

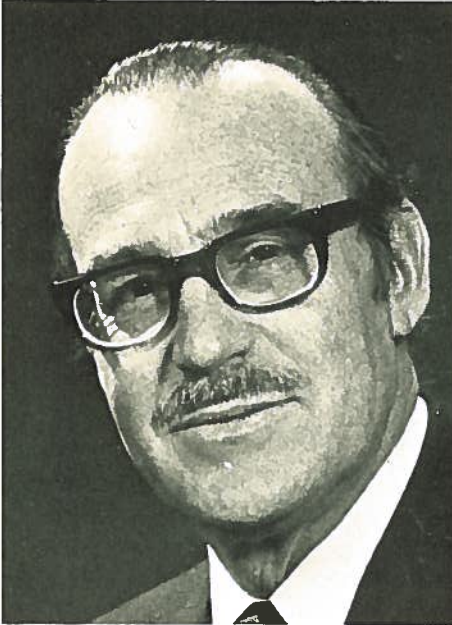
Annual Report

April 1, 1975 - March 31, 1976

**VETERINARY
INFECTIOUS
DISEASE
ORGANIZATION**
VIDO

Report of the Director

Historical Development



CHRIS H. BIGLAND, Director

Obtained his D.V.M. from the Ontario Veterinary College in 1941; his D.V.P.H. from the University of Toronto, in 1946; and his M.Sc. from the University of Alberta in 1960. His work experience includes: 5 years of veterinary practice in Calgary; 2 years with Agriculture Canada; 13 years with the Alberta Veterinary Laboratory in Edmonton; 2 years with University of California in Davis; and, 10 years as a Professor, and Head of the Department of Veterinary Microbiology, WCVM, Saskatoon. In 1975, he was appointed Director of VIDO.

The Veterinary Infectious Disease Organization (VIDO) is devoted to serving the livestock industry through applied research on the control of common infectious diseases of food-producing animals. The conception of establishing such a research laboratory to act as a bridge between basic scientific discoveries and their use on the farm, has been in the minds of livestock men and veterinarians in Western Canada for many years. However, the embryonic concept started to develop only when the Devonian Group of Charitable Foundations of Calgary investigated VIDO through the Science Council of Canada and then decided to substantially fund it with \$2.2 million. It was quickly joined by the province of Saskatchewan, who offered \$1 million operating funds over a five-year period, and by the province of Alberta who gave a grant of \$1.87 million towards the cost of the laboratory building. The University of Saskatchewan agreed to provide the salary of the Director, 5 acres of land, maintenance of the building when complete, financial administration, and other ancillary services. The final agreement between the above parties establishing VIDO was signed in September, 1975.

VIDO'S Objectives

- (1) to increase the world supply of animal protein by reducing wastage caused by common diseases of food-producing animals.
- (2) to reduce the suffering of animals caused by such diseases.
- (3) to improve public health directly by reducing diseases which animals transmit to man, and indirectly by applying animal research findings to the diseases of man.
- (4) to reduce major economic loss to livestock owners caused by such diseases.

Progress

Steps toward the above objectives as of March 31, 1976 have been:

- (1) A VIDO Laboratory building has been designed and will be shortly ready for tender. It consists primarily of animal isolation facilities (unique in Canada and scarce in North America) with needed research laboratories, offices and a vaccine production unit. The total building will be

VIDO

approximately 36,000 square feet and cost an estimated \$4.225 million.

(2) VIDO is functioning in temporary facilities consisting of two modified house trailers located on the University of Saskatchewan campus. These will later be moved to Alberta as a "satellite laboratory". One office is also being occupied in the Fulton Laboratory on the campus.

(3) Two administrative bodies have been formed. These are:

- (a) the Governing Committee composed of 9 University personnel, and
- (b) the Board of Advisors composed of delegates and appointees of the donors.

Both groups have met once this past year to guide the formation of VIDO.

(4) The Board of Advisors has chosen "scours" or diarrheas of the newborn as the first major thrust of VIDO. Future meetings of the Board will examine in greater depth, the means by which this first objective can be best pursued. In doing so, close contacts will be made with the VIDO management, other groups undertaking research in animal health, and the "user" livestock industry. Two projects in this area are to be supported by VIDO funds and these are:

(a) at the College of Medicine on a possible *E. coli* vaccine, and

(b) at the Western College of Veterinary Medicine on the production of scours in experimental calves.

(5) To give VIDO direction on the most productive research aspects of neonatal diarrhea, two major consultation projects have been planned. These are:

(a) a "brainstorming session" attended by 23 local scientists on January 29, 1976.

(b) an International Minisymposium on Neonatal Diarrhea in calves and pigs to be held May 3-5, 1976. A Proceedings will be published of this Minisymposium.

(6) The Director has devoted the majority of his time to VIDO since January, 1975. A half-time secretary has been hired by VIDO and a half-time laboratory technician on an NRC research grant. An animal scientist has been appointed to take graduate studies in Agricultural Economics in order to guide in research design and assessment.

(7) A Newsletter "Viewing VIDO" has published two issues. Future issues will be sent to approximately 1700 interested people.

Future Endeavors

(1) The start of building construction of the VIDO Laboratory with an appropriate Ground Breaking Ceremony.

(2) The hiring of personnel including two veterinary research scientists, a research microbiologist, a business manager,

research technicians, a visiting scientist, another full-time secretary, and a grants consultant.

(3) Rental of additional laboratory and office space in the Federal Animal Pathology Building near the VIDO site.

(4) Initiation of research in VIDO on neonatal diarrhea with emphasis on management control of scours in calves and improved techniques for establishing definitive diagnoses on the causes of neonatal diarrhea.

(5) Expanding our contacts with the livestock industry through additional newsletters, surveys, and speaking engagements.

(6) The solicitation of additional grants or contracts for research.

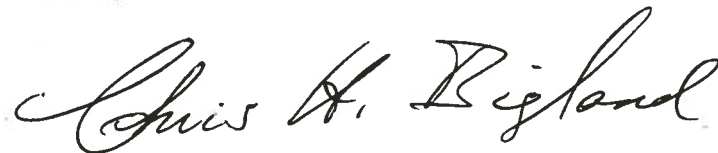
Problems

The major problem of VIDO is combatting inflation. The VIDO building was originally estimated by competent authorities to cost about \$1.75 million. By January, 1975 this figure had risen to \$3.8 million. A recent estimate is now \$4.25 million. If building tenders exceed this amount, deletion of one or more animal outbuildings will be necessary. Since the funds available to VIDO are fixed, the rising building costs will mean further inroads into VIDO's operating funds for building purposes. The Board of Advisors will be active in assisting VIDO in mobilizing these future funds.

Operating expenses have also risen greatly due to inflation. A projection of our budget suggests that the annual operating costs for VIDO will be in the neighborhood of \$800,000 per year by 1979-80. At the present time it would appear that VIDO will have to operate with a quarter of this amount, which it can do, but the full scope of its potential will have to be curtailed if no additional funds are forthcoming.

Concluding Statement

Notwithstanding our inflation problems, VIDO is off to a good start in its attempts to reduce wastage and suffering caused by common infectious diseases in our food animals. More and more practical research will be going forward to this end.



CHRIS H. BIGLAND
Director



Report of the Board of Advisors



A. E. PALLISTER, Chairman

The Board of Advisors consists of up to six members, all of whom are representatives of donors' interests. They must not be associated with the University of Saskatchewan, nor the Saskatchewan and Alberta Legislative Assemblies. This group is responsible for:

- (1) advising the Director and Governing Committee,
- (2) reviewing projects being conducted by VIDO,
- (3) reviewing and approving budgets,
- (4) approving the keeping secret of inventions and discoveries for a limited period of time, and
- (5) informing donors of VIDO's operations.

During the past year this Committee has met once and plans to invite several distinguished guests, particularly those who represent potential beneficiaries of VIDO's research.

These guests include:

- (1) Dr. M. Franklin, Acting Vice-President (Academic), University of New Brunswick,
- (2) Senator H. Hays, Calgary, Alberta,
- (3) Dr. K. F. Wells, advisor to CIDA, and former Veterinary General of Canada, Ottawa,
- (4) Mr. J. Fish, Vice-President, The Devonian Group, Calgary, Alberta, and
- (5) Mr. F. Lynch-Staunton, rancher and representative of the Alberta Cattle Commission.

Several concerns have arisen at the past meeting, resulting in some recommendations for further action. It has been proposed that a formal program review be developed to evaluate future and past endeavours. A Research Planning Group of specialists should be commissioned to assist the Director with the above. With respect to further financing, both Federal and Provincial governments should be approached at administrative and political levels as soon as possible. VIDO should also undertake the development of comprehensive statistics on the cost of disease to the livestock industry as a first step towards encouraging disease control research.

It was felt that the Director's major work load must be VIDO's research activities with other work priorities reduced in stature, if necessary. To aid in administration, a Business Manager should be employed as soon as possible. A Research Microbiologist and Veterinarian should be

appointed on the basis of their expertise in the area of neonatal diarrhea research, the initial focus for VIDO's research. This research should be done "in house" with no more than 10% of VIDO's budget being devoted to external research funding.

The Board, which will meet three times annually, will continue to assist in the choice of one or two areas of research and to contribute to seeing that VIDO is provided with the rare opportunity of conducting research free from the financial and administrative constraints that normally exist within Universities and Governments.

It is the firm opinion of the Board that from a base of more than three years in organization and commencement of operation and through the bringing together of a talented and dedicated staff, VIDO will be in a position in another year to attract the resources necessary for the performance of this important research in a way which can be of benefit to Canadian producers and consumers.

Report of the Governing Committee



Dean N. O. NIELSEN, Chairman

The Governing Committee of VIDO is responsible for the management of the VIDO project and it reviews and approves budgets, personnel proposals, and research policy. This Committee assures that the objects of VIDO are consistent with those of the University and those promulgated by the Board of Advisors.

The University of Saskatchewan is unique in that all Health Sciences are present on the campus. Therefore, the management of VIDO has been able to draw on this expertise plus that available from the Faculty of Agriculture and senior University administration. The Chairman of the Board of Advisors is also a member of the Governing Committee.

The Governing Committee has supported the view that VIDO should focus its research in one area at a time in order to maximize its opportunities for success. It was agreed that the initial objective for VIDO should be research on neonatal diarrhea of food producing animals in North America. Nevertheless, the Committee felt that VIDO should be in a position to pursue unusually promising opportunities for the control of other important diseases not related to the primary objective, if these should become apparent. It is expected that VIDO will be a responsive organization which will change directions quickly if a particular line of research is found to be unproductive.

The Committee intends to meet approximately three times per year. During the past year, the Governing Committee met October 31, 1975 and March 18, 1976. Following the death of Dean Wes MacAulay, Dean B. R. Schnell joined the Committee. The Governing Committee wishes to recognize the very important contribution that Director C. H. Bigland has made to the success of the project.

VIDO

VIDO Staff — March 1975 to March 1976

Molly L. Denson, Researcher

Obtained her B.A. at McGill University, and her M.Sc. in Medical Mycology at McGill University. She previously worked in the Department of Bacteriology at McGill, and the Department of Botany at the University of Saskatchewan. Since 1973 she has concentrated on Mycoplasma technology under an MRC grant as a half-time technologist.

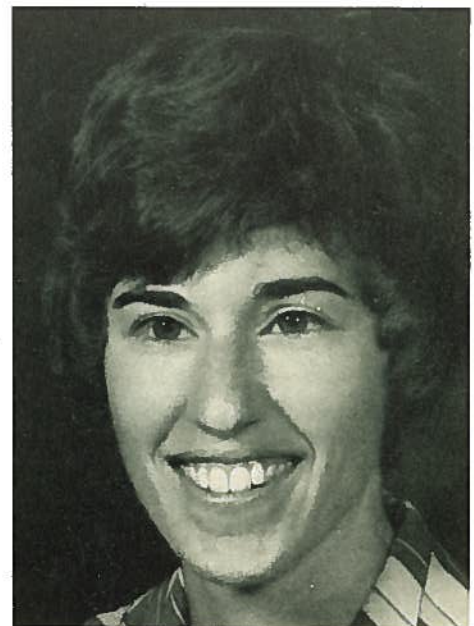


Brian S. Freeze, Researcher

Attended the University of Alberta in Edmonton and the University of Lethbridge. He completed an Honours BSA in Animal Science at the University of Saskatchewan, 1975. He started with VIDO in 1975 as a Graduate Student in Agricultural Economics.

Sue Adolf, Secretary

Completed her high school training with Evan Hardy Collegiate, Saskatoon. She graduated from Robertson Secretarial School in 1970, and was employed by the Department of Veterinary Microbiology, WCVM. She accepted a position as a half-time secretary with VIDO in 1975.



Financial Statements

Veterinary Infectious Disease Organization
April 1, 1975 -
March 30, 1976

Balance Sheet¹

ASSET ALLOCATIONS

Current

Receivables University of Saskatchewan	
Capital	\$1,820,070.52
Operating — Saskatchewan Government	177,500.70
National Research Council (N.R.C.)	371.10
Alberta Agricultural Research Trust (A.A.R.T.)	226.08
Materials and Supplies Inventory	1,000.00
	<u>1,999,168.40</u>

Long Term²

Equipment ³ — M.R.C. Grants	16,000.00
— Operating	10,538.48
— Capital	7,511.90
	<u>34,050.38</u>
Furniture — Capital	2,628.15
Trailers	32,000.00
	<u>\$ 68,678.53</u>

TOTAL: ASSET ALLOCATIONS

\$2,067,846.93

LIABILITIES

Current

Payables	
Operating	\$ 730.00
A.A.R.T.	100.00
	<u>830.00</u>

Surplus

Investment in equipment in-kind	16,000.00
Investment in Fixed Assets	52,678.53
Unexpended Agency Funds —	
Capital	1,820,070.52
Operating	177,770.70
N.R.C.	371.10
A.A.R.T.	126.08
	<u>\$2,067,016.93</u>

TOTAL: LIABILITIES

\$2,067,846.93

¹The Balance Sheet was prepared by the Business Manager from unaudited records for the period April, 1976.

²Does not include \$2.2 million from the Devonian Group of Charitable Foundations. Does not include \$200,000/year for the ensuing four years from the Government of Saskatchewan.

³All items at cost price. No depreciation deducted.

Statement of Income and Expenditure for Other Grants, 1975-76

	Alberta Agricultural Research Trust (AART) Current Year	National Research Council (NRC) Current Year
Income:		
Grant Received	\$3,063.00	\$ 8,775.00
Unexpended Funds (April 1, 1975)	(465.29)	3,921.74
Reduction in Award (August 11, 1975)		(220.00)
	<u>\$2,597.71</u>	<u>\$12,476.74</u>
Expenditures:		
Salaries	900.20	6,971.54
Pensions	11.67	107.50
Workmen's Compensation	1.72	40.88
Materials and Supplies	1,454.81	2,100.20
Travel, Out of Province	1.00	974.02
Telephone	2.23	1.97
Computer Services	—	735.71
Xerox Copying	—	50.32
Equipment	—	1,123.50
Commitments	100.00	—
	<u>\$2,471.63</u>	<u>\$12,105.65</u>
UNEXPENDED FUNDS (March 31, 1976)	<u>\$ 126.08</u>	<u>\$ 371.10</u>

VIDO

AUDITOR'S REPORT

I examined the Capital Fund and Operating Fund statements of operations for the Veterinary Infectious Disease Organization for the year ended March 31, 1976. My examination included a general review of accounting procedures for compliance with the "Agreement" and such tests of the accounting records and other supporting evidence as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the transactions of the Veterinary Infectious Disease Organization for the year ended March 31, 1976 and unexpended funds on hand at that date, in accordance with generally accepted accounting principles.

Regina, Saskatchewan,
November 16, 1976.

W. G. Lutz, C.A.,
Provincial Auditor.

Statement of Income and Expenditure and Balance of Uncommitted Funds

For the Period April 1, 1975 to March 31, 1976

		For Year Ended March 31, 1976
CAPITAL FUND		
Income		
Grants Received		\$1,870,000.00
Other Income — Interest		87,800.29
Uncommitted Funds — beginning of period		—
		<u>\$1,957,800.29</u>
Expenditures		
Sites and Improvements		\$ 3,111.63
Furnishings and Fixtures		10,140.05
Buildings		124,478.09
Committments		—
		<u>\$ 137,729.77</u>
Uncommitted funds available — end of period		<u>\$1,820,070.52</u>
OPERATING FUND		
Income		
Grants Received		\$200,000.00
Other Income — Interest		6,746.68
Unexpended Funds — beginning of period		—
		<u>\$206,746.68</u>
Expenditures		
Salaries		\$11,603.16
Fringe Benefits — Pension	\$171.77	
— Other	57.56	229.33
Materials and Supplies		5,179.46
Travel		1,917.88
Equipment	\$9,559.88	
— Encumbrance	978.60	10,538.48
Miscellaneous		455.70
		<u>\$ 29,924.01</u>
Uncommitted Funds — end of period		<u>\$176,822.67</u>

VIDO Laboratory Building

The VIDO Laboratory has been in the planning stage for some time and will go to tender in July, 1976. The active cooperation of all of the staff of the University Buildings and Grounds Department is gratefully acknowledged, as well as that of the architects, Arnott, McPhail, Johnstone and Associates of Regina. We have been fortunate to have Mr. Ross Johnstone, the main designer of the Western College of Veterinary Medicine, working closely with us on the VIDO plans.

The building will have over 36,000 square feet, consisting of offices, laboratories, equipment, storage rooms, a lunchroom, a conference room and, most important, the animal isolation rooms. The VIDO building is unique in that over half of this space is devoted to animal isolation units, most of which will carry large animals. These units are divided into three categories as follows:

1) Ten individual isolation units large enough to hold 4 to 5 young cattle of up to 500 pounds each. Each of these units is served by a locked entrance anteroom, the purpose of which is to act as an airlock in which the investigator dons disinfected coveralls, hat, mask and gloves before proceeding into the isolation unit itself. The anteroom is also provided with a disinfectant shower. The animal isolation room itself is divided into two sections. One area is space for the animals with feeding and watering facilities, while the other area is for feed storage and also contains a specially designed electronic scale which enables the weighing of the experimental animal daily. Designed by Mr. George Dyck of the University of Saskatchewan, the scales will be built into the floor of the isolation units. This allows for complete disinfection of the floor and scale area without damaging the scale. Although the scales are very costly, having one in each isolation unit, is essential because most of the diseases we will be working with will be debilitating ones in which the daily weight gain will be of paramount importance and thus making routine weighing essential to the experiment. The animals can be observed through a specially designed viewing port from the outside alley. Special arrangements have been made for television camera viewing so as to avoid disturbing the animals. In addition, since research may involve monitoring of several parameters, such as temperature, heartbeat, and respiration by means of telemetry techniques (i.e. the implantation of tiny sensors and radio transmitters either in or on the animals), special design considerations have been instituted. Each of the isolation units in the main VIDO building and in the outbuildings is supplied with 95% filtered air to prevent any infection gaining entrance to the animals under experimentation. The outgoing air is also filtered to prevent any possible transmission of infection either between units or spreading to the field. Also, each unit is separately controlled as far as temperature, light and humidity are concerned. Unfortunately, isolation facilities such as these are very expensive to build because of the complex mechanical construction and controls necessary.

2) Cattle, swine and multipurpose outbuildings designed for large-scale experiments, holding from 32 to 84 animals, depending upon the species. These will be divided into 4 separate large isolation units so that normal and diseased animals can be incorporated into the same experiment for accurate statistical evaluation. Each of the large isolation units are entered by

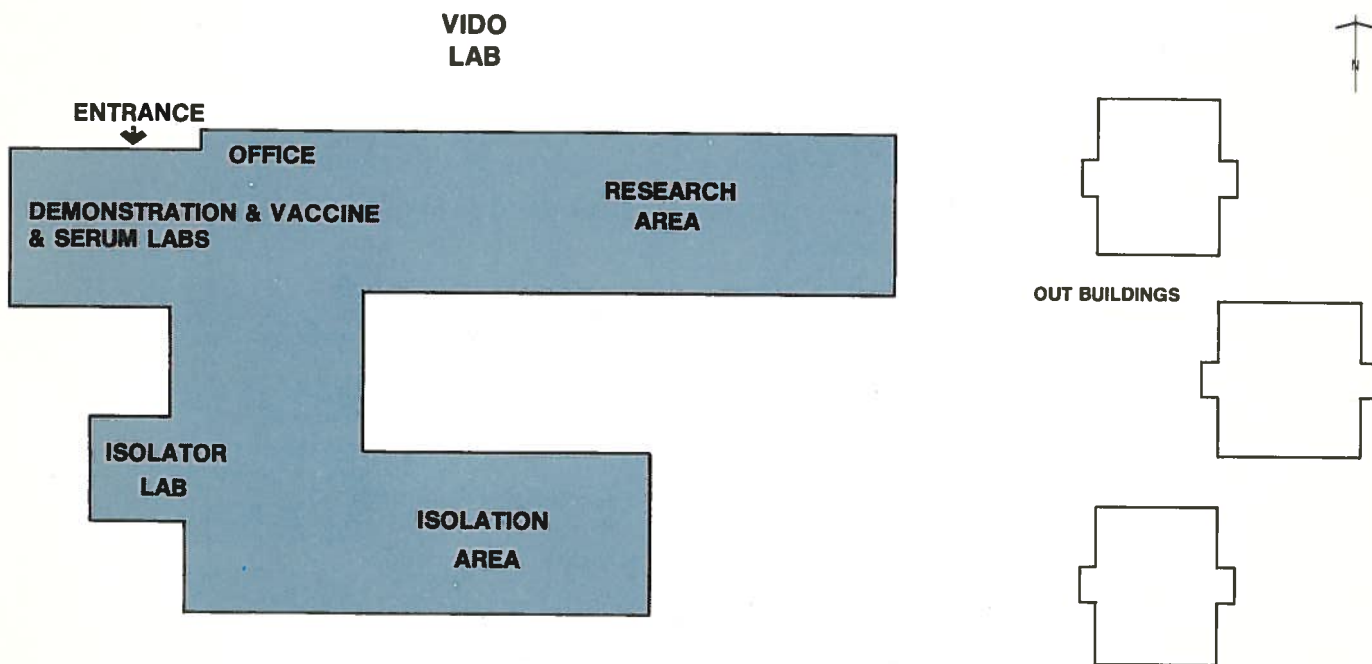
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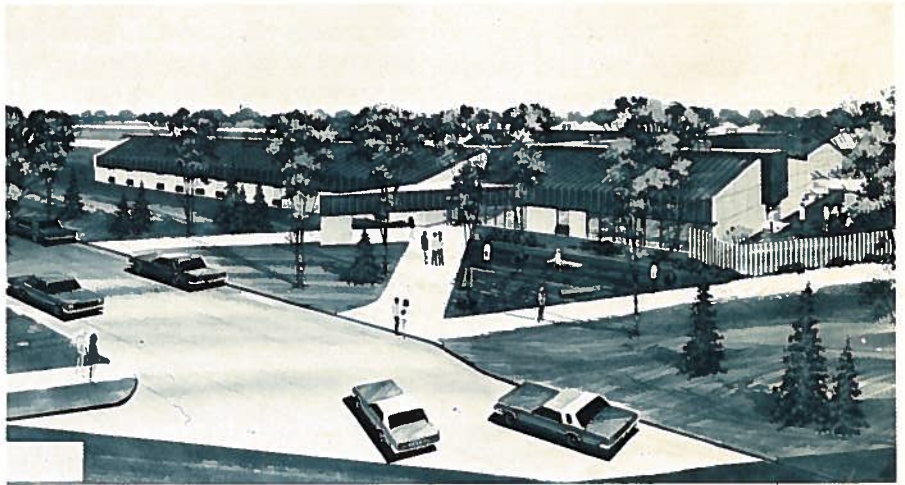
way of an anteroom (as described previously). These outbuildings will provide the opportunity for large-scale testing of drugs, vaccines or other procedures under controlled conditions, prior to experimentation in the field.

3) The Isolator Lab. In this room will be large plastic and steel bubbles, each with sterile air being blown into the bubble and filtered before leaving the bubble. These units can be used for the production of germ-free or specific pathogen-free animals, but are primarily designed for infectious disease experiments in which each bubble will contain a single experiment, while the next bubble can contain a different experiment. In this way, several experiments can be in progress within the same room. Due to the comparatively small size of the isolators, the size of the animals will be confined to baby pigs, newborn calves, chickens, turkeys, rabbits, guinea pigs, rats, mice and baby lambs. There are only 3 research facilities in North America with similar isolation facilities devoted entirely to research on the common infectious diseases of food-producing animals. The Health of Animals Division in Canada and the U.S. Department of Agriculture have sophisticated isolation facilities available to them for studies on the more exotic diseases such as rabies, foot and mouth disease, anthrax, etc., while VIDO is confining its work to the common diseases found on almost every farm. It is envisaged that the VIDO Laboratory will be staffed by approximately 30 to 35 people when in full operation. These will include veterinarians with recognized specialities, a Business Manager, An Agricultural Economist, visiting professors, retired scientists, post-doctoral fellows, graduate students, technicians, animal technologists and others.

Completion of the building is expected in early 1978. In the meantime VIDO is housed in two specially adapted ATCO trailers containing two large laboratories, a darkroom, an animal room, a central office and two smaller offices. In addition, we hope to rent a laboratory and office in the new Federal Animal Pathology Building. Even with these limited facilities, research in VIDO has already begun.

GROSS AREA	33,401 SQ. FT.
OFFICE AREA	3,285 SQ. FT.
RESEARCH AREA	4,389 SQ. FT.
LAB. AREA	2,978 SQ. FT.
ISOLATION AREA	13,616 SQ. FT.





Architects Concept

VIDO Board of Advisors

Mr. A. E. Pallister — Chairman, Associate, Devonian Group of Charitable Foundations

Dr. N. O. Nielsen — (ex officio) Dean, Western College of Veterinary Medicine

Dr. H. N. Vance — Director of Veterinary Services, Alberta Government

Dr. W. Weir — Director of Veterinary Services, Saskatchewan Government

VIDO Governing Committee

Dr. N. O. Nielsen — Chairman, Dean, Western College of Veterinary Medicine

Dr. R. W. Begg — President, University of Saskatchewan

Dr. J. A. Brown — Dean, College of Agriculture

Dr. K. J. McCallum — Dean, College of Graduate Studies and Research

Dr. R. G. Murray — Dean, College of Medicine

Mr. A. E. Pallister — (ex officio) Associate, Devonian Group of Charitable Foundations

Mr. J. A. Pringle — Vice-President, (Administration), University of Sask.

Dr. B. Schnell — Dean, College of Pharmacy

Veterinary Infectious Disease Organization
University of Saskatchewan
Saskatoon, Saskatchewan, Canada
S7N 0W0

VIDO