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The New York State Veterinary College at Cornell University in Ithaca, New York, is the primary health resource for the state's billion-dollar animal population. The College's mission, mandated by the citizens of New York State through their legislators, is to promulgate animal and human health through education, research, and public service.

This report is a compendium of the activities, during the 1973-74 fiscal year, of the students, faculty, and staff who worked to accomplish this mission and, thereby, to justify the public trust.

*Cover*

Clouds reflected in the glass facade of the Research Tower

*Preceding page*

The original faculty of the Veterinary College, photographed in 1896.  
*Left to right:* Walter Long Williams; Varanus Alva Moore; Pierre Augustine Fish; James Law, *Dean*; Grant Sherman Hopkins; and Simon Henry Gage.



## **New York State Veterinary College**

A statutory college of the  
State University of New York

Cornell University  
Ithaca, New York



## **Seventy-seventh Annual Report**

July 1, 1973–June 30, 1974  
Legislative document number 88

**Office of the Dean**

New York State Veterinary College  
A Statutory College of the State  
University  
Cornell University  
Ithaca, New York

December 30, 1974

**Office of the President**

Cornell University  
Ithaca, New York

December 30, 1974

**Office of the Chancellor**

State University of New York  
Albany, New York

March 1, 1975

President Dale R. Corson  
300 Day Hall  
Cornell University

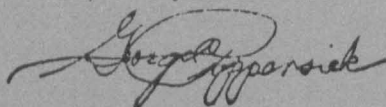
The Board of Trustees of  
Cornell University  
The Chancellor and Board of Trustees  
of the State University of New York  
The Governor of the State of New York

To the Board of Regents, the  
Governor, and the Legislature of the  
State of New York

Dear President Corson:

Pursuant to the requirements of the laws of New York State, I present herewith a report of the activities and accomplishments of the faculty and staff of the New York State Veterinary College for the year ending June 30, 1974, this being the seventy-sixth annual report of this College.

Respectfully submitted,

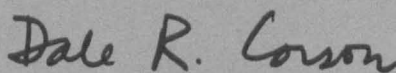


George C. Poppensiek  
Dean

Sirs:

I have the honor to submit, on behalf of Cornell University, the report of the New York State Veterinary College for the year beginning July 1, 1973, and ending June 30, 1974. This report is submitted in accordance with requirements of Section 5711 of Article 115 of the State Education Law.

Respectfully,

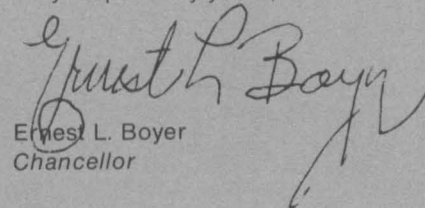


Dale R. Corson  
President

Sirs:

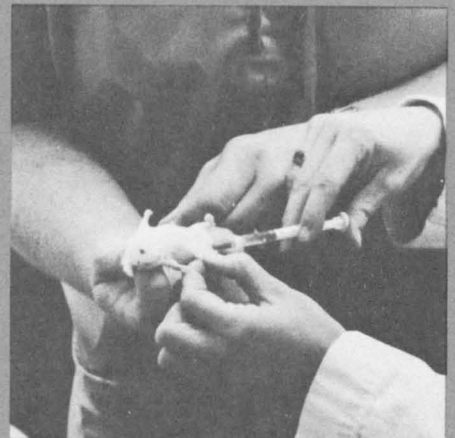
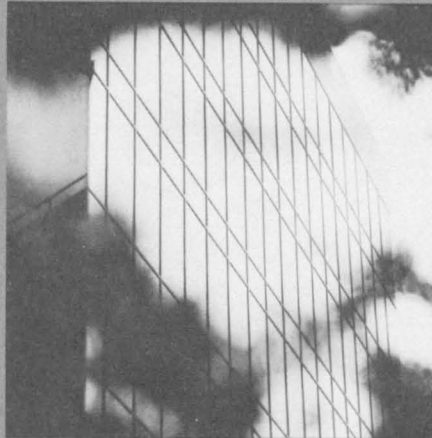
Pursuant to the law, the 1973-74 Annual Report of the New York State Veterinary College at Cornell University is herewith submitted.

Very respectfully yours,



Ernest L. Boyer  
Chancellor

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Message from the Dean



This 1973-74 report summarizes the seventy-seventh year since the matriculation of the first class of veterinary students at the College and marks a signal point in the growth and maturation of the institution. Several important milestones have been reached, representing the culmination of years of planning, dedicated effort on the part of faculty and staff, and the cooperation and support of Cornell administrators, officers of the State University of New York, members of the state legislature, and other friends and colleagues of the College.

The most apparent changes are the new Research Tower and preliminary work directed toward construction of a new Diagnostic Laboratory. Other improvements in physical plant and equipment lend support to expanded research programs and the revised curriculum for D.V.M. candidates. Enrollment has increased modestly, bringing some new funds to the College, and several major research programs have been initiated or reorganized. Expansion of diagnostic services to the public also figured in the year's developments.

### Construction

The most significant physical change in the College scene was the completion and occupation of the new ten-level Research Tower. Built at a cost of \$12 million, this magnificent building was dedicated at outdoor ceremonies on June 27 and is a dramatic addition to the campus. Much-needed office space is provided, along with modern laboratories, meeting and conference rooms, and housing for hundreds of animals needed for teaching and research.

Construction of a new facility for the Diagnostic Laboratory is expected to begin March 1975, and be completed by the first of July the following year at a total cost of \$1.5 million. The Laboratory became a separate unit of the College this year, administered independently of academic departments, and plans call for incorporating the equine drug testing service into its operation. This new facility, made possible through contractual arrangements with the State Department of Agriculture and Markets, and the new organizational setup will make it possible to provide superior diagnostic service for the people of the state in dealing with animal diseases and related problems. The 165-acre Equine Research Park was established on the site of the former Warren Farm, near the University golf course. After renovations and construction, the facility will be used for research on equine nutrition, bone and joint diseases, the pharmacologic and toxicologic properties of drugs, reproduction, and infectious diseases.

### Equipment and Support Services

The new center for biomedical communications is functional and contributing substantially to teaching, research, and public service. The staff is producing large quantities of high-quality photographs for use in numerous College programs. Expert photography of intact animals and microscopic structures is supplemented by superb medical illustrations. All color and optical printing is done at the center.

The equipment and personnel of the computing center in the Research Tower constitute an outstanding resource for teaching and research activities. Available to both students and staff of the entire University for health science applications, the first priority is the Hospital Information System. This system, using newly developed patient medical forms, makes clinical records accessible "on line" from display terminals strategically located throughout the College.

An automated blood chemistry analyzer capable of performing twenty-two chemical tests on serum specimens has been acquired. It will allow expansion of the diagnostic services of the Clinical Pathology Laboratory for patients in animal hospitals throughout the state. The equipment will be used in establishing herd profiles for field studies on metabolic and "production diseases" of dairy cattle and will be a valuable tool for other research projects.

A special grant in excess of \$200,000 was made available by the National Institutes of Health to increase the College's capability for handling laboratory animals. These animals, so vital to teaching and research programs, are reared and cared for with strict regard for humane principles.



### Instruction

The new core-elective curriculum was in full operation for the first time in the 1973-74 academic year. Basic to the change is the offering of an increased number of elective tracks that students may pursue to gain greater in-depth knowledge of an area while fulfilling requirements providing a core of knowledge considered basic to the profession.

By expanding enrollment from sixty-five to seventy-two students per class, the College qualified for a federal capitation award of \$375,000 under the Comprehensive Health Manpower Training Act of 1971. These funds will be used to purchase supplies and equipment for renovation of some teaching facilities. The 1982 goal of ninety-six students per class will require additional staff and facilities and probably a capital building program. These funds, however, involve no long-term federal commitment so they cannot be used to support permanent faculty positions.

### Public Service

In response to increased interest in commercial aquaculture and the rearing of fish as a hobby, the College has made its diagnostic expertise in diseases of fin fish and shellfish available to the public. Another public service has been initiated to offer consultation on problems having suspected nutritional origins in pets and livestock. Available to veterinarians, farmers, and pet owners, this service is part of the expanding program in clinical nutrition.

### Research Programs

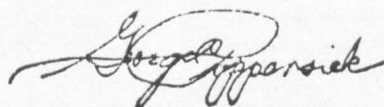
In February 1974, the University trustees established the Cornell Feline Research Laboratory. Its purpose is to promote and conduct research to improve methods of preventing and treating diseases of domestic cats, to provide educational programs on feline diseases, and to aid veterinarians when new or unknown diseases of cats occur. The work of the laboratory will be conducted in the veterinary clinics, the Research Tower, the Cat Leukemia Laboratory, and other facilities of the College. The biology computing center, the clinical neurology laboratory, the electron microscopes, and laboratory animal facilities will all be used in the work of the Laboratory.

The Veterinary College, in cooperation with the College of Agriculture and Life Sciences, is developing an aquaculture program intended to stimulate and coordinate biological, technical, and economic studies that will improve the quality, quantity, and diversity of aquatic resources. Initial efforts are being directed toward the coordination, reorganization, and expansion of programs already in progress.

The financial stability of the Veterinary Virus Research Institute and the Cornell Research Laboratory for the Diseases of Dogs was enhanced by the receipt of six bequests from individuals concerned with the need for research in these areas.

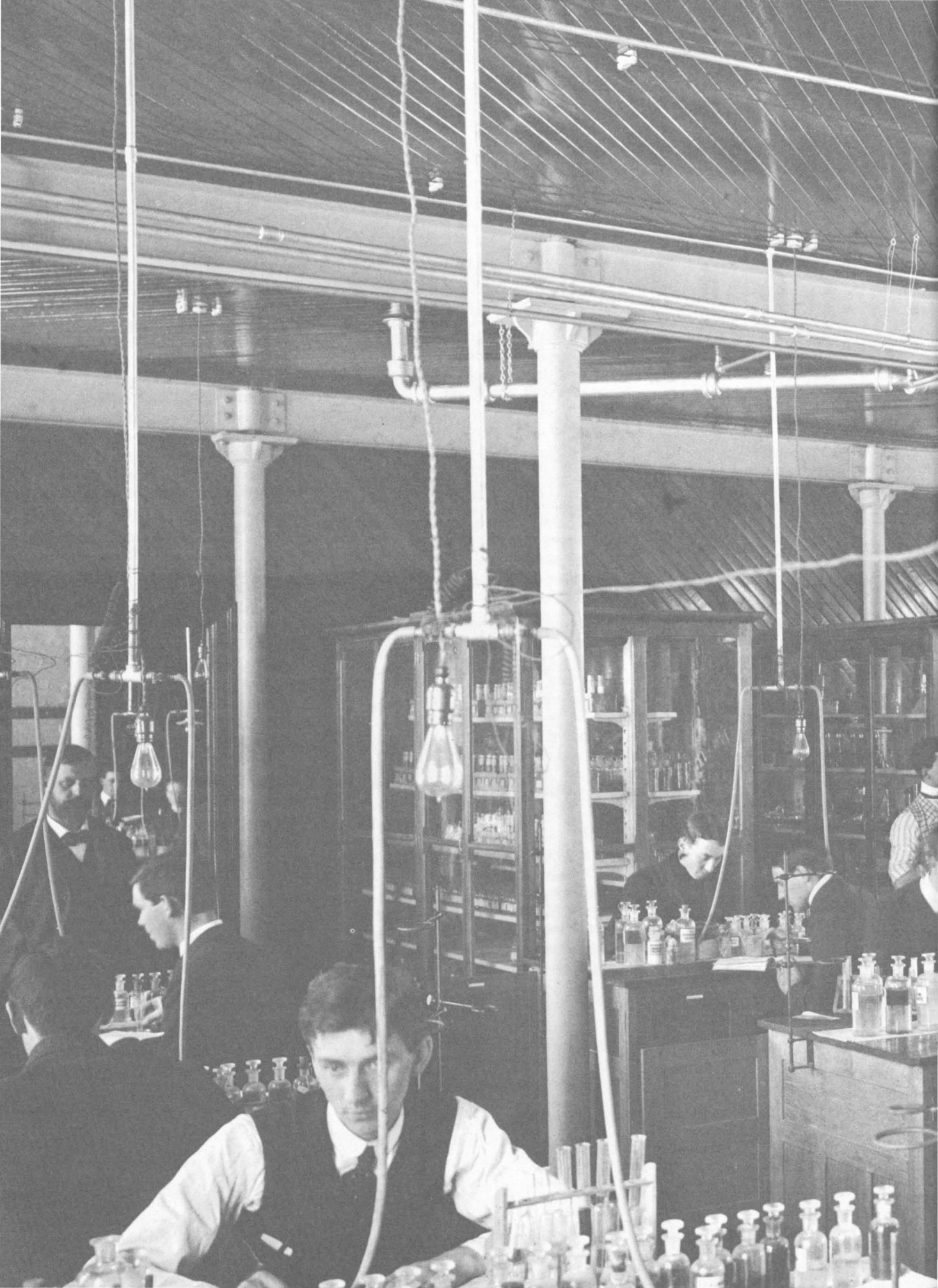
### Admissions Policy

Some compelling questions concerning admission policy were the subject of preliminary discussions among members of the Veterinary College faculty, administrative officers of Cornell and the State University, and representatives of the executive division of the budget. Central to these discussions was the possibility of asking other states to share the cost of educating their residents at this College. With only two colleges of veterinary medicine in the northeast section of the country — this college and one at the University of Pennsylvania — it seems appropriate to address the need for veterinary medical education, research, and service on a regional basis. We believe such an approach will provide exciting new challenges and opportunities for the College.



George C. Poppensiek  
Dean

*This is the last annual report submitted by George C. Poppensiek, who retired as dean after fifteen years in that position. Dr. Edward C. Melby, Jr., of the Johns Hopkins University School of Medicine, was appointed the sixth dean of the New York State Veterinary College, effective October 1, 1974.*



Programs of Instruction  
Students  
Faculty  
Library





### Professional

The kind of health problem identification and decision making that practicing veterinarians are called upon to perform requires a broad background and diverse training although they may, in their daily tasks, use only a fraction of the specific knowledge and skills they have acquired. The development of that broad background, including a thorough schooling in basic sciences and procedures, is the aim of the core of courses required of all candidates in the professional curriculum. Opportunity to pursue individual interests and acquire greater concentration in specific areas of veterinary medicine is provided through an increasing array of electives. As the new curriculum went through its "shake-down cruise" in the academic year 1973-74, every department was involved in course revision, rescheduling, and the preparation of electives.

The Department of Anatomy offered new evening seminars in anatomy for students in the University's Division of Biological Sciences, a popular new elective in neurology, and a seminar in neuropathology. The audiovisual presentations for teaching basic anatomic concepts were streamlined. In addition to teaching the course in avian diseases required of all D.V.M. candidates and advanced courses offered as electives, the Department of Avian Diseases also contributed to a new course in fish pathology. The Department of Large Animal Medicine, Obstetrics, and Surgery continued to offer a large group of required and elective courses and also revised or added new ones in clinical methods,

equine reproduction, clinical pathology, immunology, and clinical nutrition.

Offerings by the Department of Microbiology in immunology, bacteriology, virology, mycology, protozoology, epidemiology and infectious diseases, and small animal infectious diseases were revised. The Department of Pathology introduced innovations into current pathology courses, and, for the first time, taught courses in wildlife and fish pathology. The professional curriculum courses in parasitology were redesigned and a new course in parasitology and symbiology for undergraduates in other academic units of the University was taught for the first time. The course in nutritional pathology was opened to undergraduates as an elective. The course in introductory animal physiology, offered by the Department of Physical Biology, was eagerly received: more than 270 students from various schools and colleges of the University registered. An expanded program, including laboratory experience, is planned for next year.

The Department of Physiology, Biochemistry, and Pharmacology has expanded its course in pharmacology for second-year veterinary students into a sequence of two courses: basic pharmacology taught in the second year and clinical pharmacology in the third. Electives in toxicology and veterinary animal behavior were offered, the latter for the first time. Teaching activity in the Department of

Small Animal Medicine and Surgery provided for an increase from sixteen to twenty-four fourth-year students assigned to the clinic full time. Improved instruction in clinical anesthesiology has been welcomed by the students. Small animal surgery is now taught in the surgery suite of the Research Tower, which has become an outstanding new teaching resource. Electives in many areas of small animal medicine are in the planning stage but cannot be offered until additional staff is available.

Both the quantity and diversity of cases treated in the hospitals and clinics of the College increased, providing ever-broader opportunities for students to gain insight and to acquire the skills needed for professional practice. (See Table 4, page 21, for a summary of hospital and clinical activity.)

### Graduate

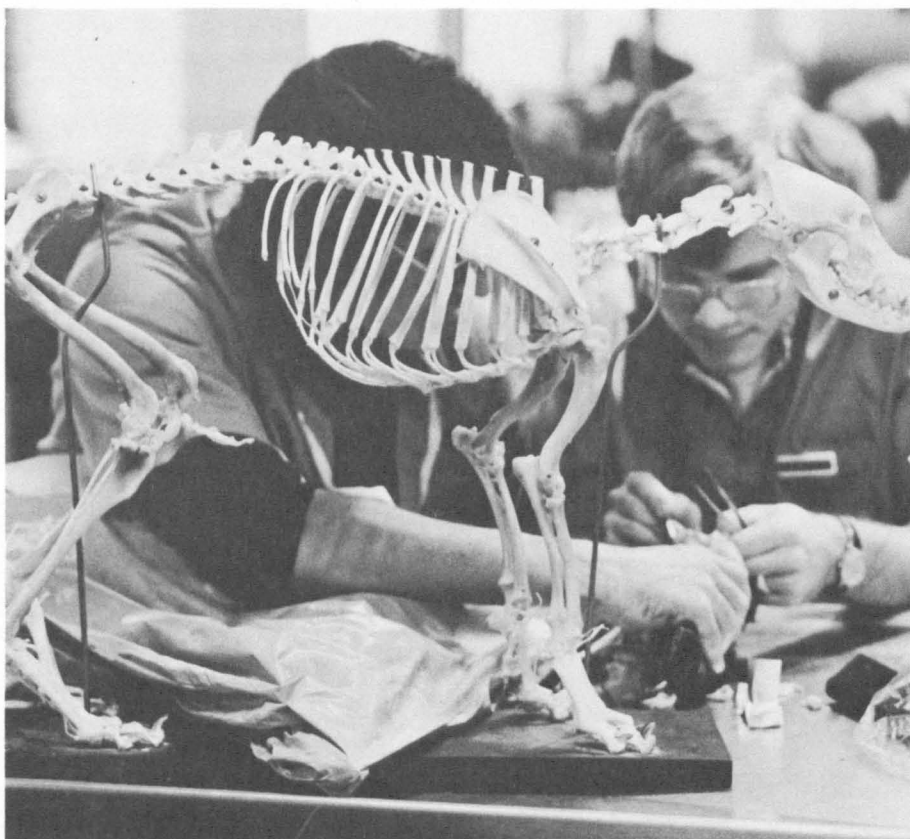
The training of graduate students figures prominently in all the College's programs — their young, imaginative minds and their varied backgrounds and talents all provide stimuli to teaching and research activities and increase the College's public service potential. In the academic year 1973-74, fifty-two graduate students majored in the twelve subjects of the Field of Veterinary Medicine. Thirty-seven of them pursued work leading to the Ph.D. degree, the other fifteen were working toward the M.S. Of the fifty-two, about half have veterinary degrees. The challenge of attracting veterinarians to advanced study is being responded to with efforts to increase stipends and to develop a broadly based recruiting program.

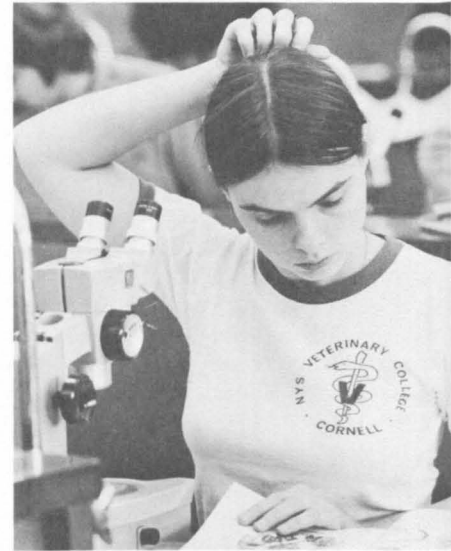
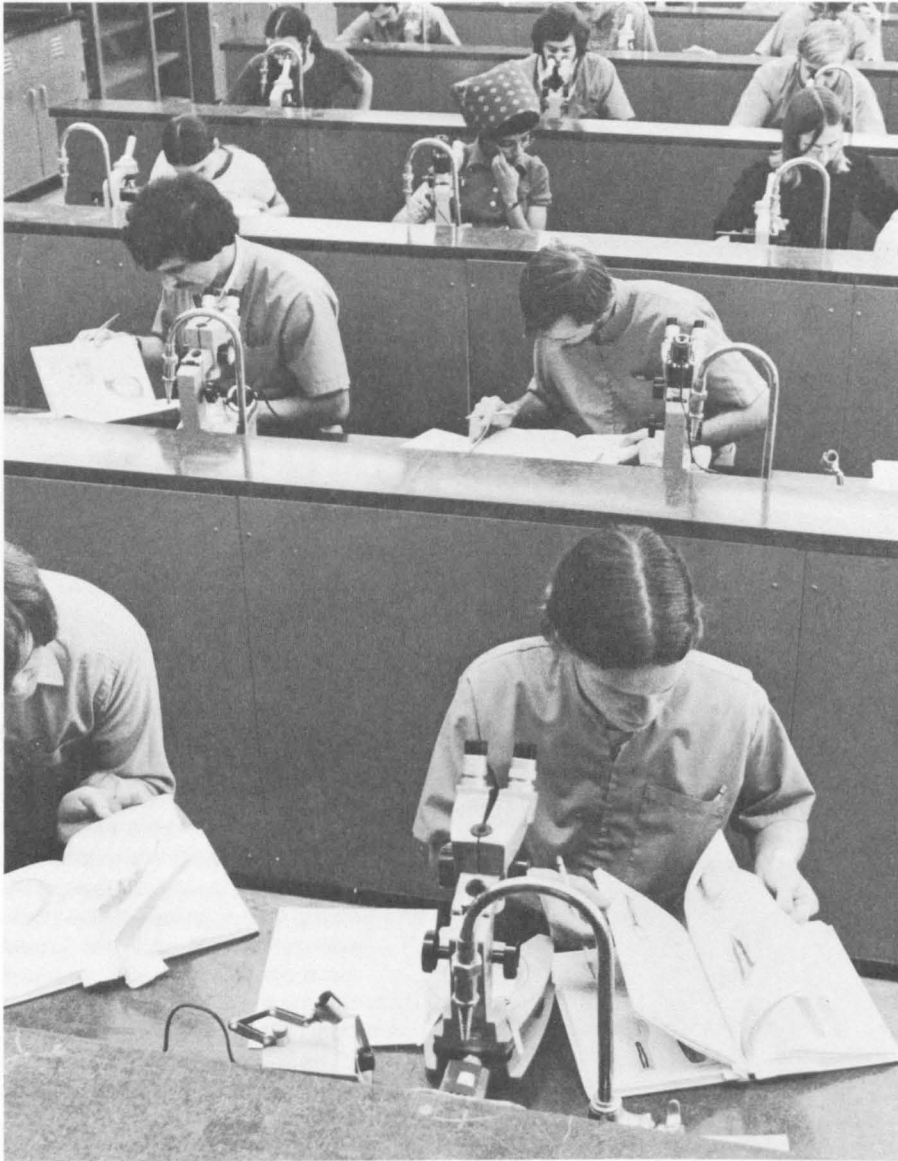
A significant proportion of the many research projects under way at the College is carried out by graduate students; their investigations of animal health problems at basic and applied



levels is a vital part of their training to be the teachers and researchers of tomorrow and contributes to the total fund of knowledge for all scientists. Each graduate student, in addition to study and thesis research, is now required to participate in the teaching program of the College.

Because 39 percent of the students in the Graduate Field of Veterinary Medicine are from abroad (representing twelve foreign countries), the graduate program assumes a decidedly international flavor. These students, who receive their advanced training at Cornell and then return to their home countries to work, contribute in large measure to the esteem accorded the New York State Veterinary College throughout the world.





### Admissions

An increased interest in veterinary medicine is reflected by the 851 applicants for the 72 positions in the class of 1978. This contrasts with the 659 applications for 65 positions in the class of 1977. The class of 1978 is a talented, highly motivated group of young people, 83 percent of whom are residents of New York State.

Thirty-one percent are women, as opposed to 23 percent in the preceding year's class. Of 496 resident applicants, 12.1 percent were accepted, while only 3.3 percent of 359 nonresident applicants were selected.

The regrettable situation in which increasing numbers of qualified applicants must be denied admission has inspired concerned citizens to question whether any applicants from other states should be admitted. After careful weighing of the many factors



involved, the College has reaffirmed the position that some from out-of-state—especially those with exceptional qualifications—should be accepted each year. Among other reasons, it is felt that, as a recipient of substantial federal support, the College must serve to some extent as a national educational resource. The easing of requirements for establishing legal residency in the state may eventually reduce the question to irrelevance but, for the present, this issue, with its moral, ethical, legal, and economic implications still deserves study.

The paucity of applications from farm-reared individuals and members of minority groups is also a cause for concern, representing a primary challenge to the College admissions personnel.

### Profile

The composition of the entering classes in the D.V.M. program continually changes, reflecting some of the changing patterns and attitudes of society. Each new class contains more women; the members of each new group who survive the competitive admissions process and are accepted are better qualified academically; and each new class is more diverse, stemming from more varied backgrounds.

Today's veterinary students have weathered the turmoil of curriculum revision with a minimum of disruption; most want the opportunity to participate constructively in further educational changes. By and large, they are keenly interested in practicing veterinary medicine. Horizons continually expand, however, and there is an increasing tendency for specialization or entry into new fields

of involvement. Many students are asking for the chance to concentrate more of their efforts on their individual professional interests. If current student attitudes are indicative, the apparent shortage of practitioners to serve rural demands will persist and will eventually present a problem of unprecedented dimensions.

Most students, in the professional curriculum not only apply themselves fully during the academic year but also spend their vacations working in some phase of veterinary medicine. Their commitment to the profession is impressive.

The number of students from other academic units at Cornell taking courses offered by the Veterinary College has increased steadily. In 1973-74, a total of 846 nonveterinary students registered for credit hours that, collectively, are equivalent to 126 full-time students.

**Table 1**  
**Enrollment, 1973-74**

Candidates for the D.V.M. Degree	251
Class of 1974:	59
Class of 1975:	62
Class of 1976:	65
Class of 1977:	65
Graduate Students in the Field of Veterinary Medicine	52



One vital measure of the effectiveness of the College is the quality of its faculty. To attract outstanding individuals is a challenge; to keep them in the face of offers from other colleges and universities as well as government and industry is even more of a challenge. The record of the New York State Veterinary College faculty is one in which everyone can take pride.

In the year 1973-74, faculty members increased their teaching efforts considerably to implement the new curriculum, intensified their involvement in continuing education and extension programs, maintained an impressive pace in research activities, and continued to disseminate the results of their work through hundreds of publications in a diverse array of professional journals, papers, and reports.

Along with their intensified activity at home, College faculty members have participated in professional activities on the national and



international scene. Several have been named officers of worldwide veterinary organizations, many have consulted with national and international agencies, and an impressive number of awards and honors have been conferred on various individuals at all levels of activity.

### **New Appointments**

#### *Professorial*

Edwin J. Andrews, *Associate Professor*  
 Jerry J. Callis, *Adjunct Professor*  
 Brian R. Farrow, *Visiting Assistant Professor*  
 Lawrence L. Kramer, *Professor*  
 Louis Leibovitz, *Associate Professor*  
 Donald H. Lein, *Associate Professor*  
 Heinz D. Matheka, *Visiting Professor*  
 Svend W. Nielsen, *Visiting Professor*  
 Theodore A. Nobel, *Visiting Professor*  
 Leon Z. Saunders, *Adjunct Professor*  
 Ingemar Settergren, *Visiting Professor*  
 Joseph P. Whalen, *Visiting Professor*

#### *Research*

Paul B. Brown, *Senior Research Associate*  
 Edgar T. Clemens, *Research Associate*  
 Russell J. DuFrain, *Research Associate*  
 Kathleen R. Eichwort, *Research Associate*  
 Curtis S. Fullmer, *Research Associate*  
 Mason D. Gilbert, *Senior Research Associate*  
 Pablo Correa Giron, *Research Specialist*  
 Sajjad A. Haider, *Senior Research Associate*  
 (Eastport, New York)  
 Richard N. Heitmann, *Research Associate*  
 Katherine A. Houpt, *Postdoctoral Associate*  
 Nestor A. Menendez, *Visiting Research Associate*  
 Meinrad Peterlik, *Postdoctoral Research Fellow*  
 Gary D. Ross, *Research Associate*

#### *Other*

William F. Dean, *Director of Laboratory*  
 (Eastport, New York)  
 Grant S. Kaley, *Consultant to the Virus Research Institute*

Grayson B. Mitchell, *Director of Laboratory*  
 (Kingston, New York)  
 Lydden R. Polley, *Instructor*  
 Tirath S. Sandhu, *Field Veterinarian*  
 (Eastport, New York)  
 Danny W. Scott, *Instructor*  
 Sang Jae Shin, *Extension Associate*  
 Robert F. Smith, *Director of Biomedical Communications*  
 John I. Taylor, *Instructor*

### **Retirement**

Clement I. Angstrom, *Director of Laboratory*  
 (Kingston, New York)

### **Resignations**

#### *Professorial*

Peter H. Craig, *Associate Professor*  
 Maarten Drost, *Visiting Associate Professor*  
 Brian R. Farrow, *Visiting Assistant Professor*  
 Svend W. Nielsen, *Visiting Professor*  
 Stanley M. Olson, *Visiting Assistant Professor*  
 Leamon T. Pulley, *Assistant Professor*  
 John T. Vaughn, *Professor and Director of the Large Animal Hospital*  
 Theodore S. Williams, *Visiting Professor*

#### *Research*

Talmage T. Brown, *Research Associate*  
 Barbara Cogdell, *Research Associate*  
 Shirley A. Hull, *Research Associate*  
 H. George Ketola, *Research Specialist*  
 Michael J. Studdert, *Senior Research Associate*  
 Bruce K. Wallin, *Research Associate*  
*Other*

Miquel M. Marcotegui, *Visiting Fellow*  
 Kumar Prabhala, *Visiting Fellow*

### **Deceased**

William D. Urban, *Director of Laboratory*  
 (Eastport, New York)

The Flower Veterinary Library continued to function as a vital resource in all areas of College activity: instruction, research, and public service. The holdings include a range of titles in veterinary medicine and in the biomedical sciences. New acquisitions during the year included 347 volumes received as gifts. Nearly 300 items were borrowed from library patrons, while more than 1,000 were sent outside of Ithaca for various extension and public service uses. Tables 2 and 3 summarize library operations for the calendar year 1973.

**Table 2**  
**Library Use, 1973**

On Campus	24,061
Reserve books (in-library use):	6,886
Lent books (home use):	1,921
Photocopy items lent:	5,254
Interlibrary loans	871
Books:	79
Photocopies:	792

**Table 3**  
**Library Holdings, 1973**

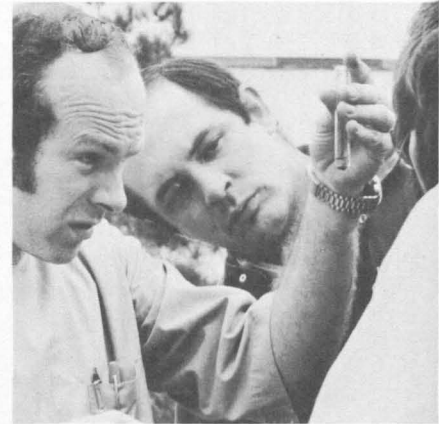
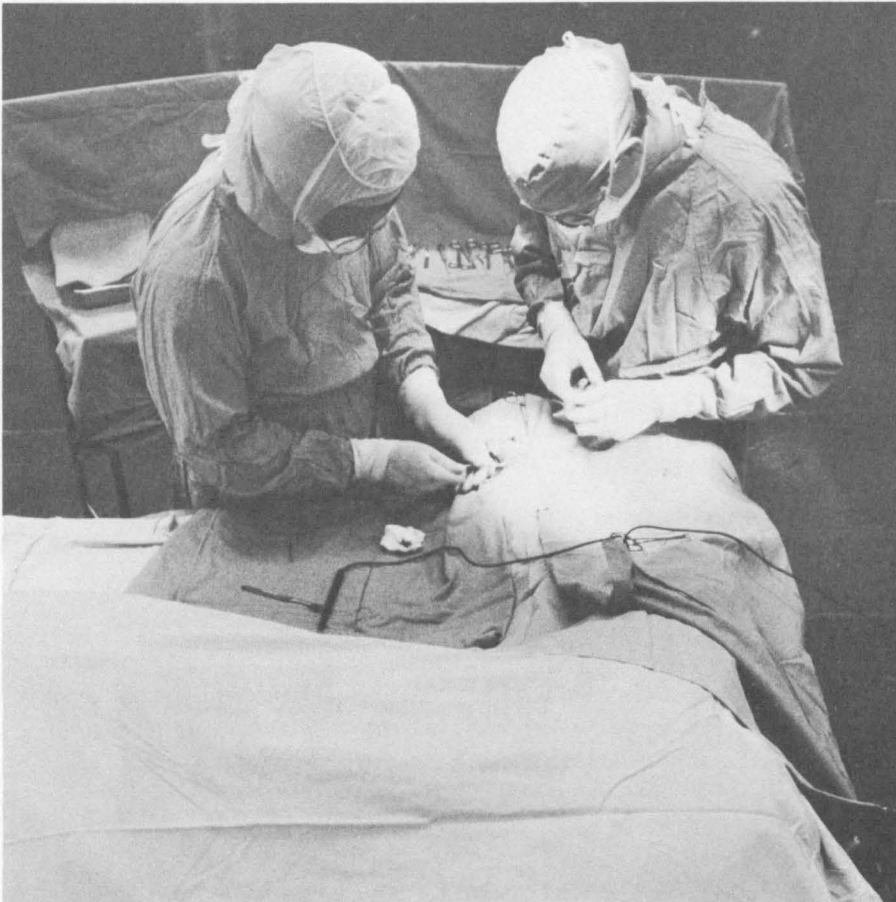
Books	57,469
At beginning of year:	55,220
Acquisitions:	2,267
Less withdrawals:	18
Periodicals and Annuals	1,047











As the chief animal health resource for New York State and much of the Northeast, the public service activities performed by the College are too extensive to document fully in this space. The impact of these activities, although difficult to measure, is unmistakably positive. As with many such basic services, the areas in which more is needed are always apparent.

#### **Animal Health Care**

The delivery of health care to the food-producing and companion and recreation animals of the region is a vital element in the College's public service mission and is equally vital to the teaching program. Thousands of animals are dealt with each year both as outpatients and in the two hospitals on campus. The Small Animal Clinic treats outpatients and provides hospital care when needed. The Ambulatory Clinic (for large animals) provides a traveling service to rural areas, and the Surgical and Consulting Clinic and Hospital handles large animals that are brought to the campus.





**Table 4**  
**Clinical and Diagnostic Accessions, 1973**

	Horses	Cattle	Dogs	Cats	Sheep & Goats	Swine	Poultry	Others	Total
Medical and Surgical	2,338	930	9,706	2,649	103	18		164	15,908
Large Animal Outpatient	35,352	1,798			349	645			38,144
Laboratory Animals								159	159
Clinical Pathology Laboratory	4,011	8,355	11,491	2,518				1,277	27,652
Parasitology	71	23	55	20	11	1	1	52	234
Diagnostic Laboratory	55,197	26,910	6,564	874	390	233	19		90,187
Radiology Section	945	60	1,624	356				31	3,016
Necropsy Examinations	271	1,310	519	326	118	130		398	3,072
Mastitis Control Program		167,507							167,507
Poultry Disease Laboratories							22,878		22,878
<b>Totals</b>	<b>98,185</b>	<b>206,893</b>	<b>29,959</b>	<b>6,743</b>	<b>971</b>	<b>1,027</b>	<b>22,898</b>	<b>2,081</b>	<b>368,757</b>

Diagnostic services are performed by a variety of College departments via diverse approaches and sites. Clinical tests and x rays are handled by the Radiology Section and Clinical Pathology Laboratory, divisions of the Department of Large Animal Medicine, Obstetrics, and Surgery. Diagnostic postmortems are done on animals submitted from all over the state, and several hundred specimens are examined by the parasitologists each year. In 1973, the Diagnostic Laboratory conducted more than 90,000 tests on specimens from New York and other states.

Several of the diagnostic services involve a network of laboratories on campus and around the state. Staff at the three Regional Poultry Diagnostic Laboratories examined thousands of specimens from poultry and many other kinds of birds in 1973, and provided consulting support as well for the state's poultry industry. The Duck Research Laboratory (at Eastport, Long Island) dispensed more than 3 million doses of vaccines and serums — a vital contribution to the duck industry of New York.

In a continuing effort to improve the quality of milk and reduce losses from diseases of the bovine udder, the four regional laboratories of the New York State Mastitis Control Program tested milk samples from more than 150,000 cows on about 1,900 farms during 1973.

Table 4 summarizes the clinical, hospital, and health care program of the College for the calendar year 1973.

#### Extension

The extension veterinarian and the clinical, teaching and research staff answered more than 1,000 mail and telephone inquiries from concerned citizens and distributed thousands of pieces of literature on animal health and related topics. The professional staff delivered more than seventy talks to lay groups and made special troubleshooting visits to some

150 farms. The ophthalmology service conducted nine canine eye clinics in various parts of the state, establishing certification for ocular soundness for breeding purposes and providing an educational service for dog breeders and their veterinarians.

The Staff of Student Administration provided hundreds of prospective students with information on veterinary courses and requirements for admission.

## Consulting

The intellectual resources of the College are made available to public and private agencies with faculty and staff members contributing a considerable collective effort to consultations and working in cooperative programs with such New York State agencies as the Department of Agriculture and Markets, the Department of Health, the Department of Environmental Conservation, the Harness Racing Commission, and the Fair.

The staff has also provided consultations for the United States Army, Department of Agriculture, Fish and Wildlife Service, and other agencies including the National Academy of Sciences, the Food and Drug Administration, the National Institutes of Health, the National Park Service, the Atomic Energy Commission, and the Environmental Protection Agency.

Many of the faculty members serve as consultants to various agricultural organizations and artificial insemination cooperatives. Private and public hospitals and other colleges and universities benefit from staff consultations and laboratory services as well.

Nearly half of the faculty members of the College act in an editorial capacity for one or more scientific journals, and most serve on numerous state, national, and international committees concerned with educational and scientific matters relating to animal and human health.



## Continuing Education

An important public service role of the College is the constant dissemination of new knowledge to practicing veterinarians to maintain and upgrade the quality of veterinary service available to the public. This effort includes providing scientific programs at the Annual Conference for Veterinarians and intensive workshops at the Annual Summer Institute for Doctors of Veterinary Medicine. During the year, faculty and staff members gave more than 200 scientific presentations to veterinarians. Almost 1,000 letters and telephone calls from veterinarians seeking information were answered. A monthly continuing education newsletter from the College reached some 1,600 veterinarians, and the recently added *Mastitis Quarterly* is being sent to more than 300.

The value of these programs is apparent from the reception accorded them and the steady demand for more. Expansion of these activities is planned when support becomes available.





The research activities of the College are aimed toward upgrading human and animal health, an effort that involves a wide variety of investigations. Determination of which projects to initiate or continue depends on several factors: (1) the practical needs of society and public interest in a problem, (2) the expertise and scientific interests of the investigators, (3) available facilities, and (4) the special interests of funding agencies.

Following are descriptions of five major categories into which veterinary medical research can be grouped. The list of faculty publications during 1973-74 (pages 25-33) reflects the range and diversity of research activities at the College. To obtain a complete listing of all research projects under way in 1973-74, see Further Information, page 40.

**Structural and Functional Systems**

Basic to understanding or treating disease is an understanding of the structure and function of cells, organs, and entire animals and the processes by which they develop and grow. Specifically, studies are focused on the various physiologic systems, such as gastrointestinal, nervous, urogenital, circulatory, and immune. There is also a need to determine the structure, function, and biochemistry of a variety of bacteria, viruses, and other organisms that parasitize animals and humans. The physiologic, immunologic, and behavioral responses of animals to infections, various drugs, and other stimuli are also of concern to researchers in this general area. More than a hundred projects in this category are in progress at the Veterinary College.

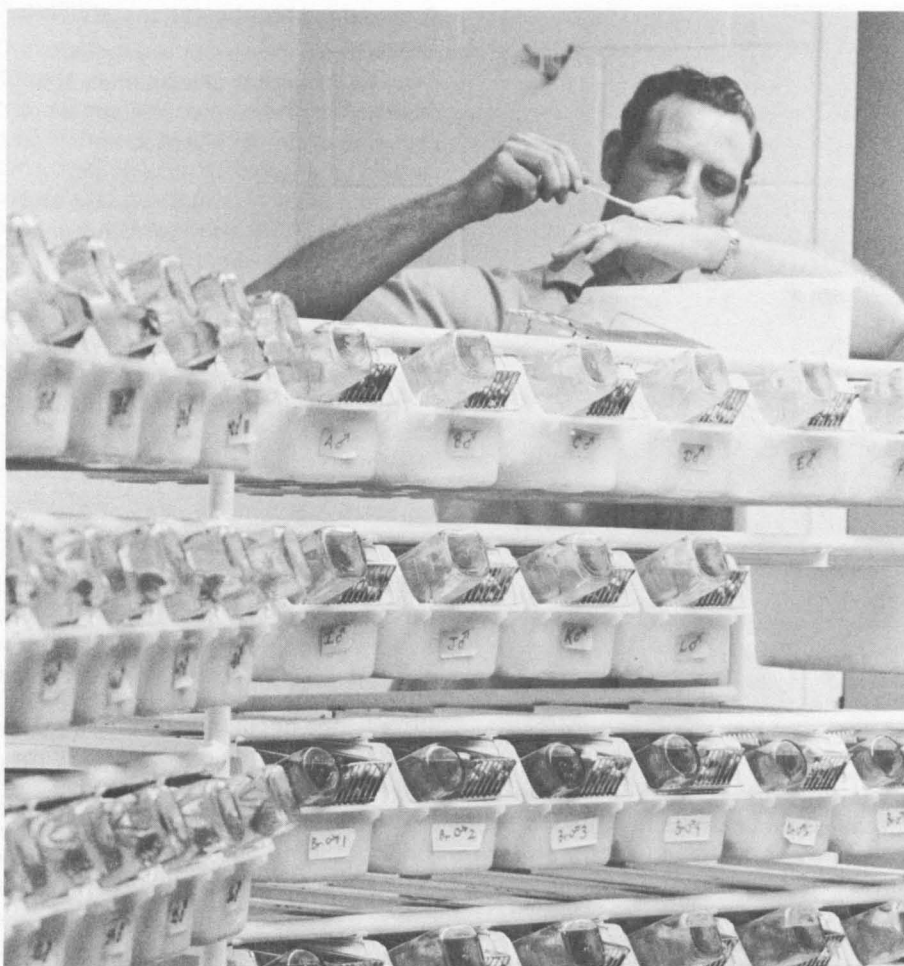
**Causes and Manifestations of Disease**

Among research projects aimed at determining the causes and effects of animal and human diseases are studies on allergic, immunologic, parasitic, and infectious diseases and on the effects various agents have on developing fetuses. Other investigations are focused on the causes of chronic and degenerative diseases, cancer, nutritional diseases, and the causes of reproductive failure. Current investigations at the Veterinary College that fall into this category number around 125.

**Epidemiology and Ecology of Diseases**

The incidence, distribution, and economic significance of losses from animal diseases and their effect on humans needs to be determined. Studies of this kind often include the surveillance of clinic and laboratory admissions and the observation of the interactions of environment and genetics on host-parasite relationships. Investigations into the human health implications of various animal diseases is also an important element of this area. Nearly a dozen projects designed to pursue these aspects of disease are currently under way at the Veterinary College.





### **Treatment of Disease**

The development of new treatments and the evaluation of old procedures are constant components of the applied clinical research programs. Clinical, radiographic, and surgical procedures come under scrutiny in the effort to improve the means of dealing with infectious, digestive, respiratory, and neoplastic diseases of all species of animals. Work involving the development and evaluation of vaccines and other preventive measures is also included in this category. Some forty investigations relating to the treatment of disease are currently being conducted by faculty and staff members at the Veterinary College.



### **Poisons and Pollutants**

An expanding part of the research program is the effort to assess the effects of toxic chemicals, toxic plants, and radioactive substances on human and animal health. Such substances may be present in meat, milk, or other foods of animal origin or may constitute hazardous contaminants of the environment. Nearly a dozen research projects in this area have been initiated by members of the faculty and staff of the Veterinary College.

Following is a list of the scientific and technical articles, books, and parts of books published in 1973-74 by members of the Veterinary College faculty and staff. Included also are theses done by candidates for the Ph.D. and master's degrees in the Field of Veterinary Medicine. The publications generally constitute reports on research projects under way at the College.

A person interested in obtaining a reprint should communicate with the senior author (the first name listed) of the publication in question. Letters may be addressed to the individual at the New York State Veterinary College, Cornell University, Ithaca, New York 14853.

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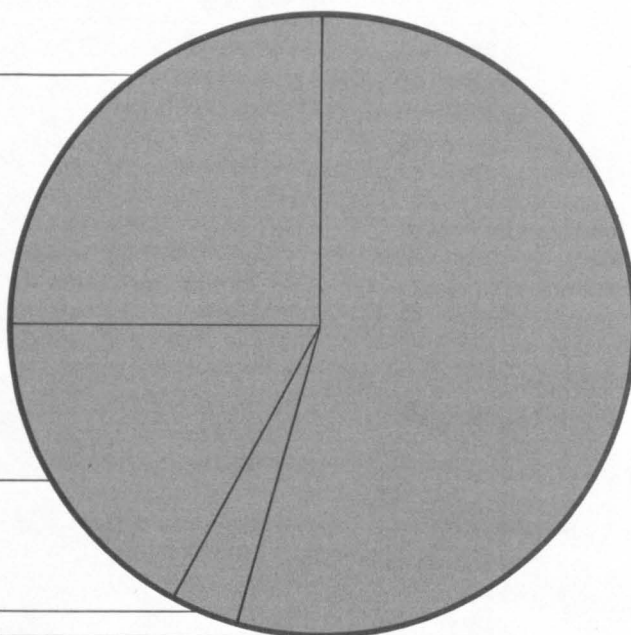
**Financial Statements  
Administrators and Advisers  
Further Information**





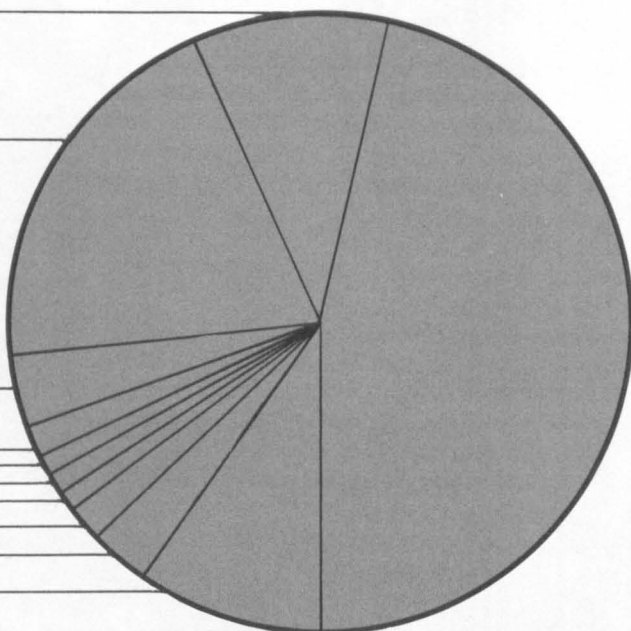
**The College dollar  
Where it came from:**

Grants and Contracts (25.1%)  
College Income (20.4%)  
Federal Appropriation (0.4%)  
State Appropriation (54.1%)



**Where it went:**

Organized Educational Activities  
Teaching Hospital (13.6%)  
Instruction and Departmental  
Research (20.2%)  
General Administration (4.0%)  
Plant Operation and  
Maintenance (0.8%)  
Student Services (0.4%)  
Student Aid (0.3%)  
Staff Benefits (0.4%)  
Library (1.6%)  
General Institutional Expense (3.6%)  
Extension and Public Service  
(12.6%)  
Organized Research (42.5%)



Tables 5 and 6 are summaries of the income and expenditures of the Veterinary College for the fiscal years

from July 1, 1972, through June 30, 1973, and from July 1, 1973, through June 30, 1974.

**Table 5**  
**Source of Funds**

	1973-74	1972-73
State Appropriation	\$4,662,148	\$3,877,145
Federal Appropriation	37,520	38,231
Grants and Contracts	2,163,151	2,340,124
College Income	1,760,357	1,393,070
<b>Total</b>	<b>\$8,623,176</b>	<b>\$7,648,570</b>

**Table 6**  
**Use of Funds**

	1973-74	1972-73
Instruction and Departmental Research	\$1,745,928	\$1,562,375
Organized Educational Activities — Teaching Hospital	1,171,829	1,077,899
Organized Research	3,666,448	3,415,192
Extension and Public Service	1,085,663	1,000,928
Library	134,087	129,929
Student Services	30,630	28,532
Plant Operation and Maintenance	70,097	40,045
General Administration	341,757	267,664
Staff Benefits	34,995	35,787
General Institutional Expense	316,809*	26,372
Student Aid	24,933	63,847
<b>Total</b>	<b>\$8,623,176</b>	<b>\$7,648,570</b>

\*Includes capital expenditures of \$246,720 for computer equipment.

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G. Bruce Dearing,  
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Merton W. Ertell, *Deputy  
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Charles W. Ingler, Jr.,  
*Associate Chancellor for  
Policy and Planning*  
James F. Kelly, *Executive  
Vice Chancellor*  
Oscar E. Lanford,  
*Vice Chancellor for  
Campus Development*  
Kenneth M. MacKenzie,  
*Vice Chancellor for  
Personnel and Employee  
Relations*  
Thomas W. Mou, *Provost  
for Health Sciences*  
Daniel H. Murray, *Provost  
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Walter J. Relihan, Jr.,  
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*Associate Dean*  
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*Animal Medicine,*  
*Obstetrics, and Surgery*  
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*Animal Medicine and*  
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*of Pathology*  
 Mia Reinap, *Librarian,*  
*Flower Veterinary*  
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*Chairman, Department*  
*of Physiology,*  
*Biochemistry, and*  
*Pharmacology*  
 Alexander J. Winter,  
*Graduate Faculty*  
*Representative*

\*On sabbatical leave,  
 1973-74; Bruce W.  
 Calnek, *Acting Chairman*

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Detailed statistical material relating to various College programs is available and will be sent upon request. A person wishing to receive any of the following should specify the document(s) desired, enclose a check or money order for \$1.00 to cover postage and handling, and be sure to include a complete return address with zip code. Such requests should be sent to

Annual Report Statistical Supplements  
C-114 Veterinary College  
Cornell University  
Ithaca, New York 14853.

Reports are compiled on the basis of the calendar year; the following are available for 1972 and 1973:  
Report of the Surgical and Consulting Clinic (large animal), 1973  
Report of the Surgical and Consulting Clinic (large animal), 1972  
Report of the Ambulatory Clinic (large animal), 1973  
Report of the Ambulatory Clinic (large animal), 1972  
Report of the Small Animal Clinic, 1973  
Report of the Small Animal Clinic, 1972  
Report of the Clinical Pathology Laboratory, 1973  
Report of the Clinical Pathology Laboratory, 1972  
Report of the Radiology Section, 1973  
Report of the Radiology Section, 1972  
Report of Necropsies, 1973  
Report of Necropsies, 1972  
Report of Parasitological Examinations, 1973

Report of Parasitological Examinations, 1972  
Report of Laboratory Animal Diagnoses, 1973  
Report of Laboratory Animal Diagnoses, 1972  
Report of the Diagnostic Laboratory, 1973  
Report of the Diagnostic Laboratory, 1972  
New York State Mastitis Control Program, 1973  
New York State Mastitis Control Program, 1972  
Regional Poultry Disease Laboratories, 1973  
Regional Poultry Disease Laboratories, 1972

The following are available for the academic year 1973-74.

Research Projects, 1973-74  
Student Enrollment Tables



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