






Disclosures:

- 
- We sell services
 - Consultation by contract or hourly fee
 - Emergency and sick calls
 - Farm management, training, records
 - We sell products
 - Vaccines/biologicals
 - Antibiotics for injection and water
 - Other medical/health products



I am paid by farmers.



What does swine medicine look like today?

- Herd health consultation – how?
 - On the farm to see the pigs & people
 - Diagnostics
 - Autopsies, serology, oral fluids “ropes”, bacteriology, virology
 - Production records, water meters, temp sensors
 - Farms have teams of advisors
 - Veterinarian, nutritionist, geneticist, financial analyst, university, banker, farm managers and caretakers
 - Farm specific health programs based on diagnostics, science, and experience





What is Herd Health?



➤ Traditional:

- Diagnostics-centered population medicine
- vaccines, biologics, antibiotics

➤ Innovations:

- Biosecurity – keeping new disease out
 - Transportation, site management, hygiene
 - Air filtration
- Pathogen elimination
 - Farms and flow(s) of animals
 - Area/regional cooperation
- Nutrition – new challenges
 - vitamins, minerals, enzymes, other, COSTS



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Diagnosis is at the center of judicious use

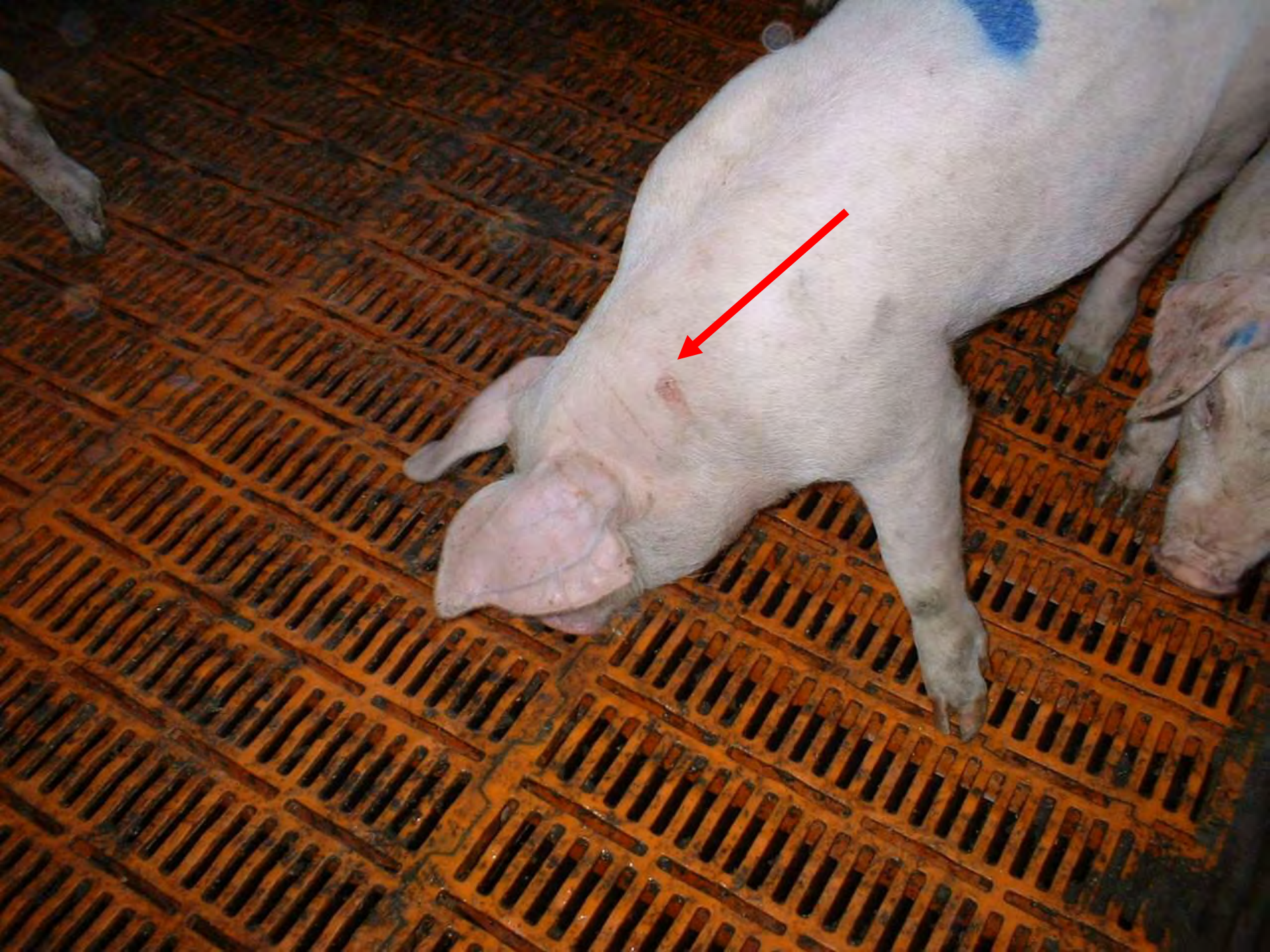




Antimicrobials:

Key factors to consider

- Timeliness – epidemic or endemic
- Routes of administration
 - Inject, oral
- Labor
 - Training, safety
- Budget
 - Costs
- Pig flow details
 - Multi-site, nursery/finish or wean-finish





Feed delivery

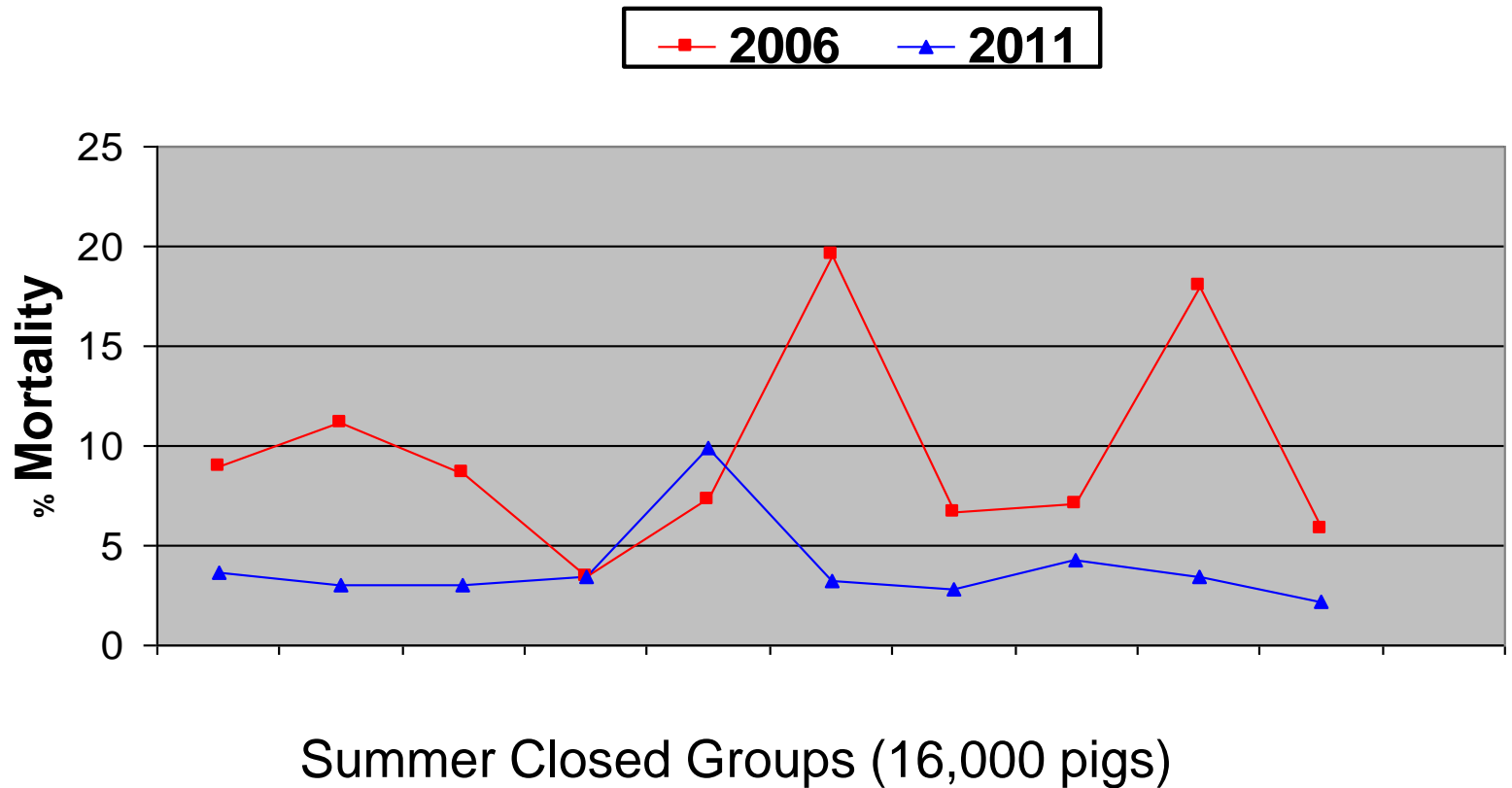


Water delivery



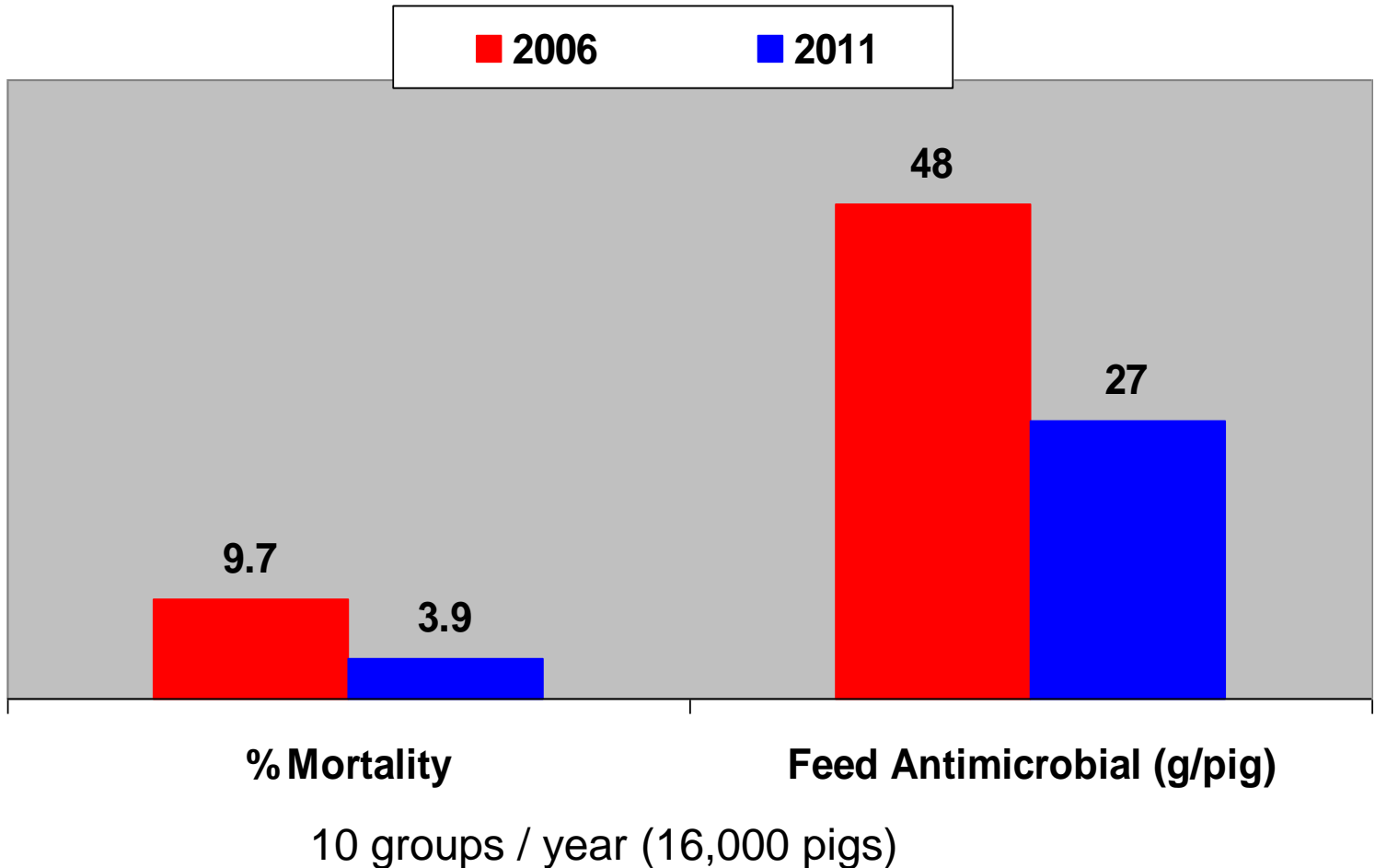
Health status is dynamic

Group Mortality Wean-Market



Summer Closed Groups (16,000 pigs)

Health plans are dynamic too



Biosecurity – some is easy

- Bench at entryway for footwear traffic



Biosecurity – others complex

- Pre-filter and 0.3 micron filter (95 – 99%)





PRUDEN

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Impact of Air Filtration

2 year study

- 26 control farms
 - 37 PRRS breaks
 - 1.42 cases/farm
- 10 filtered farms
 - 2 PRRS breaks
 - 0.2 cases/farm
 - 7x fewer
 - $P < 0.0005$

Prevent just ONE
outbreak and it pays !

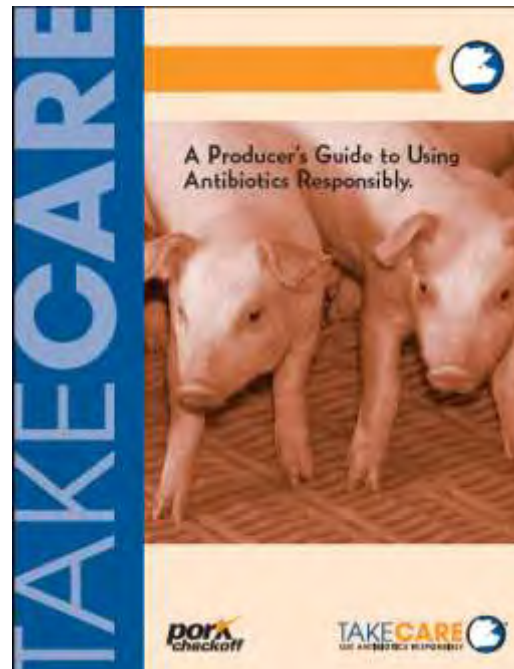
Dee, et al., Vet Record
2010 167:976-977

Goals: healthy pigs & safe food




Responsible Use in Swine

- Pork Quality Assurance
- Judicious Use Guidelines
- Take Care – Use Antibiotics Responsibly



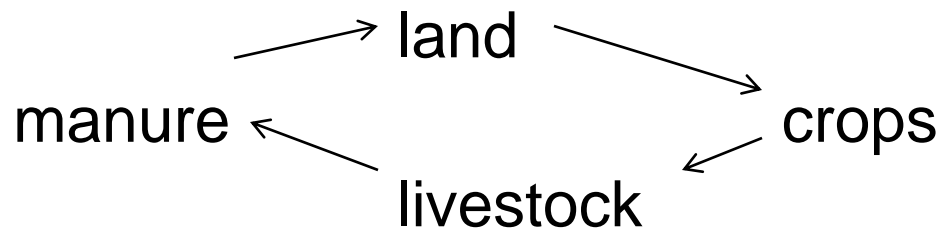


What do pig farms look like today?

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- Farms of all sizes and ownership types
 - My practice is 95% family operations
 - Generational transfer: challenges & opportunities
 - Pig farms are like other businesses
 - must adapt & adopt to stay viable
 - Farms are specialized
 - Group ownership, neighbors work together
 - Flows of larger numbers, same age & health
 - Pathogen control differs from old single-site
 - Uniformity for care, feeding, & marketing

What do pig farms look like today?

Land-based animal agriculture is a sustainable business model



Antibiotic Use in Food Animals: A Dialogue for a Common Purpose

A Swine Practitioner's Perspective

Dr. Paul D. Ruen, DVM
Fairmont Veterinary Clinic
Fairmont Minnesota

NIAA Symposium, October 2011 Chicago IL

Our Clinic's Experience With “Antibiotic-free” Pigs

- 2 years of data
- Conventional nursery and finishers
- ~5500 sow flow
- 2500 head groups of pigs at weaning


Our Clinic's Experience With One “Antibiotic-free” Pig Farm

- 2500 weaned
- All new barns
- ~8% nursery death loss
- ~7% finisher death loss
- ~15% culls
- = 70% full value pigs in each barn
- Treated individual pigs sorted off to separate pens and ear tagged.
- And 30% of groups fell out of antibiotic-free market because they needed group treatment

So issues of **welfare** and **cost**.



AASV Guidelines for Judicious Therapeutic Use of Antimicrobials

- 
- www.aasv.org
 - Establish **DIAGNOSIS**
 - Recognize factors in disease
 - Genetics
 - Nutrition
 - Housing
 - Management
 - Health





Establishing Health Goals

- Appropriate clinical diagnosis
- Give options
 - Food chain
 - Cost & investments, labor and safety
 - What tools fit the farm?
 - Returns/benefits
 - “Within farm” records

Epidemic?





Pork Quality Assurance

- PQA Plus
 - Producer training
 - Site assessment
- Opportunity to visit with producers
 - Teach
 - Build trust
 - Develop a relationship
 - Better for pig, consumer, producer

AVMA Steering Committee for FDA Policy on Veterinary Oversight of Antimicrobials

- “VOSC” organized in spring 2011
- Member Veterinarians
 - Joni Scheftel (Chair), MN Department of Health
 - Lorin Warnick, Cornell University
 - Thomas Hairgrove, Texas A&M
 - Charles Hofacre, University of Georgia
 - Paul Ruen, Fairmont Veterinary Clinic
 - *Christine Hoang, AVMA Staff
 - *John Brooks, AVMA Board Liaison

VOSC

- Objectives:
 - Ascertain the FDA's expectations of the veterinary community and limitations of FDA authority for antimicrobial policy
 - Address the advisability and feasibility of various avenues of veterinary oversight for antimicrobial use in food animals
 - Advise and provide feedback to AVMA Executive Board and committees

VOSC: What's happening?

- FDA is moving toward greater veterinary oversight of the use of antimicrobials in food animals – VFD for all feed use
- Eliminate “production uses”
- Limit to those uses considered necessary for assuring animal health, *Guidance 209*
- Focus on medically important antimicrobials, *Guidance 152 Appendix A*

VOSC: Discussion Points

- Define veterinary oversight (not VCPR)
 - Veterinary knowledge has many inputs
- Need “workable” Veterinary Feed Directive
 - Treatment time, Expiration, State laws
 - Flexible for group, flow, flock
 - Feed mill capabilities & restrictions
- Recognize farm and species differences

Compost facility



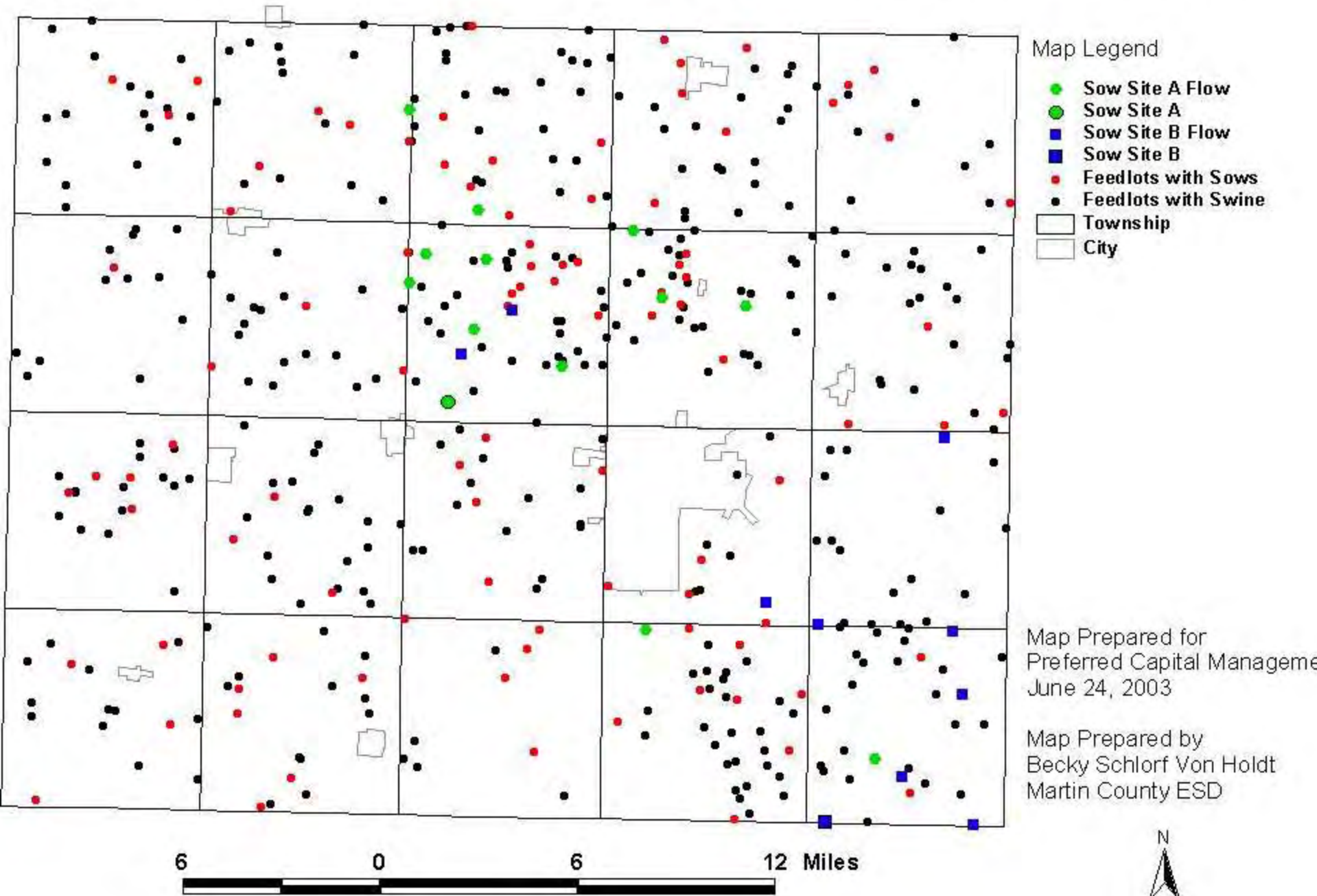
Dr. Paul Ruen
Fairmont Veterinary Clinic
August 2010

Load out room



Dr. Paul Ruen
Fairmont Veterinary Clinic
August 2010

A and B Flows and Other Swine Sites



Alternative Subtherapeutics

- Many used by themselves or with other legally approved products
 - Acids (adjust intestinal pH)
 - Minerals
 - Spices
 - Varying scientific rigor, some GRAS products, others “foo foo” with no science or safety data

Common Use of Feed Grade Antimicrobials on Farms in Southern Minnesota

- Sow herds: infrequent, if used = treatment
- Weaned pigs: most common stage for use
 - over 90% of pigs for 2 to 8 weeks of time
 - disease prevention, control or treatment
- Finisher pigs: common use
 - Production use with high feed costs
 - disease prevention, control or treatment

Goals of Responsible Use

- Prevent violative drug residues
 - Pork industry has a good record
 - exports
- Minimize the risk of antibiotic resistance – antibiotic use selects for resistant populations
- Optimize the effectiveness of antibiotics
- Maintain the availability of antibiotics

Appropriate Clinical Diagnosis

- Clinical signs
- Herd history
- Response to therapy
- Necropsy
- Laboratory testing
 - Bacterial culture & sensitivity
 - Product selection and administration
 - ELDU
 - Serology

Responsible Use

- Use antibiotics only when necessary
- Smallest number of animals feasible
- Least amount of time
 - Alleviate clinical symptoms
 - Prevent reoccurrence
- Balance with need to preserve animal health & welfare

Conclusion

- Shared responsibility for responsible use of antibiotics
- Heightened attention of the public
- Demonstration of concern through voluntary action
- Swine veterinarians & pork producers take the risk seriously

Organic Food Production

- Definitions
- Experience in my practice
- Reported food safety
- Perceptions
- Costs

Disease is blowing in the wind!

