

Laboratory Animals



Scientific Staff

Dr. CG Raut

Scientist D

cgrniv@yahoo.co.in

Technical Staff

Mr. BB Gengaje

Technical Officer

Mr. SV Nipunage

Senior Technical Assistant

Mr. HL Chakankar

Technical Assistant

Mr. MP Rajarshi

Technical Assistant

Mr. SN Fulari

Technician

Mr. RH Chavan

Technician

Mr. RJ Sarpatil

Technician

Mr. SM Doke

Technician

Care, Breeding, Maintenance and Supply of Quality Laboratory Animals

Different species of laboratory animals viz. mouse; rat, hamster, guinea pig, rabbit, fowl, and geese were bred, maintained and supplied to the researchers. The number of animals from different species maintained ranged from 2387 to 2296.

A total of 3460 non SPF animals including 910 infant groups & 2099 adults of outbred Albino mice, 340 BALB/c, 83 BL/6 nude, 19 C57BL/6 mice, 4 Hamsters, 3 Guinea Pigs, 1 Rabbit and 1 Fowl were supplied to NIV scientists (Table-1 & Fig. 1).

Table 1: Supply of Laboratory Animals to NIV Scientists

Species	Swiss Infants	Swiss Adults	BALB/c	C57BL/6	BL/6 nude	Hamsters	Guinea Pigs	Rabbits	Fowls	Total
Numbers	910	2099	340	19	83	4	3	1	1	3460

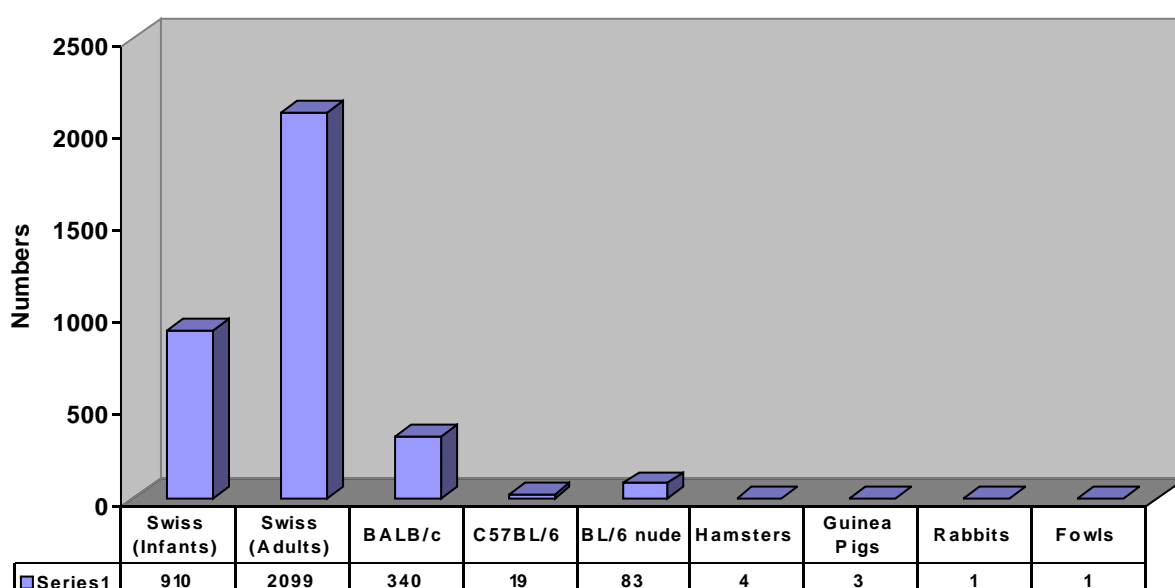


Fig. 1: Supply of Laboratory Animals to NIV Scientists

A total of 629.5 ml blood samples - 105 ml from Guinea Pigs, 150 ml Rabbits, 99.5 ml from Fowls, 188 ml from Geese and 87 ml from Sheep were supplied to NIV scientists and outside institutions (Table - 2 & Fig. 2).

Table 2 : Supply of Blood Samples (quantity in ml)

USER	G. PIG	RABBIT	FOWL	GEESE	SHEEP	TOTAL
TOTAL USE	105	150	99.5	188	87	629.5

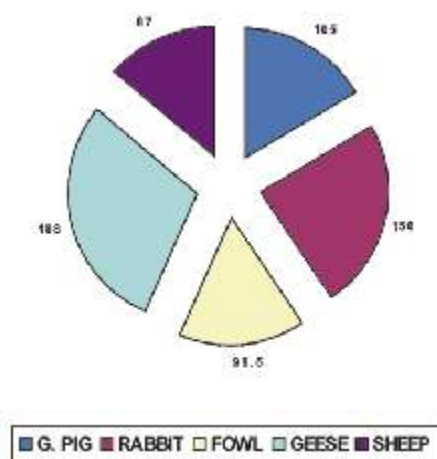


Fig. 2 : Supply of Blood Samples (quantity in ml)

Animal Health Monitoring Programme

- To have smooth functioning and defined status of animals, annual calendar of the departmental activities was developed and implemented.
- Genetic monitoring of various inbred mouse strains viz. BALB/c-AIIMS, BALB/c-Paris, BALB/c-UK, C57BL/6, C3H/HeJ, and Golden was carried out. Results obtained were within the normal limits. Deviations were observed in out bred Swiss Albino and Inbred DBA/2 strains.
- Mice were screened for various mouse pathogens like Mouse hepatitis virus, Sendai virus, Reovirus-3, Ectromelia virus, Lymphocytic Choremeningitis Virus, rotavirus, Mycoplasma pulmonis. Some animals were found seroreactive. It is proposed to have the barrier housing systems (Individual Ventilated Cage system) for all the breeding and experimental rodent animals to have the high quality status.
- Four tumor-bearing animals were investigated for histopathological studies. Mice tumors were indicative of adenocarcinoma and rat tumours were indicative of fibroadenoma. Respective tumor samples not revealed any viral etiology by electron microscopy.
- Immunohistochemistry (IHC) was performed on intestinal sections of infants infected with rotavirus; localization of antigen was detected in epithelium of intestine.

Procurement of quality Laboratory animals

Laboratory Ferrets (*Mustela putorius*):

It is proposed to procure laboratory ferrets for the studies on influenza virus. Hence laboratory ferret suppliers were identified and contacted. Necessary permissions were obtained from the Chief Conservator of Forest, Maharashtra State, Nagpur and Expert Consultant, CPCSEA, Chennai. Initial preparation is going on for procurement, housing, care and maintenance of the ferrets.

Resource generation :

A total of 1605 surplus animals including 799 albino mice, 70 BALB/c, 38 C3H/HeJ, 50 C57BL/6, 221 NMRI nude, 131 NIH nude mice, 153 rats, 113 Hamsters and 30 Guinea Pigs were supplied on request to various research organizations registered with the CPCSEA and a sum of Rs. 2,75,505/- generated. **(Table-3 & Fig. 3)**

Table 3: Supply of Laboratory Animals to Outside Institutions

Species	Swiss Albino	BALB/c Mice	NMRI Nude	NIH Nude	C3H/HeJ	C57 BL/6	Rats	Hamsters	G.Pigs	Total
Numbers	799	70	221	131	38	50	153	113	30	1605

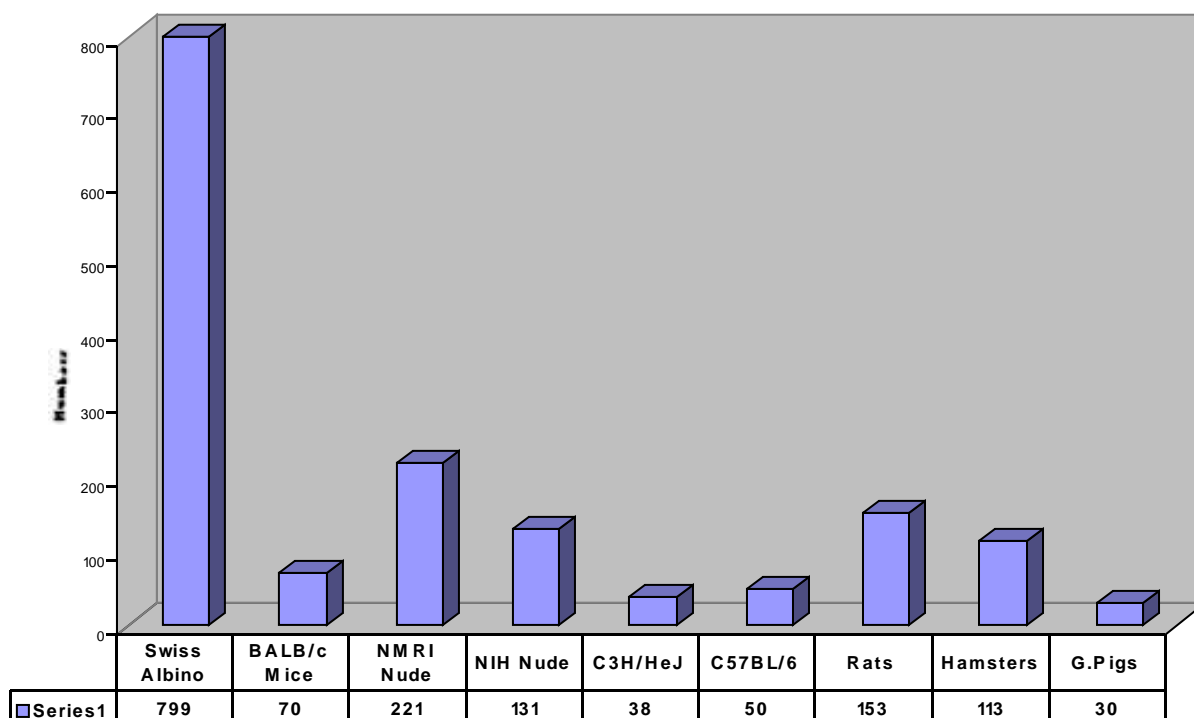


Fig. 3: Supply of Laboratory Animals to Outside Institutions

CPCSEA Activities :

- NIV Animal House facility inspected and approved by the Experts from CPCSEA, Ministry of Environment & Forests (Animal Welfare Division), Govt. of India, New Delhi
- Rehabilitation of experimental Rhesus monkeys follow-up with the Principal Chief Conservator of Forests (Wild Life), Maharashtra State, Nagpur and Chief Conservator of Forests (Wild Life), Pune Division.
- Submission of Animal Experimentation Projects for CPCSEA clearance.
- Comments/suggestions provided to the Ministry of Environment & Forests (Animal Welfare Division) & ICMR, New Delhi on the recommendations of the CPCSEA Committee on Rehabilitation of Animals after their experimentation.
- Propagation of awareness on Alternatives to lab animals: As a part of lab animal science's 3Rs principle- cell culture facility was initiated in the department. Designing & Planning of eco-friendly experimental animal facility for Sheep & Goat at Pashan. The construction work of the facility nearing to completion.
- Created ecofriendly and hygienic environment in the monkey enclosure facility.

IBSC Activities :

- Organized IBSC Meetings for grant of IBSC clearance to animal experimentation projects.
- Conducted First Aid Training programme for IBSC designated staff and distributed First Aid Kits.
- Organized Bio-safety Awareness Programme.

Management of Bio-Medical Waste :

- Preparation and submission of Annual Report of Management of Bio-medical Wastes to the MPCB authorities, Pune and Mumbai.
- A total of 7491.63 Kg. animal carcasses & other wastes have been disposed off through incineration at Central Incineration Facility of Pune Municipal Corporation.
- Incinerator Source Emission Monitoring Analysis undertaken through M/s. Horizon Services. The various incinerator parameters found to be in normal limits.

Publications

Conference/Workshop/Proceedings Paper

- Raut CG. Classification of rodent microbes. **Workshop Book**. Workshop on microbes of rodent colony, ACTREC, Kharghar, Navi Mumbai. 2007, P10-25.
- Raut CG, Gengaje BB, Fulari SN, Nipunage SV, Waghmare SB, Zaheer SM Bacteriological assessment of conventional and barrier housing systems used for laboratory mice. **Abstract Book- 2nd National Conference on Current Perspectives and Future Challenges in Laboratory Animal Management**, IISc, Bangalore, December 29-30, 2007. p44.
- Raut CG, Rajarshi MP, Nipunage SV, Walimbe AM, Gengaje BB. Assessment of athymic nude (homozygous) mouse breeding colony for their T cell immunodeficiency. **Abstract Book- 2nd National Conference on Current Perspectives and Future Challenges in Laboratory Animal Management**, IISc, Bangalore, December 29-30, 2007. p46.
- Raut CG. Susceptibility of different laboratory animals to Chandipura virus infection by subcutaneous route. **Abstract Book- 2nd National Conference on Current Perspectives and Future Challenges in Laboratory Animal Management**, IISc, Bangalore, December 29-30, 2007. p47.
- Raut CG, Fulari SN, Gengaje BB, Nipunage SV, Deshpande AH, Raut WC. Mammary tumor occurrence in laboratory-bred mice and rats. **Abstract Book- 2nd National Conference on Current Perspectives and Future Challenges in Laboratory Animal Management**, IISc, Bangalore, December 29-30, 2007. p48.
- Senthilkumar K., Pathak VP, Raut CG, Satale SB, Brahmankar MG, Gongale MA. Pathogenesis of Indian isolate of West Nile virus in golden hamster weanlings. **Souvenir**, National Symposium on Zoonoses & Biotechnological applications, Golden Jubilee celebration, Nagpur Veterinary College, Nagpur, 2008. p72.
- Satale SB, Pathak VP, Raut CG, Senthilkumar K, Kale DB, Ingle SH Induced infection of West Nile virus (Indian isolate) in golden hamster sucklings. **Souvenir**, National Symposium on Zoonoses & Biotechnological applications, Golden Jubilee celebration, Nagpur Veterinary College, Nagpur, 2008. p73.
- Raut CG Viral Zoonoses. **Souvenir**, National Symposium on Zoonoses and Biotechnological applications, Golden Jubilee celebrations, Nagpur Veterinary College, Nagpur, 2008, P16-18.
- Raut CG; Thorat MG Laboratory Animal Science in India: Importance and scope of Veterinary education. **Souvenir**, National Symposium on Veterinary education in India and its impact on national economy, Golden Jubilee celebrations, Nagpur Veterinary College, Nagpur, 2008, P 83-85.
- Raut CG. Raut WC Importance of Laboratory Animals' Anatomy: Education, Research & Welfare. **Technical Bulletin & Souvenir**, National Seminar on "Recent advances in innovative techniques for field veterinarians in general and teaching Veterinary Anatomy in particular", KNP College of Veterinary science, Shirval, 2008, P9-10.

Preparation of Institutional document:

- Compendium on Laboratory Animals
- Biomedical waste management
- Technical manual for laboratory animal techniques

Workshops / Conferences / Seminar / Meetings/Training organized

- Training in “Care, Management & Experimentation of Laboratory Animals” was provided to several personnel from Veterinary, Pharmacy, Medical colleges and research institutes.
- First Aid Training Workshop was organized during Hindi Workshop for IBSC designated NIV Staff.
- Visit organized for Special Secretary to Government of Andhra Pradesh & OSD, IGCARL and other team members for establishment of Livestock Research Institute under Sri Venkateswara Veterinary University, Tirupati on 16.10.2007.
- IBSC Workshop conducted on “Bio-medical Waste Management” Guest speakers were invited from MPCB, Mumbai and Pune on 29.10.2007.
- Seminar organized on “CPCSEA guidelines”, lecture delivered by Expert Consultant, Chennai at NIV/MCC, Pune on November 2, 2007.
- Training on “mice handling, immunization and bleeding” provided to research staff of NARI, Pune for the research project entitled “Generation of HIV-I subtype C based DNA vaccine candidate and assessment of prime boost immunization in mouse model”.

Workshops / Conferences / Seminar / Meetings attended

CG Raut

- Participation in One Week Residential Training Programme for CPCSEA Nominees at National Institute of Animal Welfare (NIAW, Ministry of Environment & Forest, GOI), Ballabgarh 24-28 September, 2007.
- Meeting with secretarial team, Govt of Andhra Pradesh about establishing of Laboratory Animal Facility, October 16, 2007.
- Meeting related to CPCSEA inspection of lab animal facilities of NIRRH, Bombay Veterinary College & Advy chemicals, Mumbai. October 30-31, 2007.
- Meeting related to CPCSEA inspection of Laboratory animal facility of Intervet India Pvt Ltd, Pune. November 2, 2007.
- Meeting at Cattle Breeding Farm, Tathwade, Pune in connection with rotavirus studies in bovines- Research project of M.Sc. (Virology) student. December 4, 2007.
- Invited speaker on the occasion of celebration of Alumni Association of KNP College of Veterinary Science, Shirval. December 12, 2007.
- Invited as a faculty for Workshop on “Microbes of Laboratory Animals” at ACTREC, Kharghar, Navi Mumbai. December 13-15, 2007.
- Second National Conference on Current perspectives and future challenges in Laboratory Animal management. Organized by LASA, I.I.Sc. & Veterinary College Bangalore at I.I.Sc, Bangalore. Participated as co-chairman & presented papers. December 29-30, 2007.

Technical support/consultancy provided :

- Coordination of toxicological studies of legume seeds collected from encephalitis endemic area of Uttar Pradesh, conducted at Reliance life sciences, Mumbai, November 2007. Results were negative for toxicity.
- Collaborative research project on Rotavirus studies in different species of animals yielded viral isolations.
- Research support and quality services provided to the NCCS, Pune for animal experimentation.

Awards

- Received award for Hindi Poster on “Role of Laboratory Animals in Bio-medical Research”, during Hindi Rastrabhashya Workshop.
- Received Best Poster Award for a poster entitled “Assessment of athymic nude (homozygous) mouse breeding colony for their T-cell immunodeficiency” by *Raut CG; et al.* presented at the Second National Conference on “Current Perspectives & Future Challenges in Laboratory Animal Management”, 29-30 December 2007 at IISc, Bangalore.