VMS 361 Agricultural Animal Health

Bovine Health Section
Veterinary Introduction

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My class PowerPoints & materials are on-line

Google “jmgay index”

http://www.vetmed.wsu.edu/courses-jmgay/

Your background and future intentions?

On a sheet of paper please write:

• Your name, major and year
• A sentence or two on why you are taking this class
• Where you are from
• Briefly list your livestock experience
  – E.g., grew up on a cow-calf operation, worked summers on a dairy
• The career you intend to pursue
• Any veterinarians you know well

Who are the ag animal veterinarian’s ultimate clients?

The same as the livestock producers

VCPR: Veterinarian-Client-Patient Relationship

All veterinary care is required by law to be delivered under a valid VCPR
• Diagnosing or treating
• Prescribing or dispensing medications
• Regulated by a state’s Veterinary Practice act

https://www.avma.org/public/PetCare/Pages/VCPR-FAQs.aspx

What is different about the VCPR in agricultural animal medicine vs. domestic pet veterinary medicine?

VCPR: Veterinarian - Client - Patient - Relationship + Government

FSV: Food Supply Veterinary Medicine

The Consumers

Anyone in the supply chain who ignores this does so at everyone’s peril!
• Producer
• Veterinarian
• Processor
• Marketer
• Service Establishment

The Ultimate FSV Client

Fear drives social concerns about foods

Any food or anything in food perceived to threaten people, particularly children, is ZAPPED!

Society has particular expectations of animal-origin foodstuffs

• Safe and wholesome animal-origin foodstuffs
  – Free from harmful drug residues (antibiotics, hormones)
  – Few or no harmful bacteria
• Animals raised and handled in a humane manner
  – Rising animal welfare concerns
  – Third-party audit programs proliferating rapidly

The Five Freedoms capture social expectations of how animals producing human food are raised and handled
1. Freedom from Hunger and Thirst
   – By ready access to fresh water and a diet maintain full health and vigor
2. Freedom from Discomfort
   – By providing an appropriate environment including shelter and a comfortable resting area
3. Freedom from Pain, Injury, or Disease
   – By prevention or rapid diagnosis and treatment
4. Freedom to Express Normal Behaviour
   – By providing sufficient space, proper facilities, and company of the animal’s own kind
5. Freedom from Fear and Distress
   – By ensuring conditions and treatment which avoid mental suffering

Driving incorporation of pain management into common husbandry procedures (e.g., castration, dehorning, branding)

http://www.fawc.org.uk/freedoms.htm

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Animal Welfare issues are continually in the press

- Animal rights activists target Petaluma slaughterhouse 4/7/14 (106 Google News hits)
- How animal welfare advances veganism and animal rights Huff Post, 3/17/14 (1,940 hits)
- Animal-rights advocates who helped elect Mayor de Blasio are unleashing their clout at City Hall NY Daily News, 4/8/14

When social license (public trust) is lost, consumers enforce social control

- **Public Trust:** Belief that producer practices are consistent with social expectations and values
  - Shared values are 3-5 times more important than demonstrating competence
- **Social License:** Freedom to operate with minimal formal restrictions in presence of public trust
- **Social Control:** Operating under formal restrictions in absence of public trust
  - Legislation, regulation, market requirements (Examples: Yum Foods, McDonalds, . . .)
  - http://www.myauditprep.com/audit-standards
  - http://www.humanesociety.org/animals/cows/

Part of public trust is that veterinarians are expected to act on the animal’s behalf

Society expects veterinarians to act:
1. First as independent agents for the animals
2. Second in their clients’ interests

When expectations aren’t met, that trust is broken, and somebody else fills the gap!

Charlie Arnot – The social license vs. control balance

<table>
<thead>
<tr>
<th>Flexible Responsive</th>
<th>Rigid Bureaucratic</th>
</tr>
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<tbody>
<tr>
<td>Lower costs</td>
<td>Higher costs</td>
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**Social License**
- Values
- Expectations
- Ethics
- Self regulation

**Tipping Point**
- Single major event or impacts of cumulative events

**Social Control**
- Gov. Regulation
- Legislation
- Litigation
- Auditing

Center for Food Integrity
http://www.foodintegrity.org/

Why Science Isn’t Enough - What consumers need to trust animal agriculture
http://www.youtube.com/watch?v=Lr3jPqO5Qmk

Protecting our Freedom to Operate: Earning and maintaining public trust and our social license


Food safety headlines are continually in the press

- 524 sickened by Salmonella outbreak linked with Foster Farms Chicken Fox News, 4/10/14 (4,950 hits)
- Food poisoning more likely at US restaurants than at home UPI, 4/9/14 (66 hits)
- Chuck E. Cheese’s norovirus outbreak investigated KARE, 4/10/14

Serious controversies continue over our food, how it is produced and what it contains

**Example of one controversy:**
  - “Finally! Raw milk information you can trust!”
- Real Raw Milk Facts ([www.realarrawmilkelwords.com](http://www.realarrawmilkelwords.com))
  - “Real Dangers of Raw Milk What are the real benefits and risks of drinking raw milk?”

Opposition to conventional agriculture is increasing and misinformation spreads rapidly via social media.

Temple Grandin is an animal welfare leader. "...more than half the cattle in the US and Canada are processed through systems that she designed."

Her work supports the developing cattle housing, handling and transport requirements:

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Public risk perception is not straightforward!

"Troubled paradise: Some 70 percent of all outbreaks of foodborne illness are traced back to meat and poultry products."

Which are the jackhammers and which are the cigarettes? Emotional perception trumps rational science every time.
The USDA Agricultural Marketing Service establishes food labeling standards that restrict the VCPR

- "Grass Fed"
- "Naturally Raised"
- "Organic"
- "Certified Angus Beef"
- "Nolan Ryan’s Tender Aged Beef"

Because the consumer is at the end of the chain, the ag animal VCPR is restricted compared to pet medicine

- Government regulation has large impact
  - FDA: drug use restrictions
- Rapid change is occurring
  - Increased public scrutiny
  - Increasing traceback and accountability requirements
  - Anesthesia for routine procedures (dehorning, castrating)

How is the VCPR different for the producer now compared to 30 years ago?

The Internet:
- Prior veterinarians had the “corner” on professional information
  - Either buy veterinary books or go to a veterinary library
- Now 24/7 access to veterinary information
  - May have more time to read it than veterinarian does
- Problem - What are credible sources?
  - Extension service

Credible resources are PubMed, Consultant and Merck Veterinary Manual

- PubMed — National Library of Medicine
  - indexes scientific veterinary literature
  - Google “pubmed”
- Cornell Consultant
  - search on basis of clinical signs
  - lists current clinical literature on a particular disease
  - Google “cornell consultant”
- Merck Veterinary Manual - on-line

Internet assignment to hand in next session with me

- For your favorite species, print off the description of an interesting disease in Cornell Consultant
- For this same disease, print off 3 abstracts from PubMed
- Find the same disease in the on-line Merck Veterinary Manual and print off one page

Pubmed indexes most of the veterinary literature

Identify current clinical literature through Cornell Consultant

[Image of Cornell Consultant]

Enter a diagnosis key word

[Search by Diagnosis]

Search by Diagnosis
Search by Signs
How to Support CONSULTANT
Help

Google "Cornell Consultant"

http://www.vet.cornell.edu/consultant/

WEST NILE VIRUS ENCEPHALOMYELITIS IN HORSES AND SHEEP, FLAVIVIRUS - ZOONOSIS

Description: West Nile virus is a Flavivirus in the Japanese encephalitis complex, transmitted in ticks with wild birds as principal reservoir hosts and mosquitoes, mainly of the Culex quinquefasciatus. Horses are occasional and dead-end hosts. Equine encephalomyelitis due to West Nile virus was also reported in sheep. This is a zoonotic disease.

Species: Equine, Ovine

Signs: Abnormal behavior, depression, ataxia, tremors, abnormal breathing sounds of the upper airways, decreased profuse sweating, abnormal pupillary reaction to light, neck stiffness, fever. Meningitis, encephalitis, meningoencephalitis, pneumonia. Dehydration, hematemesis, melena, anorexia, depression, failure to nurse, respiratory distress, ataxia, incoordination, urinary incontinence, hypothermia, tachypnea, temblors, muscle tremors, convulsions, depression, anorexia, inappetence, dehydration, lethargy, weakness, stupor, coma.


The Merck Veterinary Manual is on-line

Results of search on same terms

The Internet enables rapid communication between like-minded individuals

Focused websites, e-mail lists, blogs:

- Animal owners concerned about specific diseases
- Activists on food-related health issues
- Activists on philosophical issues
  - Animal welfare / rights - HSUS
  - “Factory Farming” - example: http://liberationbc.org/blog/
  - Vegetarian, vegan
Producers also have 24/7 blog resources

Internet information access changes the VCPR

Veterinarian is less information provider and more information interpreter

- Being sales targets, managers need information assessment by independent expert
- Determining study validity and applicability to the producer’s operation

- Veterinarian is not replaced
  - Not cost effective use of the producer’s time
  - Unique vocabulary:
    - Specialized medical terminology doubles a veterinary student’s vocabulary
    - Experience provides basis for comparison

Web Notes - Read:

Conditions for Producers' Use of Livestock Drugs
http://www.vetmed.wsu.edu/courses-jmgay/vmADProducerDrugs.htm

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