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The Feline Report



N. Y. S. COLLEGE OF
VETERINARY MEDICINE

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The Annual Report
of the Cornell
Feline Research
Laboratory

The Feline Report

Volume 2
September, 1975

Cornell Feline
Research Laboratory
New York State College
of Veterinary Medicine
Cornell University
Ithaca, New York 14853



Cornell Feline Research Laboratory

NOV 13 1980

On February 12, 1974, the Board of Trustees of Cornell University, Ithaca, New York, approved the formation of the Cornell Feline Research Laboratory (CFRL) as a unit of the New York State College of Veterinary Medicine at Cornell University.

The purposes of the Cornell Feline Research Laboratory are (1) to promote and conduct research on diseases of the domestic cat in order to prevent or cure these diseases; (2) to provide continuing education on feline diseases to feline practitioners and cat owners; (3) to aid feline practitioners when new or unknown diseases occur.

Message from the Director

The favorable response by veterinarians, cat breeders, and friends of cats in general during the first year since the formation of the Cornell Feline Research Laboratory has been very gratifying. This response has confirmed our faith in the necessity for such a Research Laboratory to find answers to the numerous disease problems of the cat.

Research in Progress

During the past year several research projects were conducted. Investigation of the immune response of cats to the various respiratory viruses included evaluation of a new commercial vaccine against viral rhinotracheitis (FVR) and an experimental vaccine against FVR and feline calicivirus. Studies were completed on the classification of 14 strains of calicivirus. Basic parameters of pneumonitis were also studied. These findings on respiratory viruses will be the basis of a future *Feline Information Bulletin*.

Feline leukemia virus infection, because of its great importance and many confusing issues, was the subject of the first *Feline Information Bulletin*. In this bulletin the results of recent studies on the various manifestations of this virus are summarized, including acute anemia, immune suppression, the "panleukopenia-like syndrome," and lymphosarcoma. Studies are under way to evaluate the possible role of leukemia virus in mammary tumors.

An outbreak of severe gastroenteritis in cats caused by *Salmonella typhimurium* in a small animal hospital was investigated. Previous to this study Salmonellosis was not considered a serious infection in cats. This was one of several instances where the staff of the Feline Laboratory aided veterinarians when new or troublesome disease conditions occurred in cats.

The interrelationships between intestinal bacteria and panleukopenia

(enteritis) virus were investigated in detail. Studies are in progress to determine the specific fluid and electrolyte imbalances that occur in cats with panleukopenia. As a result of these studies veterinarians will have a clearer understanding of how this virus produces disease, and consequently how to treat it.

During the past year investigations of various neurological diseases of the cat have continued. These include an apparently new disease of newborn kittens which affects the vestibular apparatus or balance control center of the brain. Clinically this condition resembles feline ataxia due to panleukopenia virus. Over 20 cases of an acute disease of the blood vessels of the brain have been studied, as have several cases of acute disease of the spinal cord in young exotic cats from zoological parks. The causes of all three of these previously unrecognized diseases remain unknown.

Investigations continue on urolithiasis and feline infectious peritonitis. Although methods of prevention are not known at present, we are confident that research will provide the needed answers to both of these diseases.

New Research Programs

New programs started this year are an evaluation of heavy metals within cat food, and the role of infectious agents in reproductive diseases of the cat.

Considerable effort is being made to develop antiviral compounds which will be effective in curing or preventing human and animal viral diseases. The Feline Research Laboratory was fortunate to receive a three-year contract from the Antiviral Substances Program of the National Institutes of Health to evaluate the effectiveness of antiviral compounds against the respiratory viral diseases of the cat. Information from these studies could lead to an entirely new approach to therapy of viral diseases of cats.

A cooperative study by clinicians and microbiologists of the Feline Laboratory, and staff members at the Animal Medical Center in New York City, has revealed the importance of heart disease in the cat.

Clinical Studies

A total of 3554 feline patients were seen by clinicians in the teaching hospital during the past year. Records of each case were stored in the computer data bank. Each case adds to our overall knowledge and understanding of feline diseases.

Support for the Cornell Feline Research Laboratory

Past research on feline diseases was supported primarily by U.S. Public Health Service research grants, training grants, and contracts from the National Institutes of Health, and by grants and fellowships from the Morris Animal Foundation. Investigators at Cornell are indebted to these sources for supporting feline and comparative research. Since federal funding for feline research in certain areas has become difficult to acquire, we must turn to the individuals, clubs, and foundations that have an interest in the health of the cat for added support of this desperately needed research. The State of New York has now supplied well equipped research facilities and salaries for the nucleus of the professional and technical staff that will be needed to develop the full potential of the Feline Research Laboratory. Expansion of staff and routine operating costs must be met by groups and individuals who have a personal or professional interest in the health and welfare of cats.

One method of supporting feline research is through "Certificate in Lieu of Trophy" shows. Funds normally spent for trophies are donated for feline research. Certificates are available from the Feline Laboratory at no charge.

In establishing the Cornell Feline Research Laboratory, the Board of Trustees authorized the Treasurer's Office of Cornell University to act as custodian of all funds given in support of the Laboratory. Donors, therefore, are assured of maximum benefit from their gifts by means of this supervision by Cornell University officials. Cornell welcomes any gifts or bequests that will help the work of the Laboratory.

Bequests can be of great benefit to our program. So that they meet the wishes of the donor, and the needs of the Cornell Feline Research Laboratory, we ask anyone who desires to help us in this way to contact the Director for further information.

Outright gifts to the Laboratory may be made by check made payable to Cornell University and should be mailed to:

Office of the Director
Cornell Feline Research Laboratory
New York State College of Veterinary Medicine
Cornell University
Ithaca, New York 14853

Feline Research Laboratory Personnel

The staff of the Cornell Feline Research Laboratory is composed of a Director and a group of faculty, graduate research assistants, and staff from several departments within the New York State College of Veterinary Medicine and the College of Agriculture and Life Sciences, all of whom have a keen interest in understanding, preventing, and curing diseases of the cat. Each investigator conducts his independent research in his area of expertise with collaborative help from other specialists when needed. Thus, this multi-discipline research may involve investigators from clinical medicine to the most basic sciences in order to solve a particular disease.

Administration

JAMES H. GILLESPIE, V.M.D., Professor of Veterinary Microbiology and Chairman of the Department of Microbiology.

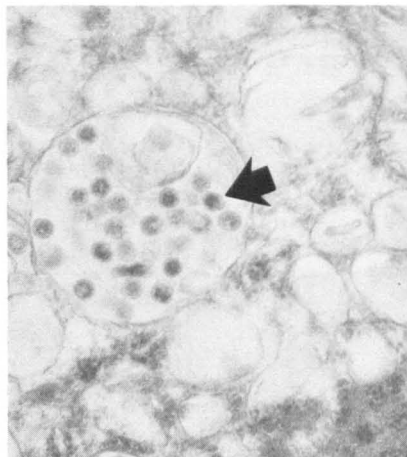
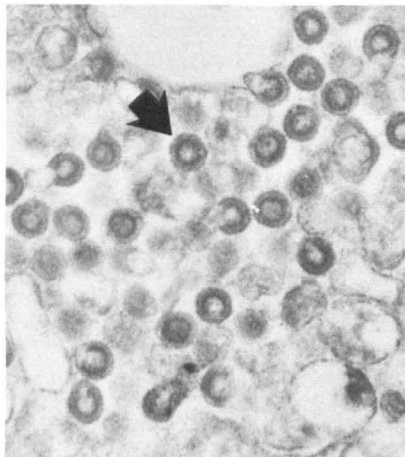
SUSAN HUBERT, Secretary.

GRANT KALEY, D.V.M., Former Director of the Division of Animal Industry, Department of Agriculture and Markets, State of New York. Consultant.

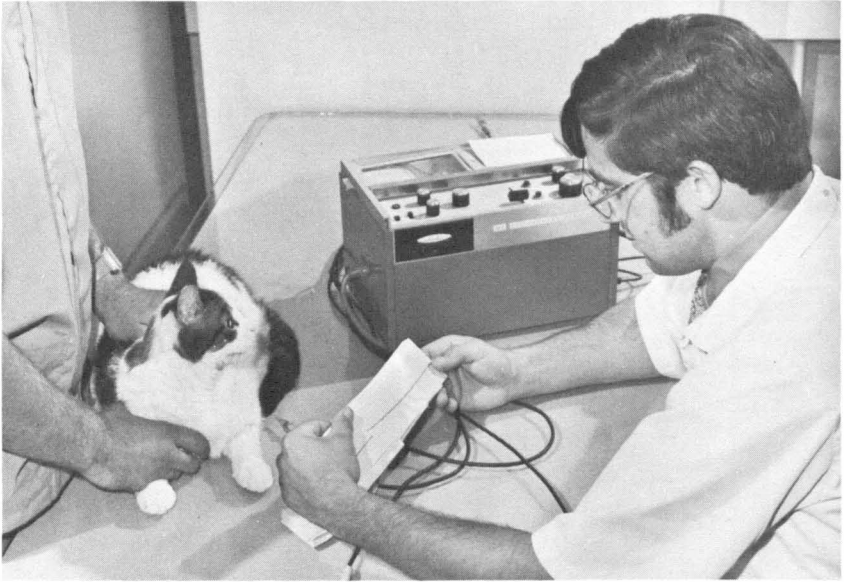
ANN MARCHAM, B.S., M.S., Director of Fiscal and Personnel Affairs, New York State College of Veterinary Medicine.

Opposite page: Technician places sample in electron microscope. Sample will be examined for feline leukemia viral particles.

Below: Electron photomicrographs of feline leukemia virus (left) and feline infectious peritonitis virus (right).







Dr. Bolton, cardiologist, examines an electrocardiogram under the watchful eye of the feline patient. Electrocardiographic and other examinations of cats have revealed that heart disease in cats is relatively common.

PATRICIA P. MARION, Veterinary Microbiology. Account Clerk.

STEPHEN R. MARTIN, B.A., M.A., Associate Director of Development, Cornell University.

EDWARD C. MELBY, JR., D.V.M., Dean, New York State College of Veterinary Medicine.

FREDRIC W. SCOTT, B.S., D.V.M., Ph.D., Associate Professor of Veterinary Microbiology and Director of the Cornell Feline Research Laboratory.

Research Staff

Cat Leukemia Laboratory

FERNANDO M. NORONHA, D.V.M., Professor of Veterinary Virology.

JOHN E. POST, B.S., D.V.M., Ph.D., Senior Research Associate of Veterinary Pathology.

CHARLES G. RICKARD, D.V.M., M.S., Ph.D., Professor of Veterinary Pathology; Associate Dean of New York State College of Veterinary Medicine.

FAUSTO E. WATERMAN, D.V.M., Senior Research Associate, Veterinary Pathology.

RICHARD WEBER, B.S., M.S., Research Assistant.

Clinical Neurology Laboratory

ALEXANDER DE LAHUNTA, D.V.M., Ph.D., Professor of Veterinary Anatomy.

Clinical Nutrition

JOHN D. BRESSETT, B.S., Research Assistant.

HAROLD F. HINTZ, B.S., Ph.D., Associate Professor of Nutrition.

FRANCIS A. KALLFELZ, B.S., D.V.M., Ph.D., Mark L. Morris Professor of Clinical Nutrition.

Clinical Studies

STEPHEN I. BISTNER, B.S., D.V.M., Associate Professor of Comparative Ophthalmology, Department of Small Animal Medicine.

GARY BOLTON, D.V.M., Associate Professor of Small Animal Medicine-Cardiology.

ROBERT W. KIRK, B.S., D.V.M., Professor and Chairman, Department of Small Animal Medicine.

RONALD C. RIIS, B.S., D.V.M., Assistant Professor of Ophthalmology.

DANNY W. SCOTT, B.S., D.V.M., Assistant Professor of Small Animal Medicine.

JEFFREY S. SMITH, B.V.Sc., Resident, Ophthalmology.

Computer Center

FREDERICK L. HILTZ, B.S.E.E., M.S.E.E., Ph.D., Senior Research Associate, Physical Biology.

JOHN LEWKOWICZ, Director, Computer Facility, Physical Biology.

Laboratory Animal Services

CLYDE I. BOYER, JR., V.M.D., M.S., Professor and Director of Laboratory Animal Medicine.

JOHN E. GILMARTIN, M.S., Assistant Director of Laboratory Animal Medicine.

Microbiology Laboratories

CATHERINE G. FABRICANT, B.S., M.S., Senior Research Associate.

DOROTHY F. HOLMES, D.V.M., Ph.D., Research Associate.

ROBERT HOPPE, B.S., Research Assistant.

YASUTAKA HOSHINO, D.V.M., Research Assistant.

KYU M. LEE, M.D., Ph.D., Professor of Virology.

JOHN F. TIMONEY, B.Sc., M.V.B., M.R.C.V.S., M.S., Ph.D., Assistant Professor of Microbiology.

JAMES F. ZIMMER, D.V.M., Research Assistant.

Reproductive Studies

PATRICK W. CONCANNON, B.S., Ph.D., Research Associate.

BETSY HODGSON, B.S., M.S., Research Assistant.

DONALD H. LEIN, D.V.M., Ph.D., Associate Professor.

Acknowledgments

The Cornell Feline Research Laboratory gratefully acknowledges gifts received from our Founders and Contributors from February 12, 1974 to August 31, 1975 in support of our research program.

Founders

We are especially pleased to acknowledge these individuals and groups that have become Founders through their donation or pledge of \$500.00 or more. Their names, which follow, will be inscribed upon a permanent plaque in the Research Tower of the College of Veterinary Medicine.

Individuals

Ms. Gladys J. Anderson
(In Memory of Puffy and deep
appreciation of
Dr. Edmond A. Comans)
Ms. Judith V. Carlson
(In Memory of Flicka and Jerry)
Mr. and Mrs. Richard S. Manchec
(In Memory of Santana's Podgorny)

Mrs. Jane Martinke
(In Memory of Mrs. Jane Martinke,
by the Robert H. Winn Foundation for
Cat Research, Inc.)
Col. William W. and Norma H. O'Neill
(In Memory of Kon Lek Lek Wepya—
Little Wee)

Cat Clubs and Societies

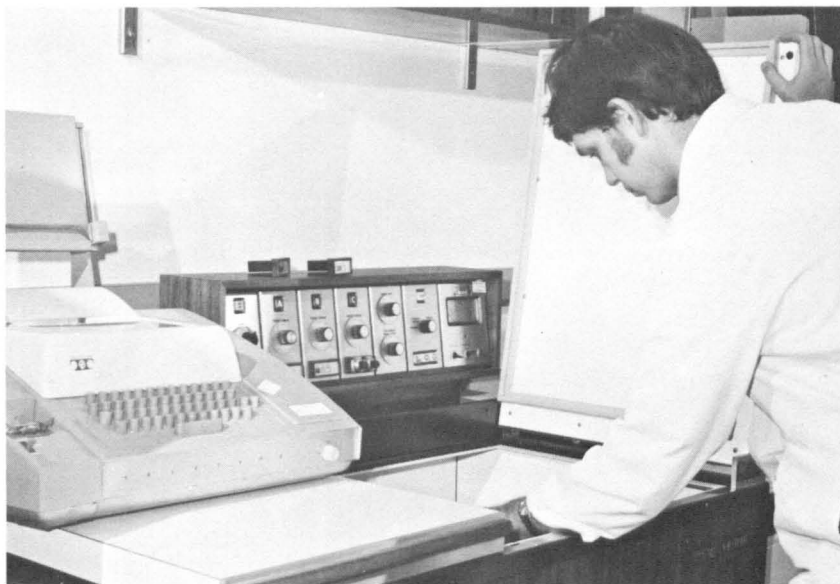
Bougalie Rebels Cat Club
Buffalo Cat Fanciers, Inc.
Capital Cat Fanciers, Inc.
Lone Star Cat Club, Inc.

Long Island Cat Club, Inc.
Old Dominion Cat Club, Inc.
Susquehannock Cat Club, Inc.

Veterinarians

Drs. Gary M. and Alan C. Baum
Dr. Sam H. Dorfman
Dr. and Mrs. Joseph B. Engle
Drs. Leonard, Robert, and Alan Ferber
Dr. and Mrs. Harris H. Groten
(In Honor of Dr. and Mrs. Arthur
Hines Groten and
Dr. and Mrs. Philip Litwak)

Drs. William and Marguerite Gulick
(In Memory of Eugene O. Brielman)
Dr. John A. Hauge
Dr. Bernard S. Hershhorn
Dr. James Hoffmire
Dr. Bryan S. Johnson
Dr. and Mrs. Wallace G. Jones
Dr. and Mrs. Leo R. Karmin



A scintillation counter is utilized to count radioisotope activity of a sample. This procedure is part of a laboratory test applied to a blood sample from a cat vaccinated with feline rhinotracheitis vaccine in order to measure the level of cell mediated immunity against the herpes virus which causes rhinotracheitis.

Dr. and Mrs. Harold Kopp
 Dr. David E. Lawrence
 Dr. Jay Luger
 Dr. and Mrs. John E. McCormick
 Dr. and Mrs. R. S. MacKellar, Jr.
 (In Memory of Dr. Robert S.
 MacKellar, Sr.)
 Dr. Gordon G. Morrow

Dr. Stewart H. Parker
 Dr. Harold G. Scheffler
 Dr. David H. Taylor
 Dr. and Mrs. Howard O. Weber
 Dr. John W. Whitefield
 Dr. Leonard Wood and Glory Ann Wood
 Dr. and Mrs. Daniel T. Woolfe
 (In Memory of Jacob and Kate Woolfe)

Foundations

Dr. John E. Salsbury Foundation

Robert H. Winn Foundation for
 Cat Research, Inc.

Corporations

Cats Magazine
 (By Raymond D. and Blanche V. Smith)

Veterinary Medical Associations

Long Island Veterinary Medical Association



Contributors

Individuals

Mrs. David O. Allen
Mr. and Mrs. William E. Anderson
(In Memory of Cinder)
Mrs. Dudley Baker
(In Memory of Mother Kitty)
Mr. Anthony Ciervo
Mr. Harry J. Durkee
(In Memory of Skeenk)
Mr. Joseph A. Geno
Mr. Thomas A. Herbst
Mrs. Joan Humphreys
Ms. Beatrice M. Jochen
Ms. Elizabeth Orton Jones
Ms. Nancy A. Lang
Mrs. Patricia M. Lituri
Mr. and Mrs. Conrad H. Milster

Ms. Mildred R. Murphy
(In Memory of Peter)
Ms. Debra J. Myers
Ms. Frances M. Nall
Mr. Takeshi Noguchi
Mr. and Mrs. Roger Rexilius
(In Memory of Miss Whisper)
Ms. Jean Baker Rose
(In Memory of Lewis Leonard
Dollinger, Jr.)
Dr. Henrietta N. Shirk
(In Memory of Ami)
Ms. Jean Marie Tardif
Mr. D. R. Trask
Mr. Phillip Vasseur
Ms. Barbara C. Vaughan
M. Paule Walczak

Cat Clubs and Societies

Albuquerque Cat Fanciers, Inc.
Charlottesville Cat Club
Hallmark Himalayan Cat Club

LeVal Feline Society
Monroe Shorthair Club

Veterinarians

Dr. Stanley M. Aldrich
Dr. Karl G. Baker
Dr. Richard R. Basom
Dr. George J. Beyer
Dr. John J. Black
Dr. Henry A. Brunz
Dr. Arthur W. Christopher
Dr. N. Y. Chung
Dr. Douglas S. Darlington
Dr. Gary W. Dehne
Dr. Henry J. Deutsch
Dr. Walter P. Doolittle
Dr. Gabriel Durkac
Dr. Gregory W. Gallagher
Dr. Harry M. Glass
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Dr. Bruce Hull

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Dr. Henry Kaplan
Dr. Abraham Kleinfield
Dr. Jeffrey A. La Croix
Dr. Stanley J. Lewengrub
Dr. Bertram Lewis
Dr. Leo L. Lieberman
Dr. Irene Kraft
Dr. James G. McClure
Dr. Michael H. Milts
Dr. Emil E. Perona
Dr. Edwin L. Rague
Drs. Simeon and Michael Ross
Dr. Herbert M. Salm
Dr. Burton Saunders
Dr. Jeremiah N. Sbara
Dr. Louis C. Schimoler
Dr. J. A. Scheider
Dr. W. Erwin Sheckler
Dr. J. G. Shute
Dr. Alcott L. Smith
Dr. Avery L. Smith
Dr. Phillip B. Stewart
Dr. Donald O. Taylor

Germfree kitten is fed by animal caretaker. Plastic isolator allows kittens to be raised in an environment free from all bacteria and viruses.

Dr. Allen J. Tucker, Jr.
Dr. Robert D. Walker
Dr. Jerrold M. Ward
Dr. Kerry W. Washburn
Dr. and Mrs. Donald A. Westee

Dr. and Mrs. James R. Wheaton
Dr. Arthur N. Wilder
Dr. David A. Wolf
Dr. Leo A. Wuori
Dr. M. Zimmerman

Veterinary Medical Associations

Women's Auxiliary to New York State
Veterinary Medical Society

Women's Auxiliary to the Long Island
Veterinary Medical Association

Veterinary Hospitals and Clinics

Animal Emergency Clinic
Cambrian Animal Hospital
Cat Clinic
Highlands Veterinary Hospital
North Berwick Animal Hospital

North Lakes Veterinary Clinic
Penobscot Veterinary Hospital
Plaza Veterinary Clinic
Stanton Pet Hospital
Topsfield Veterinary Hospital

Publications from the Cornell Feline Research Laboratory, 1974-75*

- BOLTON, G. Handbook of Canine Electrocardiography. W. B. Saunders Company, Philadelphia, 370, 1975.
- BOLTON, G. R. Feline Cardiology. *Feline Practice*, 5(5), 42-44, 1975.
- CARLSON, J. H. Pathogenesis of feline panleukopenia in germfree and conventional (SPF) Cats. Ph.D. Thesis. Cornell University, Ithaca, New York, 1975.
- FABRICANT, C. G., and J. H. GILLESPIE. Identification and characterization of a second feline herpesvirus. *Infect. and Immunity*, 9, 460-466, 1974.
- KALUNDA, M., K. M. LEE, D. F. HOLMES, and J. H. GILLESPIE. Serologic classification of feline caliciviruses by plaque-reduction neutralization and immunodiffusion. *Am. J. Vet. Res.*, 36, 353-356, 1975.
- NORONHA, F., E. DOUGHERTY, A. POCO, C. GRIES, J. POST, and C. RICKARD. Cytological and serological studies of a feline endogenous C-type virus. *Archiv für die gesamte Virusforschung*, 45, 235-248, Springer-Verlag, 1974.
- SCHULTZ, R. D., F. W. SCOTT, J. R. DUNCAN, and J. H. GILLESPIE. Feline immunoglobulins. *Infect. and Immunity*, 9, 391-393, 1974.
- SCOTT, D. W. Lungworm treatment. *Feline Pract.*, 5, May-June, 1975.
- SCOTT, D. W. Observations on the eosinophilic granuloma complex in cats. *J.A.A.H.A.*, 11, 261, 1975.
- SCOTT, D. W. Clinical use of piperacetazine^(R) in dogs and cats. *VM/SAC*, 69, 723-727, 1974.
- SCOTT, D. W. A case of cutaneous asthenia in the cat resembling the Ehlers-Danlos syndrome in man. *VM/SAC*, 69, Oct., 1974.
- SCOTT, D. W. Clinical use of piperacetazine in dogs and cats. *Friskies Research Digest*, 10, 12-13, 1974.
- SCOTT, F. W., and A. F. GLAUBERG. Aerosol immunization for feline panleukopenia. *J.A.V.M.A.*, 166, 147-149, 1975.
- SCOTT, F. W., A. DELAHUNTA, R. D. SCHULTZ, S. I. BISTNER, and R. C. RIIS. Teratogenesis in cats associated with griseofulvin therapy. *Teratology*, 11, 79-86, 1975.
- SCOTT, F. W. Evaluation of a feline viral rhinotracheitis vaccine. *Feline Pract.*, 5, 17-22, 1975.



Medical Technician operating an automatic cell counter as part of a routine blood analysis.

WANG, J. T., and K. M. LEE. Demonstration of feline leukemia virus and antibody in cats by passive hemagglutination. *Proc. Soc. Exper. Biol. and Med.*, 148, 557-561, 1975.

*A complete list of publications from 1965-1974 is available upon request.

Financial Report, July 1, 1974 to June 30, 1975

INCOME

Contributions:*	\$ 13,923.00	
Corporation Grants:	13,024.00	
Federal Grants and Contracts:	150,569.00	
Other Grants:	56,616.00	
College:	5,500.00	
	TOTAL	\$239,632.00

EXPENSES

Salaries:	\$132,030.00	
Supplies and Animal Care:	88,075.00	
	TOTAL	\$220,105.00
	BALANCE	\$ 19,527.00

*An additional \$8,615.00 has been pledged on an installment basis.



Modern breeding facility housing the specific pathogen-free cat colony located on Snyder Hill, two miles from the main campus.

Budget, July 1, 1975 to June 30, 1976

	<u>Amount Required</u>	<u>Amount Budgeted</u>	<u>Balance Needed</u>
<i>Respiratory Diseases</i>			
Rhinotracheitis	\$ 30,000.00	\$ 30,000.00	\$ 0.00
Pneumonitis	4,700.00	4,700.00	0.00
Antiviral Studies	66,800.00	66,800.00	0.00
<i>Urolithiasis</i>	50,000.00	50,000.00	0.00
<i>Infectious Peritonitis</i>	15,000.00	2,000.00	13,000.00
<i>Clinical Studies</i>	20,000.00	0.00	20,000.00
<i>Leukemia</i>	100,000.00	20,000.00	80,000.00
<i>Nutrition</i>	25,000.00	10,000.00	15,000.00
<i>Reproductive Diseases</i>	15,000.00	0.00	15,000.00
<i>Neurological Diseases</i>	10,000.00	0.00	10,000.00
<i>General Operations</i>	10,000.00	6,000.00	4,000.00
TOTALS	\$346,500.00	\$189,500.00	\$157,000.00

Budget figures do not include salaries for permanent line item professional and support staff provided by the State of New York.