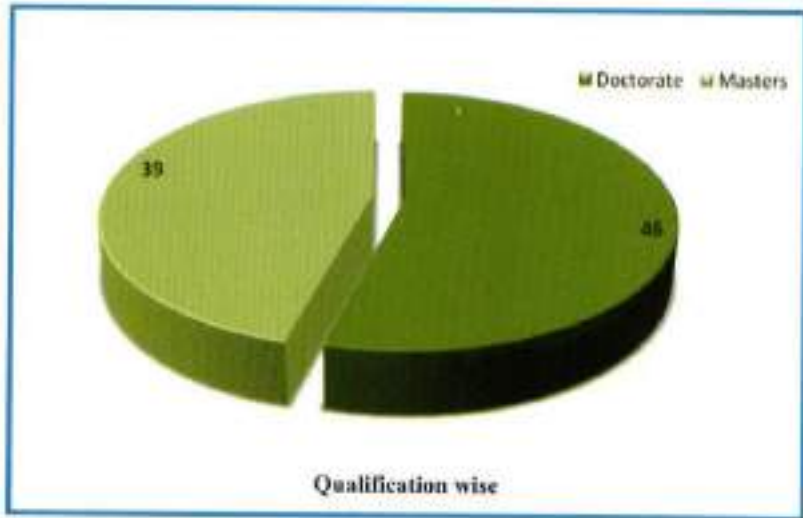
For the benefit of the farmers, layman and semi-technical staff, the faculty published 27 popular articles in various magazines and semi technical journals.

XIV. Right to Information Act



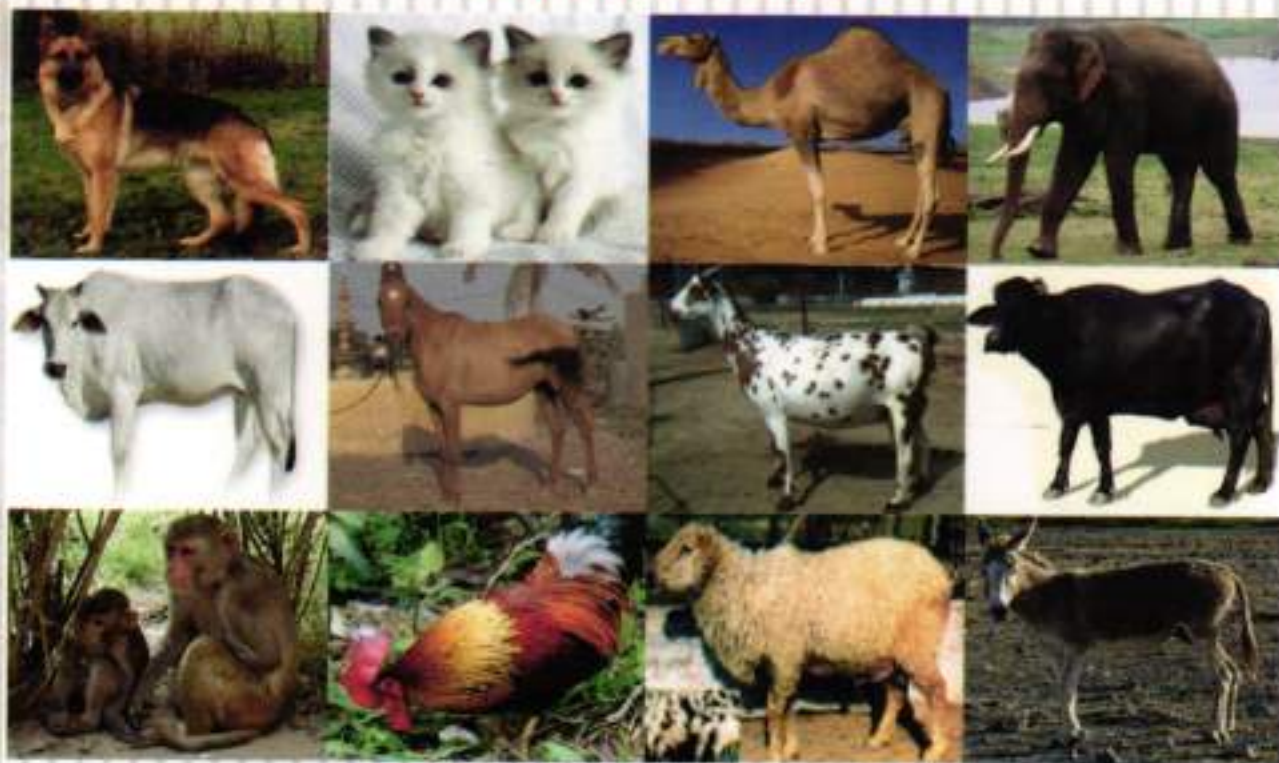
In compliance of the order of Govt. of UP and provision of RTI Act, 2005, PIO is working in the university. During the period, PIO office received 96 applications out of which 87 applications were cleared.





FACULTY PROFILE

In the services of.....



Published by :

**Vice Chancellor
U.P. Pandit Deen Dayal Upadhyaya Pashu-Chikitsa Vigyan
Vishwavidyalaya Evam Go-Anusandhan Sansthan,
Mathura - 281 001 (U.P.) INDIA**

Printed by :

**Co-ordinator
Printing & Publication Division
DUVASU - Mathura**

Chief Editor :

**Dr. Satish K. Garg,
Dean, College of Veterinary Science & A.H.**

Editors :

**Dr. Jitender Kumar, Associate Professor, Physiology
Co-ordinator, Printing & Publication Division
Dr. A. K. Madan, Associate Professor, Physiology**

**Assistant Editor :
Hindi Translator :
Photo Support :**

**Dr. Vikrant Sudan, Assistant Professor, Parasitology
Dr. Ruchi Tiwari, Assistant Professor, Microbiology
Mr. Braj Mohan & Mr. Shakeel Ahmed**

Printed by :

Kiran Computers & Printers, Aurangabad - Mathura