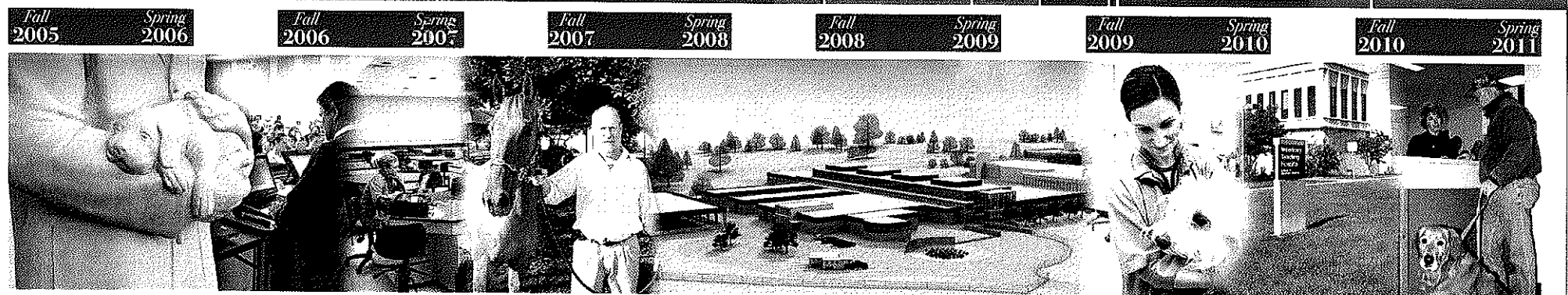
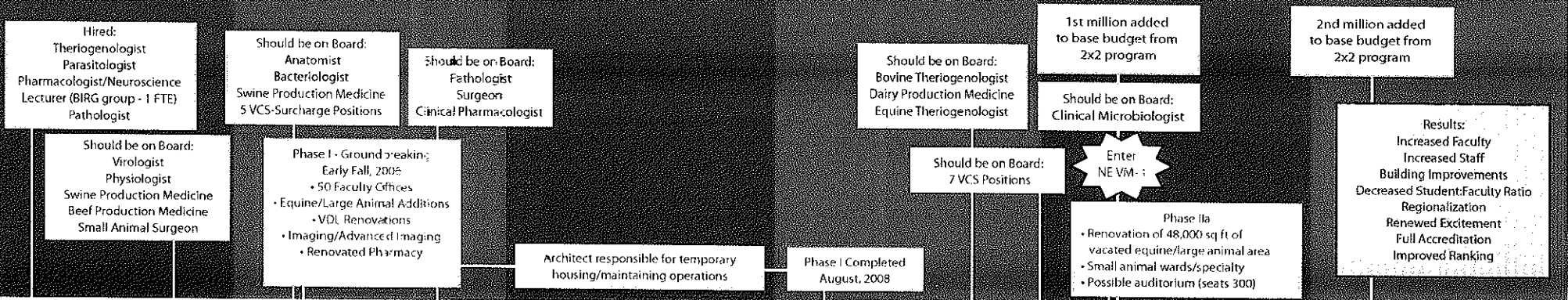


Vision for Growth: People • Facilities • Service



Fall 2005	Spring 2006	Fall 2006	Spring 2007	Fall 2007	Spring 2008	Fall 2008	Spring 2009	Fall 2009	Spring 2010	Fall 2010	Spring 2011
Renovations Completed • Histo Lab	Renovations Completed • 2226 Lecture	Renovations Completed • Gross Anatomy Lab	Renovations Completed • 1226 - 228 Lecture	Renovations Completed • Junior Surgery Lab		Renovations Expected to be Completed • 2532 Lecture					
Total Students at ISU College of Veterinary Medicine: 435 VM-1: 120 VM-2: 105 VM-3: 105 VM-4: 105	Total Students at ISU College of Veterinary Medicine: 450 VM-1: 120 VM-2: 120 VM-3: 105 VM-4: 105	Total Students at ISU College of Veterinary Medicine: 465 VM-1: 120 VM-2: 120 VM-3: 120 VM-4: 105	Total Students at ISU College of Veterinary Medicine: 480 VM-1: 120 VM-2: 120 VM-3: 120 VM-4: 120	Total Students at ISU College of Veterinary Medicine: 505 VM-1: 120 VM-2: 120 VM-3: 145 VM-4: 120	Total Students at ISU College of Veterinary Medicine: 530 VM-1: 120 VM-2: 120 VM-3: 145 VM-4: 145						

Expansion Plan 2005 - 2011

IOWA STATE UNIVERSITY
College of Veterinary Medicine

Iowa State University College of Veterinary Medicine Legislative Update

- Only veterinary college in the USA currently on "Limited" accreditation
- Phase I addresses 2004 accreditation recommendations.
- **Critical issue:**
 - **Phase II VTH project (timing and quality)**
- Accreditation report due March 07

2-8-07



Optimizing Our Finances

- State Appropriations
 - **BOR funding request**
 - **VDL line-item**
- Tuition/Fees
- Grants/contracts
- Sales and Services
- Private Donations

Students have carried the burden: **Average \$90,000 debt at graduation!**

New York Times – Feb. 6, 2007 ...

**New Problem for
Farmers: Few
Veterinarians**

2-8-07

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College of Veterinary Medicine



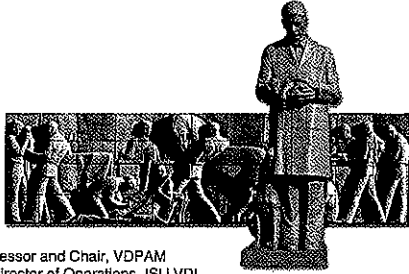
Iowa State University College of Veterinary Medicine Legislative Update

- **It is a fact** that diagnoses, treatment, control, prevention and eradication of animal diseases are essential to successful animal agriculture.
- **It is a fact** that the Veterinary Diagnostic Laboratory research and services are essential to the future of Iowa animal agriculture.
- **Critical Issues** for the ISU College of Veterinary Medicine
 - Phase II of the VTH building project
 - BOR and VDL Funding

2-8-07



“Aligning and growing diagnostic services at the ISU Veterinary Diagnostic Laboratory consistent with the needs of Iowa’s \$8 billion livestock industry”



Dr. P Halbur, Professor and Chair, VDPAM
Dr. LJ Hoffman, Director of Operations, ISU VDL

1

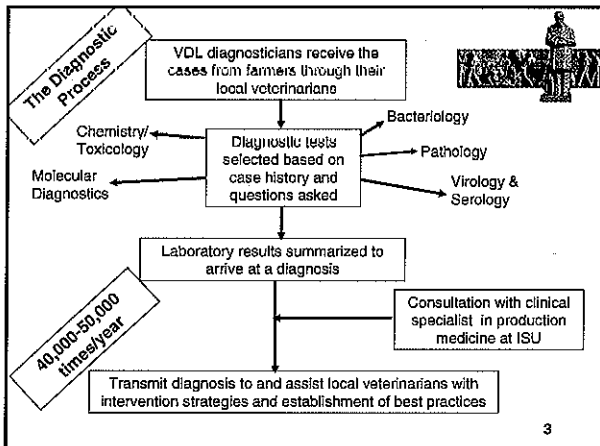
Veterinary Diagnostic Laboratory at ISU

- Iowa’s only public veterinary diagnostic laboratory
- Accredited by the American Association of Veterinary Laboratory Diagnosticians
- 40,000-50,000 annual submissions through veterinary practitioners working directly with Iowa livestock producers
- Generates 40,000-50,000 medical diagnoses per year from over 1 million tests conducted

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2



3

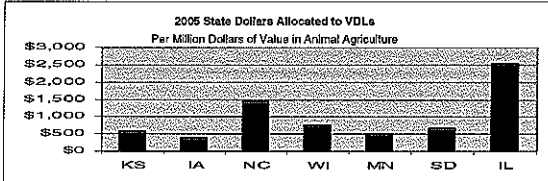
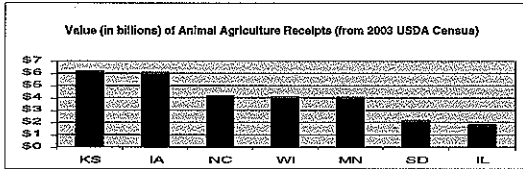
Study Mandated by the 2005 Iowa General Assembly in **House File 816**

- "...ISU shall prepare a report on the operation of the VDL which shall include, but shall not be limited to..."
 - The current business structure of the ISU VDL and similar labs
 - Recent trends in fees at the ISU VDL and trends at similar labs
 - The use of funding sources for the ISU VDL and other similar labs
 - Recommendations for changes in business structure and funding for the ISU VDL

4

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Legislative Action in 2006

- HF2540 appropriated \$1 million in **recurring** annual direct appropriation to the ISU VDL
 - Includes intent language for increasing direct recurring appropriation to the ISU VDL to \$2M in FY2008, \$3M in FY 2009, and \$4M in FY2010

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**Year #1 (FY2007)
VDL Direct Appropriation Impact**

- Focus on **building a sustainable infrastructure of people, programs, processes and facilities** to ensure continuation of high quality veterinary diagnostic services that are aligned with the needs of Iowa's **\$8 billion livestock industry**

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**Year #1 (FY2007)
VDL Direct Appropriation Impact**

- VDL fees were not increased in 2006
- Case submissions increased
 - Up 8300 (21%) in 2006
- Tests performed increased
 - Up 325,000 (32%) in 2006

More testing
More diagnoses

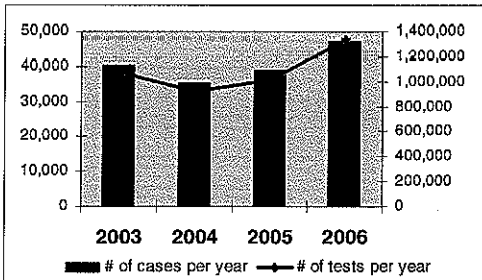
More effective treatment
Less disease spread

8

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Number of cases submitted and tests performed at the ISU VDL 2003-2006



9

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**Year #1 (FY2007)
VDL Direct Appropriation Investments**

- Improved facilities and equipment
 - 15 renovation/modernization projects
 - Replaced laboratory and computer equipment
- More qualified people
 - 11 new research associates or technicians
 - 3 new faculty, 2 new graduate students
- New technologies and programs
- QA/QC program and team

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**Examples of Strategic Investment of
Appropriated Money**

- Grew molecular diagnostic testing
- Initiated corn co-products testing service
- Increased participation in foreign animal disease surveillance programs
- Initiated 3-shift, 24/7 testing for artificial insemination centers
- Regional center of excellence for a newly emerged Iowa livestock disease

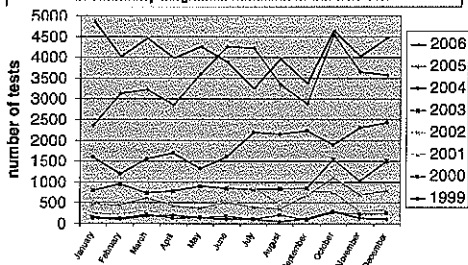
11

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**Year #1 (FY2007)
VDL Direct Appropriation Impact**

Meeting the demand for use of molecular diagnostic techniques in veterinary diagnostic medicine at the ISU VDL



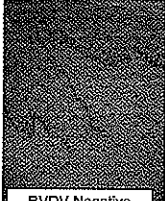
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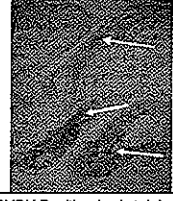


Year #1 (FY2007)
VDL Direct Appropriation Impact

- Increased live animal tests for beef and dairy
 - Detection of cattle persistently shedding bovine virus diarrhea virus (BVDV) by testing a notch of skin from the ear of a live animal



BVDV Negative



BVDV Positive (red staining)


16

Year #1 (FY2007)
VDL Direct Appropriation Impact


- Examples of **improved quality and expanded capacity of surveillance programs**
 - Foreign Animal Diseases
 - High pathogenic avian influenza surveillance markedly expanded
 - Hog Cholera surveillance markedly expanded
 - 1499 samples in 2006, 347 already in 2007
 - Domestic Diseases
 - Poultry salmonella surveillance capabilities improved
 - Johne's disease diagnostics markedly improved in quality and speed, surveillance program initiated

17

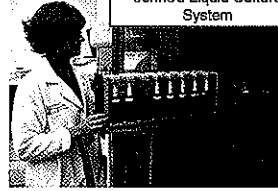
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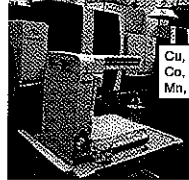
Quantitative PCR



Johne's Liquid Culture System




Atomic Absorption Spectrophotometry



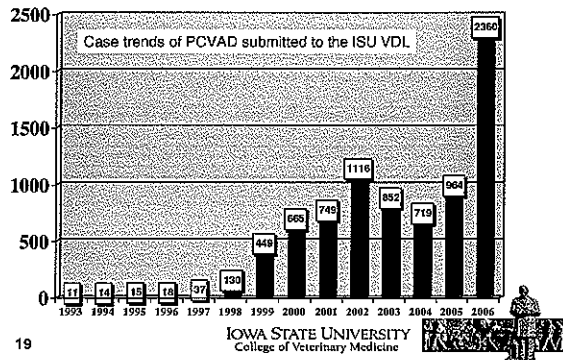
Cu, Fe, Zn, Co, Cr, Se, Mn, etc....

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Center of Excellence for Diagnosis of Porcine Circovirus Associated Diseases



19

ONE DOSE PCV2 Suvaxyn

PCV2-associated Diseases

First identified in the early 1990s, PCV2-associated diseases - postweaning multisystemic wasting syndrome (PMWS), porcine dermatitis and nephropathy syndrome (PDNS) and porcine respiratory disease complex (PRDC) - are becoming an increasing concern to swine producers throughout the world. Progressive weight loss, enlarged lymph nodes, respiratory disease, fever and mortality as high as 40% make these diseases a significant health issue. With losses varying from \$5 to \$20 per pig, producers need a tool they can use to strike back at the heart of this problem. The answer? Suvaxyn® PCV2 One Dose.



20

FY2007 VDL Direct Appropriation Impact

- Examples of new programs initiated
 - Corn co-product diagnostic panel
 - improved testing of distiller's grains and solubles for sulfur, phosphorus, mycotoxins and selected antibiotics



21

Examples of ISU VDL Faculty Engagement in Corn Co-Product Research

- ✓ Total Sulfur Intake Determination from Beef Cattle Utilizing Corn Co-Product (*Dewitt, Ensley, Imerman*)
- ✓ Lick Tanks to Deliver Condensed Corn Distillers Solubles to Summer Grazing Beef Cows (*Doran, Ensley, Imerman*)
- ✓ Fungi and potential for mycotoxin development in ethanol fermentation co-products (*Munkvold, Ensley, Imerman, Osweiler*)
- ✓ Characterization of Potential Risk Factors of Corn Distillers Solubles to Beef Cattle (*Osweiler, Imerman, Hoffman, Ensley, Hyde, Roush*)
- ✓ Determining sulfur concentrations in feedstuffs on farms where Polioencephalomalacia has been diagnosed in southcentral Iowa (*Swackhammer, Leu, Ensley, Imerman*)
- ✓ Mycotoxins in Dry Distillers Grains (*Imerman DeLong, Hyde, Ensley, Osweiler*)

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FY2007 VDL Direct Appropriation Impact

- Examples of new programs initiated
 - Toxicology antidote depot
 - Activated charcoal
 - Organophosphates, carbamates
 - Atropine
 - Organophosphates, carbamates
 - Methylene blue
 - Nitrate toxicity
 - Calcium disodium EDTA
 - Lead toxicity

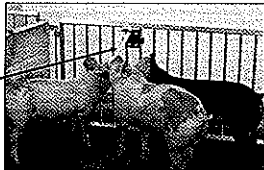
23



Innovative, real-time health monitoring through saliva surveillance

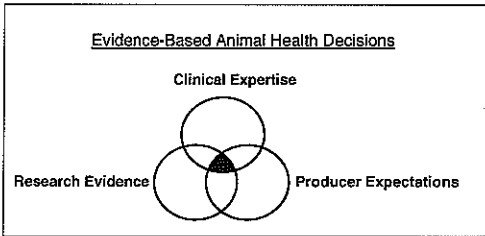
- Real time, outcomes-based diagnostic medicine
 - Monitors populations
 - Correlates medical data with production data
 - Projects performance outcomes
 - Assesses the need for targeted intervention with vaccines and medications

Using ropes hung in pens to collect saliva from pigs for determining when the population becomes infected with different diseases such as PRRSV, SIV, and *Mycoplasma hyopneumoniae*



24

A strong VDL will position Iowa as the leader in establishing best practices for safe and profitable food production



Outcomes drive development of new tests, the focus of infectious disease research and future content of the food animal veterinary curriculum at ISU.

28

Direct Appropriation of \$4 Million is a Necessary and Justified Plan

- **Necessary** to meet current critical diagnostic service needs of Iowa animal owners
- **Necessary** for Iowa to participate in national animal health networks and surveillance plans
- **Necessary** to be ready to detect and respond to the introduction of a foreign animal disease
- **Necessary** to build the research infrastructure for development of new, value-added diagnostic tests
- **Necessary** to position Iowa as a leader in establishing best practices for safe and profitable food production
- **Justified** based on the importance of animal agriculture to the state of Iowa

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College of Veterinary Medicine





February 6, 2007

A New Problem for Farmers: Few Veterinarians

By **PAM BELLUCK**

GORHAM, Me. — Rainbow had the bad luck to try to have a baby on a Thursday.

Thursday was her doctor's day off, and there was no one else for miles who could handle a complicated breech birth, not when the mother was a Holstein cow.

"Had the vet been here, we could have done a C-section and she could have lived through it fine," said Becki Benson, the owner, with her husband, Eddie, of Rainbow and 150 other dairy cows.

Instead, "I worked on her till I was just exhausted," Mr. Benson said. "But I ended up having to take the cow to a butcher shop, where she got processed for hamburger."

These days, the Bensons' veterinarian is pretty much the only cow doctor in a 1,300-square-mile swath of Maine, and one of only about 30 large-animal veterinarians left in the entire state.

And across the country, veterinarians who care for the animals that provide the United States with food are in increasingly short supply.

For one, there is generally more money to be made caring for cats and dogs. And with fewer students from farm backgrounds, fewer gravitate to rural jobs, especially if a spouse needs work, too. Large-animal care can be tough, even dangerous — think of maneuvering in frigid weather around 1,000-pound cows in manure-filled pens. And more veterinarians are women, generally less inclined toward large animals.

Since 1990, the number of veterinarians focusing on large animals has dropped to fewer than 4,500 from nearly 6,000, according to the American Veterinary Medical Association, which said those doctors now made up less than 10 percent of private-practice veterinarians. A recent study predicted that by 2016, 4 out of every 100 food-animal veterinary jobs would go unfilled.

"We look at it as a crisis," said Dr. Roger Mahr, the association's president, who cited serious consequences not only for the well-being of farmers and animals, but also potentially for food safety and the impact of non-native diseases like bird flu.

"Of all the emerging diseases in people in the last 25 years, 75 percent of those were transmitted from animals," Dr. Mahr said. "Veterinarians are the ones to identify those diseases in animals first."

Pressed to address the problem, Congress enacted a law in 2004 offering to repay the student loans of veterinarians working in underserved areas, but it has received little financing.

Video

But with so few counterparts — one of the closest is Doc Cooper, 80, an hour's drive north — “people get stuck and I feel really bad about it,” she said. “It was one of those decisions — is my health and my family life more important or less important than somebody's cow?”

Dr. Myers once visited the Bensons every 10 days; now it is once a month. They understand her need to cut back. Still, just in the last month, one cow, Darling, had a foot problem the Bensons could not diagnose. Another, Karissa, had mastitis, but the Bensons initially misdiagnosed the strain and gave the wrong antibiotic, delaying her recovery and milk production.

And Alpha, a cow worth thousands of dollars, became weak and feverish after miscarrying twins, unfortunately on a weekend. When the Bensons tried moving her to a comfortable pen, she literally dropped dead.

“The fact that there's nothing you can do, you accept it as a business expense now,” Mr. Benson said. “You didn't used to. If you have livestock, sooner or later you're going to have deadstock.”

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