VIDO

Vaccine and Infectious Disease Organization

2008-2009 ANNUAL REPORT

Enhancing the world's capacity to protect animal and human health

A RESEARCH ORGANIZATION OF THE

UNIVERSITY OF SASKATCHEWAN

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Our Vision

Protecting the world from infectious diseases

Our Mission

To be a pre-eminent research institute investigating the pathogenesis of infectious diseases and the development of effective therapeutic and prophylactic methods to control infectious diseases of humans and animals

VIDO continues to be well positioned to add value to international efforts in mitigating the risk of infectious diseases in humans and animals.

A RAPID AND ENHANCED RESPONSE TO EMERGING DISEASE CHALLENGES

Dr. Andrew Potter, PhD, Director and CEO

Each year as we prepare the VIDO Annual Report, there seems to be an emerging threat to human or animal health, or both. In previous years, West Nile Virus, Prion disease, SARS and a host of other zoonotic diseases emerged in Canada. This year, we are faced with the arrival of Influenza H1N1 and the fear of a severe pandemic. While the pandemic itself appears inevitable, its potential severity is unknown at the time of preparing this report.

Zoonotic diseases affect the health of humans and animals and the pathogens that cause the diseases are classified as "Containment Level 3" (CL3). The containment level rating is important because it determines the type of infrastructure needed to work with these biological agents. An enclosed, air-tight facility is required to conduct research and testing on CL3 diseases, and presently very few facilities in the world meet these safety and security requirements.

That's why VIDO is working with the University of Saskatchewan to build the new International Vaccine Centre (InterVac). Construction of InterVac is proceeding on schedule for completion in November 2010 and watching the progress has been exciting. What was once a hole in the ground nearly two years ago is now an imposing structure. When completed, InterVac will be Canada's largest CL3 facility for vaccine research and one of the largest facilities of its kind in North America. It will alleviate the current worldwide shortage that exists for CL3 laboratory space for vaccine research and development.

InterVac's capabilities will allow us to move forward with expanded activities and we will be changing our name to VIDO-InterVac to reflect those changes. Designed with collaboration in mind, InterVac will welcome government, academia and industry from anywhere in the world, further elevating VIDO-InterVac's reputation internationally.

VIDO has come a long way since its inception in 1975. A Saskatchewan-Alberta partnership without significant core funding, VIDO started out with a bold and visionary mission – a group of researchers working toward common goals and responding to the needs of stakeholders in the area of vaccines and infectious disease. Nearly 34 years later, VIDO continues to evolve. We are now a large organization – nearly ten-fold in size to when I joined VIDO in 1985, and we're continuing to grow. Over the next five years, the Province of Saskatchewan is generously providing VIDO with $3.5 million per year to assist with recruitment and retention.

While growth is exciting, it creates management issues that are harder to manage informally. To strengthen our organization, we are embarking on a process of fine-tuning and integrating our management structures and controls to the international level associated with ISO certification. Also, as the corporate memory of VIDO's initial roots fades within many circles, we are renewing our governance model with the University of Saskatchewan, our Board of Advisors and our stakeholders to ensure that the original vision of VIDO is preserved.

VIDO continues to be well positioned to add value to international efforts in mitigating the risk of infectious diseases in humans and animals. Our research programs constantly evolve to meet the needs of our stakeholders and strike a strategic balance between disease-specific research and platform technologies for immunization, adjuvants and vaccine delivery systems. This balanced approach to our operations, coupled with InterVac, will allow us to respond rapidly to most emerging threats.

As with each passing year, 2008/09 has been a year of exciting change at VIDO, and I look forward to being a part of a fast-paced, expanding organization with enhanced capabilities for rapidly responding to emerging diseases.

COLLABORATION, EXCELLENCE AND NECESSITY

Mr. Terry Manning, Chair, VIDO Board of Advisors

It has been my privilege to be associated with VIDO, serving on their Board of Advisors and Chairing the 2008 – 2009 session. During my time with VIDO, I have come to recognize that VIDO's research successes are the result of their focus on the themes of Collaboration, Excellence and Necessity.

Collaboration – VIDO is certainly a hybrid within the University System, with VIDO researchers and staff working together as internal teams versus individual scientists, which is the norm in the research community. VIDO project teams pull together and rewards are shared with the entire staff. This collaborative team approach gains the interest and willingness of everyone who can contribute to the success.

VIDO Scientists also reach out into the entire "School of Public Health" for expertise as needed. This collaboration pulls in experts from the Western College of Veterinary Medicine and the Medical College as well as other collaborators throughout the University of Saskatchewan. Well-networked, many of VIDO's research projects are jointly conducted with other research institutes and universities from around the world. I've come to appreciate the international community of VIDO as they've hosted the work of many scientists from around the world. These scientists remain connected to VIDO and often collaborate on additional projects throughout their careers. Collaboration - a mainstay of the success enjoyed by VIDO since its inception and a continuing mainstay as InterVac becomes a reality in the next year.

VIDO Summer Student, Jaret Piller

Excellence – VIDO scientists are superbly trained and always strive for excellence in all research conducted. VIDO researchers have an established reputation of conducting meaningful research, always using the best known technology in striving for excellence in their work and their results. VIDO continues to demonstrate leadership in vaccine development and provides unparalleled research, training and graduate student opportunities.

Necessity – VIDO was formed in 1975 to research and develop products that would help livestock producers deal with endemic diseases. VIDO management recognized that many new infectious diseases have direct links to animals, and VIDO's vision was expanded to include vaccine research and development for both humans and animals. Out of necessity, animal research is conducted at VIDO - but this research is necessary as it leads to the development of vaccines for the human race as well as for prevention of livestock diseases. Completion of InterVac with its Containment Level 3 capabilities will greatly enhance this research. Together VIDO and InterVac will play an important role in Canada's vaccine preparedness strategy, providing global support to the fight against infectious disease on our planet.

My congratulations to the team at VIDO for their many successes in the past year and for continued success as VIDO evolves to VIDO-InterVac.

Many of VIDO's research projects are jointly conducted with other research institutes and universities from around the world.

2008/09 VIDO Board of Advisors

Back row (l to r): Mr. John Ladare,
Dr. Robert Clarke, Mr. David Gordon,
Dr. Alistair Cribb, Mr. Don Wilson,
Mr. David Grier (representing Mr. Dale Botting)

Front row (l to r): Dr. Chuck Rhodes,
Mr. Terry Manning (Chair 2008/09),
Dr. Andrew Potter, Dr. Bill Ballantyne,
Dr. Karen Chad

Absent from photo:
Dr. Luis Barreto, Mr. Dale Botting

This facility, and the work that can be done within its walls, is already beginning to attract biopharmaceutical companies, researchers and students from around the world.

LAYING THE FOUNDATION FOR THE INTERNATIONAL VACCINE CENTRE (INTERVAC)

By late fall 2010, the International Vaccine Centre, or InterVac will open, providing VIDO with the technologies and capabilities to study a greater number of diseases, including Containment Level 3 (CL3) diseases, develop new vaccines and appropriately test them. The process of getting vaccines to market so that they are available when they are needed most will be quicker than ever before.

InterVac will build on the strengths VIDO has already established in research and vaccine testing. At VIDO, vaccines are developed based on quality science, and Intervac will provide us with the CL3 capacity we need. InterVac, and the CL3 capabilities it provides will ensure our organization remains a key player in Canada's vaccine preparedness strategy.

This facility, and the work that can be done within its walls, is already beginning to attract biopharmaceutical companies, researchers and students from around the world. The opportunities for collaboration, working with the multi-disciplinary VIDO team and the excitement of developing vaccines that will result in tremendous improvements to human and animal health, will be outstanding. The modular design of the individual laboratory spaces will allow great flexibility in research.

InterVac will also contribute to providing livestock producers with the knowledge they need to increase their competitiveness and opportunities for technology transfer and vaccine commercialization.

When complete, the $140 million InterVac facility will offer enhanced training opportunities and be part of a unique University of Saskatchewan life sciences cluster that includes the full range of life sciences colleges; the Canadian Light Source, Canada's only synchrotron; and the Innovation Place research park. InterVac will be one of the largest of its kind in North America, and one of the few laboratories where vaccine testing on such a large scale can occur.

Photo courtesy of Educational Media and Access Production (EMAP), University of Saskatchewan

"InterVac brings our work, and the work of our partners in government and industry full circle, by allowing us to conduct research, develop and effectively test vaccines, and eventually commercialize these vaccines. Our number one goal is to ensure new vaccines with benefits to human and animal health get to market sooner than ever before," says Dr. Andrew Potter.

The construction of InterVac is being funded by the Government of Canada, the Canada Foundation for Innovation, the Government of Saskatchewan, the University of Saskatchewan, and the City of Saskatoon.

SAFETY FIRST – Building the International Vaccine Centre

Along with the benefits a facility like InterVac will bring, there are also risks associated with operating a laboratory in which vaccines for CL3 infectious diseases are researched and developed. That's why the most rigorous safety specifications, equipment and engineering features available are being used in the construction of the facility. InterVac is being built to exceed current Containment Level 3 regulations. Only state-of-the art technologies will be used to ensure infectious agents do not accidentally enter or leave the building.

So while the 145,000 square foot facility will allow for both a large animal block and a laboratory building to support experiments involving single or multiple pathogens and projects involving multiple investigators, the risks of danger will be entirely mitigated.

Efforts are also being made to make the facility as energy-efficient as possible while maintaining the safety and integrity required by the regulatory bodies that will oversee InterVac.

VIDO Director, Dr. Andrew Potter and Cam Ewart, Project Manager for InterVac Construction

EXPERTISE, TEAMWORK AND TRAINING – Working together against time and disease

Ms. Joyce Sander, CIM, P. Manager, Human Resources Officer and Intellectual Property Manager

When your mission is to research infectious diseases and develop vaccines to combat them, working against the clock in a constantly changing environment is just part of a normal work day. In order to maintain our leadership role in working against time and changes in infectious disease, VIDO's approach to achieving its goals is based on the scientific expertise that exists within our walls, and commitment from all members of our **TEAM** - **T**ogether **E**veryone **A**chieves **M**ore.

Working successfully as a team is not as easy - hard work, commitment and understanding are required. The focus within Human Resources is hiring individuals who have the correct expertise and assuring continual training occurs so that our research teams can maintain their successful track records. Securing the financial resources to assist our staff and allow them to be successful took extra effort this past year because of the world economic downturn.

As VIDO faces the new year, our staff and efforts are focused on international needs and efforts to reduce the risk of infectious diseases within humans and animals. In our quest to enhance the world's capacity to protect animal and human health, we need everyone onside. Our best defence against infectious disease is global cooperation and team work. When challenges arise (as they always do), the team needs to have the resources, accountability and commitment to deal with the problem.

In the coming year, training will continue to have an integral role in VIDO's operations and research programs. As our research programs evolve to meet new research needs, we must be certain of our readiness and ensure expertise levels are maintained at the most current level of technology and our programs address the new elements associated with Containment Level 3 research facilities.

What makes a team successful?

Good leadership: Leadership that creates and maintains a positive working environment and promotes a high level of morale so that team members feel supported and valued.

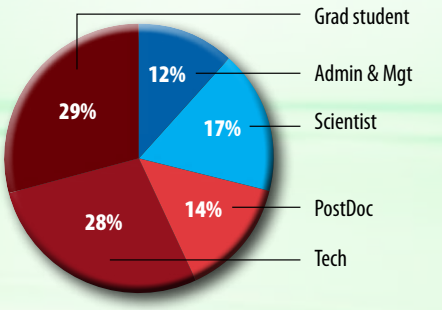
Clear communication: Communication that promotes interpersonal interaction, information sharing and teamwork.

Well established roles: Roles that are well defined and understood so that all members understand their responsibilities within their teams.

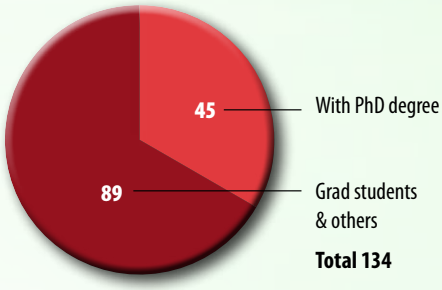
Conflict Resolution: Resolution through progressive, hands-on and positive means.

Example setting: Leaders exemplifying teamwork values, keeping team members positive and committed and motivated. VIDO's leaders must exhibit these qualities.

VIDO Staff Composition by Category



VIDO Scientific Qualifications



Almost 88% of VIDO staff have a scientific background. 34% of scientific staff have a PhD while the remaining 66% are graduate students and others.

VIDO RESEARCH REACHING TO NEW LEVELS

Dr. Volker Gerdts, DVM,
Associate Director - Research

Another year has gone by and VIDO continues to be a world leader in infectious diseases and vaccine development. With the arrival of a new pandemic, research on infectious diseases that affect both human and animals has never been more important than it is now. Most emerging diseases of today's world are of a zoonotic nature, meaning that they have originated in animals but have crossed the species barrier and now present a real threat to human health. The current H1N1 influenza, referred to in the media as the swine flu, is a prominent example of such diseases.

The fact is, almost all emerging diseases are Containment Level 3 diseases, and these diseases require special containment facilities to ensure the safety of workers and the communities surrounding the facilities. The limited capacity of Level 3 facilities across the country, and around the world, has been a hurdle in the past to fight emerging diseases. The opening of InterVac in 2010, however, will change this dramatically and move Saskatchewan and Canada to the forefront in international research. As can be witnessed every day right before our eyes, Intervac is becoming a reality and we are looking forward to expanding our research and welcoming collaborators from around the world to Saskatoon.

While emerging diseases represent a great threat to human health, it is also important to note they also greatly impact our Canadian livestock industries. The past few years have been disastrous for livestock producers across the country. Bovine spongiform encephalopathies (BSE), chronic wasting disease, listeriosis and swine flu are only the prominent examples of what has been an economic roller coaster for the industries. As infectious diseases continue to cause great losses to the industry, VIDO will continue its work on livestock diseases and serve our stakeholders to the best of our abilities.

RESEARCH HIGHLIGHTS

With over 165 staff members, VIDO continues to grow. Our research programs are currently aligned in the following themed areas:

- **Emerging Diseases and Microbial Virulence**
- **Viral Pathogenesis and Vaccine Development**
- **Bacterial Vaccine Development**
- **Neonatal Immunization**
- **Vectored Vaccines**
- **Immune Modulation**
- **Pathogenomics of Innate Immunity**
- **Clinical Research and Epidemiological Services**
- **Structural Chemistry, Glassware and Media Preparation and Genomic Services**

Emerging diseases continue to threaten human and animal health. Several of VIDO's research activities are targeted towards the development and evaluation of novel vaccines against emerging diseases such as influenza, West Nile Virus or protein folding disorders.

- Dr. Yan Zhou and her group are currently developing novel vaccines against influenza infections in human and pigs using reverse genetic approaches. Both national and international collaborations have been established in conjunction with the National Pandemic Preparedness Programs.

- Drs. Hugh Townsend, Nathaniel Osgood and Andrew Potter are currently evaluating the epidemiology and impact of vaccination against West Nile Virus in Saskatchewan, in their part of the Research Alliance for the Prevention of Infectious Diseases (RAPID), headquartered at VIDO. This disease has been a major threat to the people of Saskatchewan, and while we haven't seen many cases in the past year, it seems the disease is becoming endemic to our Province.

- Other areas of focus for RAPID are sexually-transmitted diseases, in particular those that are of importance to the people in Saskatchewan. In collaboration with the Health Regions and several international partners, Dr. Jo-Anne Dillon, Dean of the College of Arts and Science, spearheads the research on sexually transmitted diseases including Neisseria gonorrhoea and Chlamydia.

- VIDO researchers Drs. Scott Napper, Philip Griebel and Andrew Potter in collaboration with Dr. Neil Cashman from the University of British Columbia are currently testing vaccine candidates against protein folding disorders which include important diseases such as BSE, chronic wasting disease, Alzheimer's and ALS.

VIDO continues to serve our livestock industries by focusing research efforts on livestock diseases of economic importance to our stakeholders.

- Dr. Jose Perez Casal and his group are working towards the development of novel vaccines for infections with *Mycoplasma bovis*, an extremely important disease of beef cattle. His group developed a novel disease model, which allows testing of promising vaccine candidates in young animals. Vaccine formulations are currently being tested based on platform technologies that were developed in house.

VIDO Graduate Student Alexandar Masic with VIDO Scientist Dr. Yan Zhou

VIDO Technician Kim Reddick

VIDO Scientist and Program Manager, Dr. Phillip Griebel

- Using similar approaches, Drs. Potter and Perez-Casal are leading projects aimed towards the development of vaccines against bovine mastitis.

- Dr. Suresh Tikoo and his group successfully developed novel vaccine vector technologies that are based on bovine, porcine and turkey adenoviruses. These vectors provide a number of advantages such as safety, delivery and improved immunogenicity and are currently being tested for both human and livestock vaccines. By modifying the structure of the vector, Dr. Tikoo and his group are able to selectively target specific immune cells such as dendritic cells.

- Viral diseases continue to cause severe problems in almost all livestock species. Dr. Alexander Zakhartchouk and his group investigate the interactions between the Porcine Respiratory and Reproductive Syndrom virus (PRRSV) and its host, as well as identifying novel vaccine formulations against measles virus.

- Dr. Arshud Dar and his group focus on an important disease of poultry, namely inclusion body hepatitis infections (HBV) in chickens. This disease is of significant importance to the poultry industry including Saskatchewan, with currently no vaccine commercially available.

- Other examples include the bovine respiratory complex (Drs. Sylvia van den Hurk, Philip Griebel) and vaccines are currently being evaluated for mucosal delivery in neonates.

VIDO's neonatal immunization program is developing vaccine formulations that can be used as platform technologies towards human and animal diseases, as infections of neonates continue to cause significant problems in both humans and animals.

- Current examples include pertussis or whooping cough (Dr. Gerdts), as well as infections with respiratory syncytial virus (Dr. van den Hurk). An adjuvant combination is currently being tested in neonates to enhance vaccine induced immune responses and to reduce the number of immunizations required.

- Dr. Heather Wilson and her group are looking at novel ways to immunize pregnant animals and mothers to enhance immunity in the neonate.

Chronic infectious diseases continue to cause significant health problems to both humans and animals.

- Infections with *Mycobacterium paratuberculosis*, the causative agent of Johne's Disease, are responsible for serious losses in the dairy and beef industry. VIDO researchers Drs. Potter, Griebel and Napper are studying the interactions between the pathogen and the host in the intestine. In the long term, the knowledge generated will lead to the development of novel intervention strategies to control this devastating disease.

- Another example of an important chronic infection is hepatitis C virus. Drs. Sylvia van den Hurk, Qiang Liu and Joyce Wilson are investigating novel means of intervention including the development of novel vaccine strategies, therapeutics and studying of disease pathogenesis. The vaccine approach is based on the use of dendritic cell-based vaccines, a fairly new approach that has demonstrated highly promising results in animal studies. The use of microRNA as a therapeutic might represent an alternative approach for treating this important disease.

- Dr. Liu's research is focused on liver steatosis, the most devastating clinical manifestation of this disease. His group was able to demonstrate the contribution of viral proteins in the development of an abnormal lipid metabolism.

The world's first vaccine against E.coli 0:157 was successfully co-developed at VIDO.

The Bacterial Vaccine Development Group at VIDO focuses on bacterial infections associated with food and water safety. The research groups of Drs. Potter, Koester and Allan have made great progress in the development of food safety vaccines, a relatively novel concept of animal vaccines that are aimed towards the reduction of food and water contaminations. A world's first vaccine against *E.coli* O:157 was successfully developed at VIDO. This vaccine is now commercially available to Canadian producers. Other diseases of interest include *Campylobacter*, *Listeria* and *Salmonella* species. We have been very fortunate to welcome Dr. Aaron White as a Research Scientist to this group. Dr. White has a strong background in bacterial infections including infections with *Salmonella*.

Modern vaccine development requires platform technologies for formulation and delivery of vaccines. Dr. George Mutwiri's research program on immune modulation continues to investigate the use of novel vaccine adjuvants for both human and animal vaccines. With the emergence of new diseases and the threat of pandemics, the development of platform technologies is becoming increasingly important. Having access to technologies that could be applied to a wide variety of antigens and that would ensure a rapid onset of immunity combined with a long-lasting immune response is crucial for the development of next generation vaccines against such diseases. VIDO will continue its research efforts to further establish and develop such platforms.

VIDO Scientist Dr. Robert Brownlie

VIDO Scientist and Program Manager, George Mutwiri

ACHIEVING SUCCESS IN UNCERTAIN ECONOMIC TIMES

Dr. Paul Hodgson, PhD, MBA,
Associate Director – Business Development

As everyone is aware, the worldwide economy experienced some major challenges in the past year. A general economic downturn combined with ongoing mergers and acquisitions between major human health companies and their corresponding animal health subsidiaries has impacted our business. In spite of these challenges we continue to make progress in a number of key business areas.

One of the most notable 'VIDO' events in the past year is that our corporate partner Bioniche received full Canadian regulatory approval of the world's first vaccine to reduce the shedding by cattle of *E. coli* O157:H7. This vaccine is based on technology developed by the University of British Columbia and VIDO, and we are pleased to have been part of this exciting time for Bioniche.

Despite the world's economic challenges, we worked hard this past year to expand our business relationships and create new market and partnership opportunities with human and animal health companies through a number of initiatives.

We maintained our corporate presence by focusing on several geographic areas, including the Midwest USA, where we met with several potential partners interested in strengthening our north-south collaborations. We also attended the BIO International Convention, this year held in Atlanta, Georgia.

As construction on the International Vaccine Centre (InterVac) progresses, our partners' interests in accessing the facility are increasing. This Level 3 facility will be one of the largest facilities of its kind in the world. It will significantly increase Canada's capacity to protect humans and animals against infectious disease and will enhance our corporate partners' ability to prepare for the emerging diseases. This is of increasing importance in the wake of outbreaks such as H1N1 that have impacted tourism and public health as well as devastated swine industry. We are hoping that the facility will be fully commissioned and operational for the next emerging disease challenge.

To make our organization more competitive VIDO is embarking on a comprehensive and systematic review of its key business and operational processes. As part of this process we have an ongoing feasibility study for ISO9000 – a third party certification. Although not a requirement, third party assessment of business operations and compliance to international quality management standards will offer another measure of credibility to VIDO's reputation. In turn, this will allow us to differentiate ourselves, increase operational confidence with current collaborators and potentially expand our access to European research and development contracts.

From an operational expansion perspective we recently made a joint application to the Canadian HIV Vaccine Initiative to develop an $88 million pilot scale vaccine production plant. Led by the International Centre for Infectious Diseases in Winnipeg, this facility would help us offer a full circle of services from basic research to vaccine production. We expect to hear the results of this project, which is being funded by the Federal Government and the Bill and Melinda Gates Foundation, in late 2009.

In our efforts to communicate effectively and efficiently, we are currently redesigning our website and other communication tools so that our stakeholders are kept up-to-date and informed of our work, and to facilitate information transfer and new business development.

Finally, we are in the process of applying to the Pan-Provincial Vaccine Enterprise (PREVENT) for development of some of our most promising vaccine candidates. If successful this will give us an excellent opportunity to advance our vaccines along the developmental pipeline, adding value with minimal additional cost to VIDO.

We look forward to the opportunities that will undoubtedly emerge as the economy rebounds and pharmaceutical company mergers are completed. We are confident we will achieve our goals of continuing on a structured business growth path, and further establishing VIDO-InterVac as the backbone of new corporate collaborations in vaccine research and development.

Industry-funded research provides VIDO graduate students with unique research opportunities.

VIDO Graduate Student Monika Polewicz

ENSURING A SOLID FINANCIAL FRAMEWORK AND STRATEGIC BUSINESS OBJECTIVES

"Infectious disease doesn't acknowledge time-zones nor does VIDO. We recognize a global scientific environment promoting the sharing of knowledge, and scarce financial and physical resources."

Ms. Carol Martel, CMA, Chief Financial Officer

As a non-profit organization, owned by the University of Saskatchewan and operating in the current volatile economy, this past year was both challenging and encouraging. Notwithstanding, VIDO continued to evolve by establishing both internal and external mechanisms to build the infrastructure and relationships necessary to maintain our reputation for excellence in vaccine research and development. Our evolution to an ISO-based management system and future third party certification will further demonstrate the integrity and reliability of the scientific and financial reports issued by VIDO.

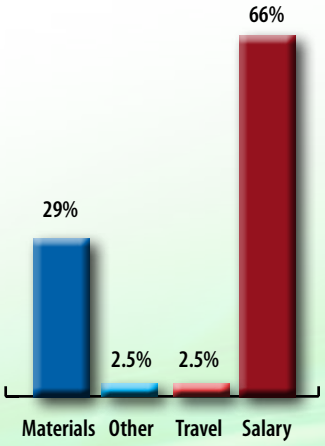
Through the continued strong support of Federal and Provincial Governments, livestock industry councils and agencies, foundations and the pharmaceutical industry, VIDO was able to contribute globally to vaccine research and development. Of the total funding provided to VIDO for scientific projects, 29% was provided by Federal Government departments and agencies while 38% was provided by the Government of Saskatchewan. Despite challenging times for many producer groups, the livestock industry continued to assist us, thus proving their commitment to VIDO and its research into animal health issues.

Our collaborations with research facilities at other Canadian universities, federal laboratories, pharmaceutical companies and research facilities in other countries allowed us to make full use of scarce research dollars. The research projects funded by the Bill and Melinda Gates Foundation and the Krembil Foundation involved researchers and scientific resources from VIDO as well as from organizations across Canada and other countries.

Our multidisciplinary research and training capabilities will be further strengthened with the completion of InterVac, enabling us to continue to achieve our strategic business objectives. Use of InterVac's unique large animal biocontainment facilities will enable VIDO and its collaborating partners to contribute to Canada's expanding pool of science and technology expertise and capacity. Upon completion, the operating costs of InterVac are estimated to be $12 million, exclusive of any scientific programs.

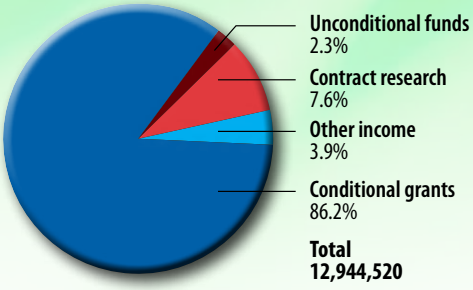
Along with the in-kind support provided by University of Saskatchewan for infrastructure maintenance, financial and administrative services, this year's cash expenditures were $12.9 million. We used 66% of our budget for salaries and 29% for materials and equipment.

2009 Expenditure by Category



The Government of Saskatchewan also continued to provide significant and dedicated funding for scientific recruitment and retention activities necessary to accommodate our growing organization. Their annual commitment of $3.5 million allows us to maintain competitive scientific and managerial salaries as well as provide an upscale scientific workplace.

Sources of Revenue



UNIVERSITY OF SASKATCHEWAN
VACCINE & INFECTIOUS DISEASE ORGANIZATION (VIDO)

STATEMENT OF INCOME, EXPENDITURE AND FUND BALANCES

FOR THE YEAR ENDED APRIL 30, 2009

(With comparative figures for the year ended April 30,2008)

	April 2009	April 2008
INCOME		
Donations and unconditional grants	$ 297,200	$ 282,776
Conditional grants	10,829,897	11,038,564
Commercial contract research	897,896	983,693
Royalties and Licensing Fees	85,750	291,816
Investment income	510,906	330,488
Other Income	322,871	589,937
	12,944,520	**13,517,274**
EXPENDITURE		
Salaries and benefits	7,590,573	7,865,691
Materials and supplies	2,765,791	2,569,959
Equipment repair and service agreements	146,832	242,097
Sub-contract research	369,014	330,271
Travel and recruiting	324,251	276,267
Patents and legal fees	292,966	123,165
Amortization	1,443,826	1,431,335
Other expenditures	44,127	51,057
	12,977,380	**12,889,842**
INCOME (LOSS)	**$ (32,860)**	**$ 627,432**

Unaudited

CONTRIBUTORS

Agriculture and Agri-Food Canada

Agriculture Council of Saskatchewan Inc.

Agriculture and Food Council of Alberta

Alberta Agricultural Research Institute

Alberta Beef Producers

Alberta Chicken Producers

Alberta Livestock Meat Agency

Alberta Livestock Industry Development Fund

Alberta Milk

Apogee Technology, Inc.

Avaxia Biologics Inc.

Beef Cattle Research Council

Bill & Melinda Gates Foundation

Bioniche Life Sciences, Inc.

Boehringer Ingelheim Vetmedica Inc.

Canadian Bovine Mastitis Research Network

Canadian Institutes of Health Research

Cangene Corporation

Cattle Industry Development Fund

Cattle Industry Development Council

Fort Dodge Animal Health

Genome BC

Genome Canada

Genome Prairie

Government of Alberta Ministry of Advanced Education and Technology

Government of British Columbia Ministry of Agriculture and Lands

Government of Canada Department of National Defense

Government of Manitoba Department of Agriculture

Government of Saskatchewan Department of Advanced Education, Employment and Labour

Government of Saskatchewan Department of Agriculture

Heather Ryan and L. David Dubé Veterinary Health and Research Fund

Horton Feedlots, Inc.

Kamloops Stockmen's Association

Krembil Foundation

Merial Ltd.

National Canadian Research Training Program in Hepatitis C

National Pork Board

Natural Sciences & Engineering Research Council of Canada

Novartis Animal Health Canada Inc.

Novartis Animal Health U.S.,Inc.

Ontario Cattlemen's Association

Pan Provincial Vaccine Enterprises Incorporated (PREVENT)

Poultry Industry Council

Prevtec Microbia Inc.

PrioNet Canada

Sanofi Pasteur Ltd

Saponin, Inc.

Saskatchewan Cattle Marketing Deductions Fund

Saskatchewan Chicken Industry Development Fund

Saskatchewan Health Research Foundation

Saskatchewan Horned Cattle Trust Fund

Synbiotics Corporation

University of Alberta

University of Calgary

ViRexx Medical Corp.

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