VM 577 – Production Medicine

Field Disease Investigation Unit

Washington State University

Plan for Today

• Introductions
  – Who we are
• Discuss course outline
  – When, where and what
• Discuss resources
  – Books, web-links etc.
• Discuss issues related to Production Medicine

Course Objectives

• Acquaint students with HPM resource materials.

• Acquaint students with the diverse opportunities available in HPM.

• Enable students to begin identifying and acquiring the skills for providing HPM services to clients in animal agriculture.

Course resources

• FDIU Computer lab

• Printed texts

• Web site
  – http://www.vetmed.wsu.edu/courses-jmgay/

Grading/Schedule

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<tr>
<th>Week</th>
<th>Week of Class</th>
<th>Topic</th>
<th>Instructor</th>
<th>Pre-Assignment</th>
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<tr>
<td>1</td>
<td>01/07/13</td>
<td>Intro to class</td>
<td>Gay/Schneider</td>
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<td>Information resources</td>
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<td>HPM Orientation</td>
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<td>HPM Marketing &amp; Economics</td>
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<td>01/21/13</td>
<td>Vertically integrated vet business</td>
<td>JM Gay</td>
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<td>01/24</td>
<td>The Business Model Canvas</td>
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<td>Herd Economics</td>
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<td>02/04/13</td>
<td>Dairy Records</td>
<td>Mark Kirkpatrick, DVM</td>
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<td>Scott MacGregor, DVM</td>
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<td>03/04/13</td>
<td>Beef Prod Med – Herd Software</td>
<td>CS Schneider</td>
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<td>Beef Prod Med – Herd Repro Evaluation</td>
<td>CS Schneider</td>
<td>RL?</td>
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3/11/2013 Spring Break

10  | 03/18/13      | Beef Prod Med – Bench marking | CS Schneider | RL?          |
|      | 03/21         | Beef Prod Med – Roll of vets in cow-calf | CS Schneider | RL?          |
| 11  | 03/25/13      | Running a 20,000 cow dairy | Jeff Wendler, DVM |                |
|      | 03/28         | Animal Health – A new paradigm? | Jeff Wendler, DVM |                |
| 12  | 04/01/13      | What I learned by becoming a producer | Walt Guterbock, DVM |                |
|      | 04/04         | Use of research in large herd practice | Walt Guterbock, DVM |                |
| 13  | 04/08/13      | WG? |                  |                |

14  | 04/15/13      | Building a Prod Med centered vet practice | Bruce Vande steeg, DVM | Confirmed |
|      | 04/18         | Prevention Works | Joe Campbell, DVM | Confirmed |
| 15  | 04/22/13      | Herd Pharmacology | Gordon Brumbaugh, DVM | WG?          |
|      | 04/25         | Herd Pharmacology | Gordon Brumbaugh, DVM |                |
| 16  | 04/29/13      | Final Week |                  |                |
Veterinary Production Medicine
K Nordlund 1998

• "Traditional Medicine is focused upon diagnostic and therapeutics of the individual animal with the assumption that if all the sick animals are handled properly, a healthy herd will result.

• Production Medicine is focused upon the underlying herd management system with the assumption that if the production system that produced the problem is fixed, a healthy herd will result."

These are not mutually exclusive

From a Prod Med Standpoint:
We diagnose disease conditions not to "fix" the individual animal but to "fix" the production system that allowed the disease to occur in the first place.

"In production medicine the vet does what the dairymen is supposed (used) to do and the dairymen (staff) does what the vet supposed (used) to do"

W Guterbock in What I learned about veterinary medicine since becoming a dairymen

Successful Production Medicine

• Involves:
  – Understanding of production and economic systems
  – Careful observation
  – Analysis of trends and data
  – Decision making (corrective action)
  – Monitoring of results

If you are not committed to developing the required skills, please work on cats (not mine) or get a job in academia.

Basic Business Decisions

• Does it work?
• Is it cost effective?
• Can I implement it?

Can you help your clients with these decisions?
What skills will you need?

Example: SX vs. Toggle LDA corrections

• Does it work?
  – 73.3 – 88%

• Can I implement it?
  – Sure, I am standing right here!
    • What about in N Texas
    • What about the abx withholds?
    • What about the aftercare?

• Is it cost effective?
  – Use of decision analysis to evaluate the delivery method of veterinary health care on dairy farms as measured by correction of left displaced abomasum

RESULTS:
– Decision tree analysis revealed that correction of an LDA provided by herd personnel had an expected economic advantage of $76, compared with correction provided by a veterinarian. Sensitivity of this analysis to variations in inputs indicated that changes of 2 input levels would shift the advantage to veterinarian-provided correction: a reduction (from 0.74 to 0.62) in the probability of success for correction provided by herd personnel or an increase (from 0.78 to 0.87) in the probability of success for correction provided by a veterinarian.

CONCLUSIONS AND CLINICAL RELEVANCE:
– In this model, LDA correction by herd personnel had a significant economic advantage, compared with veterinarian-provided correction. Continued absorption of traditional veterinary tasks by unlicensed herd personnel may threaten the veterinarian-client-patient relationship (VCPR), which could have profound economic and regulatory impacts. Food animal veterinarians need to evaluate their business model to ensure they continue to provide relevant, sustainable services to their clients within the context of a valid VCPR.
Example: Sell all cows with LDA’s

- Does it work?
  - 100%

- Can I implement it?
  - Depending on location
    - What do you do with ones with beef withholds?

- Is it cost effective?
  - Abomasal displacements cause economic loss in dairy herds through treatment costs, premature culling, and production loss. Current treatment costs range from $100 to $200 per case, and 15% of cows diagnosed with displaced abomasum are culled or die before the next test day. Treated cows that remain in the herd produce about 800 lb less milk the following month than cows without a displaced abomasum.

During the dairy crash of 2007-current; what do you think happened to LDA sx rate?

Veterinarians & Community Trust

- A 2007 Gallup poll on professional honesty and ethics ranked veterinarians third among 23 types of professionals, surprisingly ahead of both physicians and clergy.

How many people can a misinformed veterinarian influence?

News Flash

- You ARE THE EXPERT

- Decision making is not easy, right or wrong

- Developed and learned skill

- Why are some people better at (x) than others?
  - Better, more advanced decision making skills

Absolute Truth

- Very seldom in veterinary medicine, life or business are decisions based on absolute truth

- Remember
  - Does it work?
  - Can I implement it?
  - Is it cost effective?

Decisions

- Based on available knowledge at the time they are made

- Dynamic

- Often incorrect

Decision Making In Production Med

- Requires different mindset

- Requires different terminology (management and epidemiology based)

- Requires connection to science, management and industry
Are Vaccines Effective?

It Depends!

What Goes into the Decision to Vaccinate Against Disease?

- Complete understanding of the Epidemiology of the Disease
  - Does it work?
    - JM Gay’s Epidemiology Concepts for Disease in Animal Groups
      - http://www.vetmed.wsu.edu/courses-jmgay/EpiMod2.htm
  - Complete Understanding of Industry
    - Can I implement it?
  - Economics - Is it cost effective?

Words of Wisdom

“A common error is to assume that because a vaccine or bacterin is approved by the USDA and is marketed, it is efficacious. For a surprising number of veterinary vaccines, evidence of efficacy is either lacking (which means that it may or may not be efficacious) or the evidence suggests that the vaccine is not efficacious. Many veterinarians and producers don’t realize that evidence of field efficacy is not required as part of the USDA vaccine licensing process and subsequent evidence of lack of field efficacy does not jeopardize a license.”

JM Gay DVM PhD WSU Vetmed
http://www.vetmed.wsu.edu/courses-jmgay/FDIUCowCalfHH.htm

Diseases of Academia

- Funding and pressure to link research to human health
- Are all infectious diseases we talk about truly economic diseases to animal industries?
  - Johnes, BVD?
- Ask a dairyman/feedlot what costs them more money worker/labor issues or infectious disease?
  - Are they correct?

Diseases of Industry

- A vaccine waiting to find a disease.
  - Leptospira borgpeterseni serovar hardjo (Type: hardjo-bovis)
  - Neospora vaccination?
- What is the goal of the biologic/pharmaceutical industry?
  - GROWTH
- What are “value added” products/services?
  - IS TRADITIONAL VET MED VALUE ADDED?
- Who is the independent consultant and who pays the bill?
Two Legged Disease

• Many (Most?) of the major economic diseases that affect our animal industries in the United States are TWO LEGGED Diseases

• Is mastitis a disease of the cow or of man? What about parasites? Calf scour agents? Viral Dz? etc……..

Discussion

How does Michael Pollan and his thoughts affect consumer decision making?

http://www.ted.com/talks/michael_pollan_gives_a_plant_s_eye_view.html

How do these consumer decisions affect our clients?

http://www.thepigsite.com/articles/2709/understanding-consumer-support-for-a-gestation-crate-ban

How do consumer decisions affect us professionally?

Pros? Cons?

Never forget your responsibility

Contemporary Veterinarian’s Oath

Being admitted to the profession of veterinary medicine,
I solemnly swear to use my scientific knowledge and skills to protect the health and well-being of all nonhuman animals, to relieve pain and suffering in nonhuman animals, to strengthen the understanding of the inherent needs and interests of all nonhuman animals, and to promote the preservation of wildlife and their natural environment.

I will practice my profession conscientiously, with dignity, compassion, and integrity.

Let us not confuse our professional responsibilities with our personal biases.