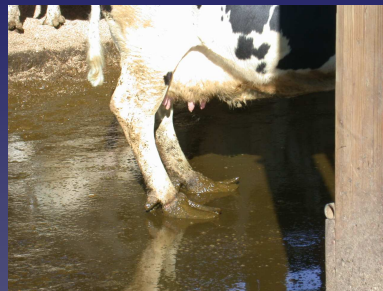




Disease Investigation *Blame Game or Profit Center*



Scott Waltner DVM, MS
Puget Sound Veterinary Group, PC

Outline



- Structure
- Case Example
- Tools for an investigation
- SOAP
- DAMN IT
- Fever ?

Disease Investigation

- Find the number or numbers that link the events
- Linking events is historical – not diagnostic
- Find the numbers as close to the subject as you can

Correlation \neq Diagnosis

We wouldn't need lab tests

Correlation \Rightarrow Investigation

Correlation \Rightarrow Management Change

When?

- **When the client wants it**
- When more than 10% mortality
- When more than 20% morbidity
- Response to change not as predicted
- *When you get that sinking feeling*

Why?

- To meet the farm's goals
- Limit liability
- Terrorism
- Food Safety
- Provide client with security
 - Perception

Students disgruntled by Saturday morning siren tests

Emergency notification system tests woke some students but proved the system functional.

By Ryan Holden
Staff Writer

For many WSU students, Saturday mornings are a time for relaxing, sleeping in and enjoying a nice break from busy weekday schedules.

However, many students had their plans of sleeping in erased when they woke up to the university's testing of the new emergency notification

system. Some students were not pleased.

"I was really mad," said freshman biology major and Streit Residence Hall resident Becca Prescott. "Everybody on our floor got woken up around 9:30."

Streit-Perham was not the only hall to have students woken up for what they thought was a poor reason. Due to the testing, many other students living on campus were subject to an unpleasant awakening.

"I was not happy," said Courtney Gilbert, freshman mathematics major and Honors

Hall resident. "Who does a drill at 9 a.m. on a Saturday on a college campus? Wouldn't it have been the same if it [the system] had been tested at noon? It woke up the whole suite."

While some students may have thought 9 a.m. was early, Emergency Management Coordinator Chris Tapfer did not share their sentiment. With a full day of testing and events on campus to work around, he said there was not a lot of flexibility for the testing.

The \$114,000 sound system, which was installed prior to the

start of classes, is designed to alert WSU students in the case of any type of emergency. The system consists of five 115-decibel speakers mounted on roofs of multiple buildings.

"That is not early by most standards," said Tapfer. "We had a full day of testing and technicians flown in from the East Coast. We publicized when the tests would occur and we received minimal, if any, negative response."

This was the final test before the system was deemed fully operational.

"The test was designed to

make some final adjustments and the system is now fully operational," Tapfer said.

"There will be continued testing in the future to make sure the system runs smoothly."

Although the testing woke up many students, many others were not as upset. Some students were able to sleep through the entire series of testing.

"I slept through it all so it did not really affect me," said Chris Solben, a freshman landscape architecture major and Streit resident. "I would have been really mad if it woke me up though."

INTOLERABLE - HOSTILE

TOLERATE

ACCEPT

VALUE

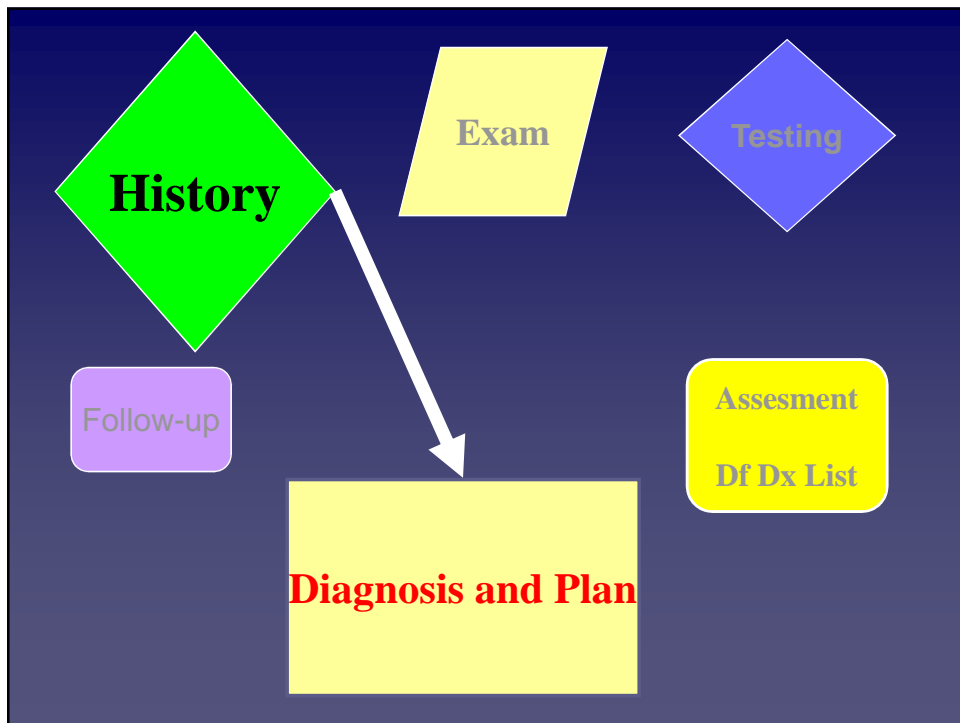
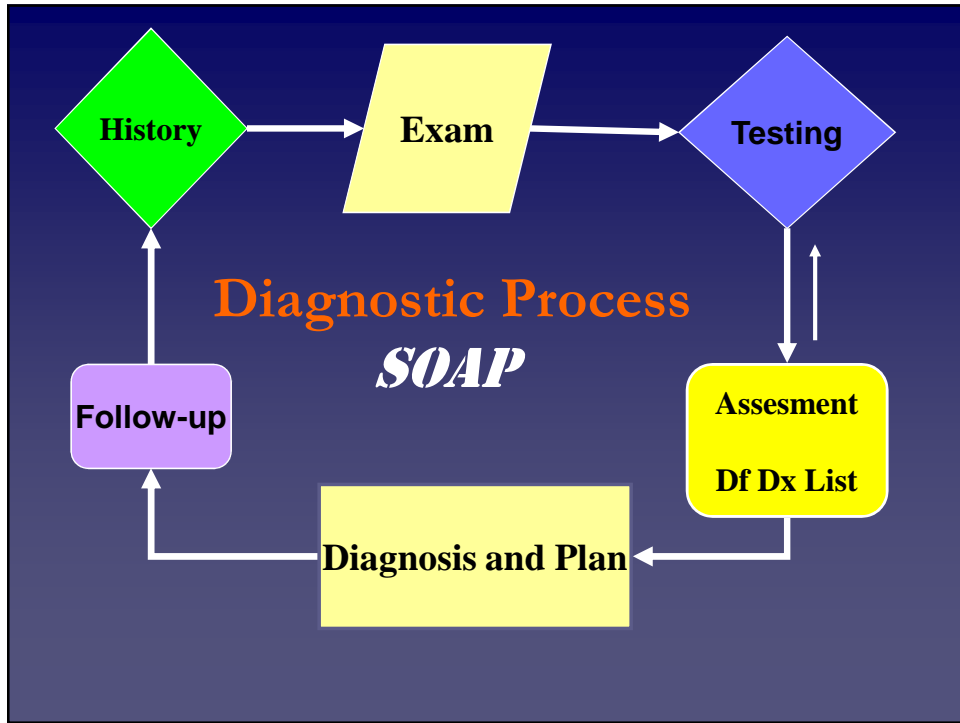
INTEGRATE



DAMN IT

- **D** – Degenerative
- **A** – Anatomic, Autoimmune
- **M** – Metabolic
- **N** – Nutritional, Neoplastic
- **I** – Iatrogenic, Idiopathic, Infectious, Inflammation
- **T** – Traumatic, Toxic





The Sheep Story

- One season severe reproductive and animal losses due to a bacteria
- Buy vaccine
- No loss during subsequent season 😊
- **Found all the vaccine in the refrigerator**

History

- From everyone
- Avoid leading questions
- Do any of the animals have fevers
- Traditional
 - Who
 - How long
 - How many

History

What Goes In
What Comes Out
What Remains

What has Changed

History

- Owner
 - Less than expected milk production
 - Should we fire the nutritionist?
 - Cows are “crashing at birth”
 - Should we fire the nutritionist?
 - Cash flow is hurting
 - Should we fire the nutritionist?

History

● Employees

- Being paid on Services Per Conception
- Employees waiting to breed cows
- Parlor not working right ???

History

● *Called 2 Nutritionists*

- Milk cow
 - Farm discontinued bST
- Dry Cow
 - Won't quit feeding grass silage to Close Up cows

● *Called previous veterinarian*

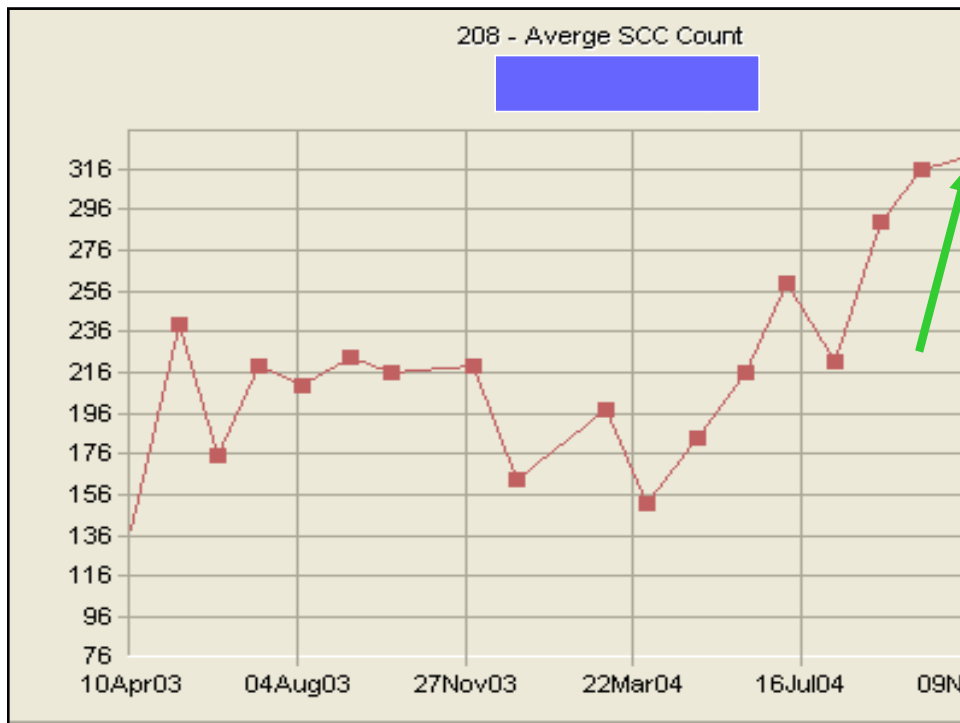
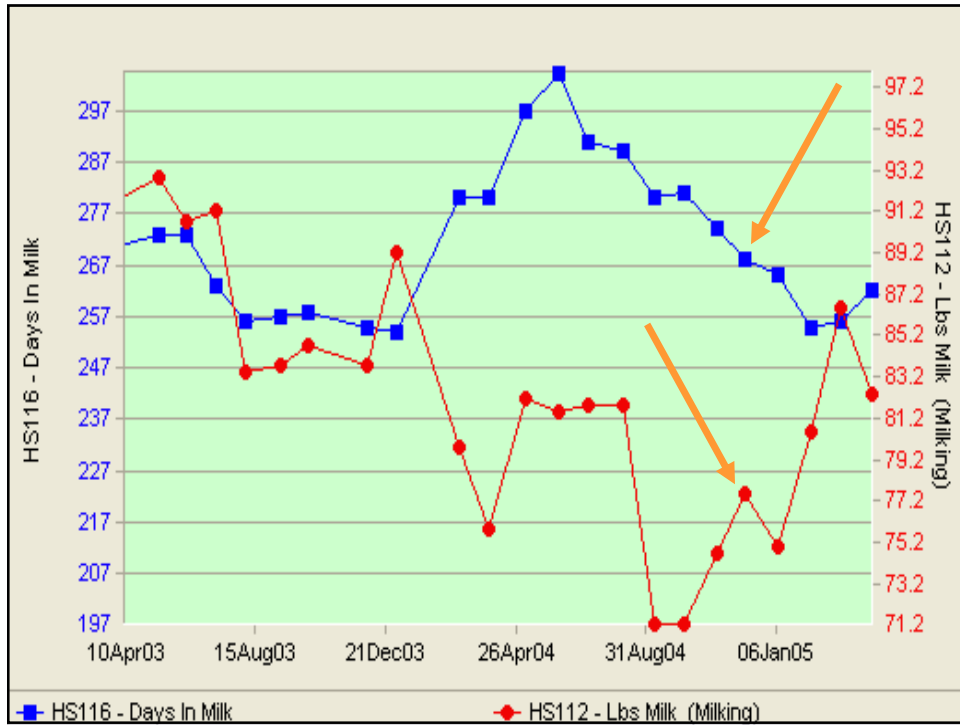
- Knew about SPC bonus
- Warned about untreated yet diagnosed mycoplasma mastitis

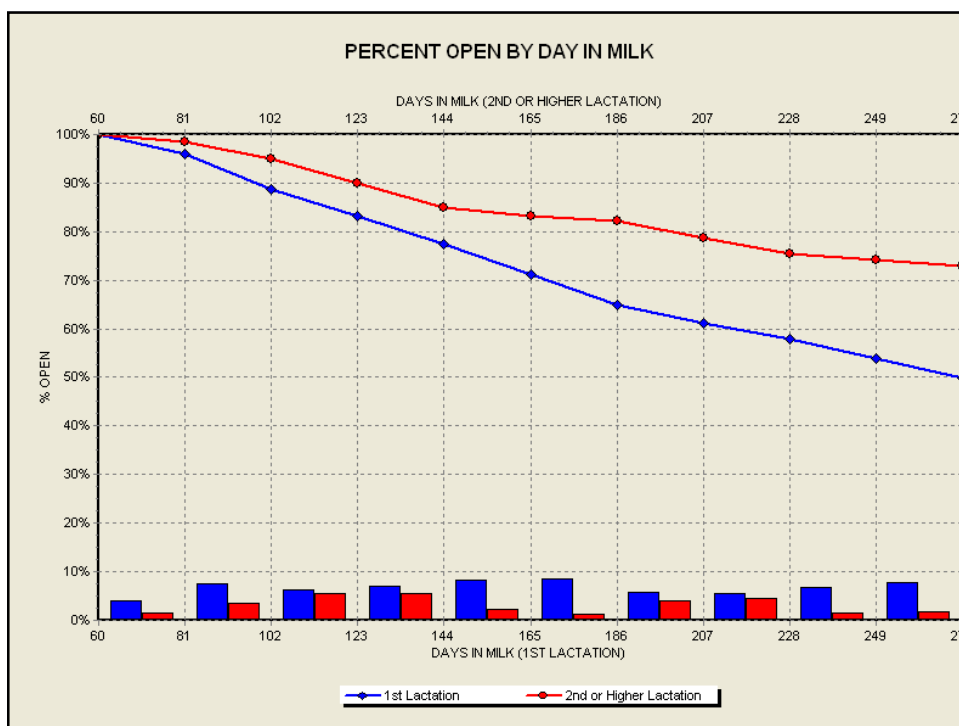
Exam

- Walk the farm
- Youngest to oldest
- Not possible over the phone
- Determine what groups are affected
- Records

Walk around

- Automatic takeoffs do not work in the new parlor
- No functional back-flush system
- Sorting
- Variable manure scores
- Many over-conditioned cows
- Read the feed sheets
 - Reviewed the intake data





Testing

- How many???
 - 10% rule
- Test as close to the host and organ as you can –
- Necropsy is the gold mine of testing
- TPR
- If you are not sure test the non-affected groups

Testing

- Whole herd mastitis culture
- Weekly bulk tank culture
- Daily milk weights
- Penn State Box
- Blood samples on all cows giving birth –
 - Ca, P, Mg
- TMR samples – nutrient analysis
 - Ration Fed = Ration Formulated

Assesment Differential Diagnosis List

- Make a list
- Try not to be right
 - Try to think possibilities

Assesment Differential Diagnosis List

- **REPRODUCTIVE FAILURE**
 - Not breeding cows
 - Young sire program
 - Poor uterine health
- **INCREASING SCC**
 - Mycoplasma mastitis – 26 + cows
 - Over-milking
 - Teat dip
- **POOR FEED MIXING**
 - Mixing time
 - Mixing order
 - Ration Formulated = Ration Mixed?

Diagnosis and Plan

- Diagnosis or Diagnoses
 - Not often one thing
- Create a plan with priorities
 - Allow client to be a part of the feasibility



Diagnosis and Plan

- Owner induced reproductive failure
 - Discontinue paying on SPC
 - Set 55 WVP
- Poor feed mixing
 - Weekly Penn State Box – all groups
- Utilize a single nutritionist
- Fix automatic take-offs
- Sell mycoplasma + cows

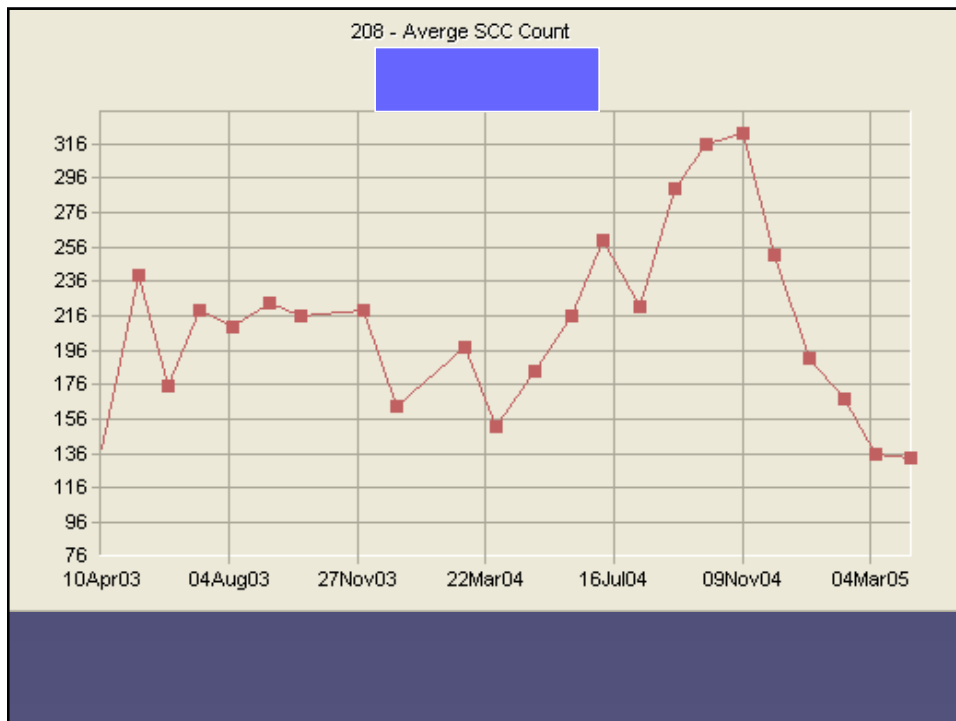
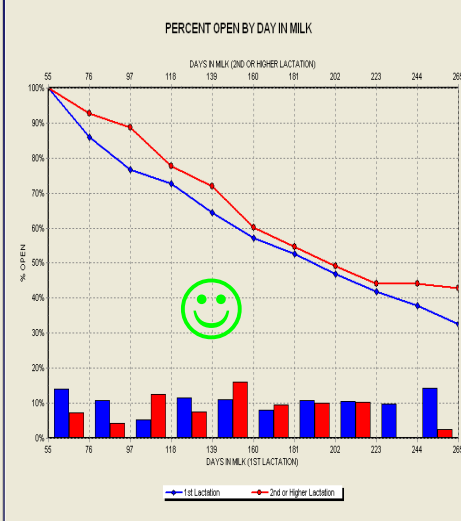
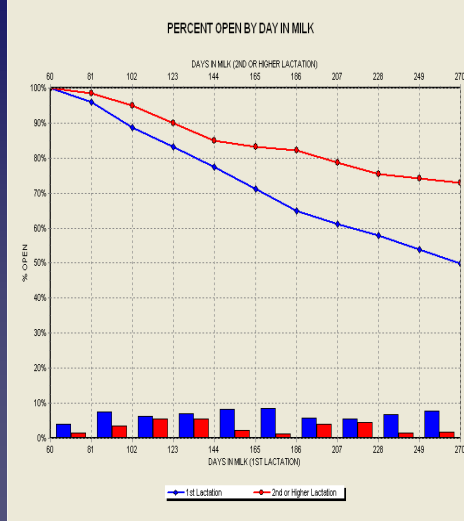
Follow-up

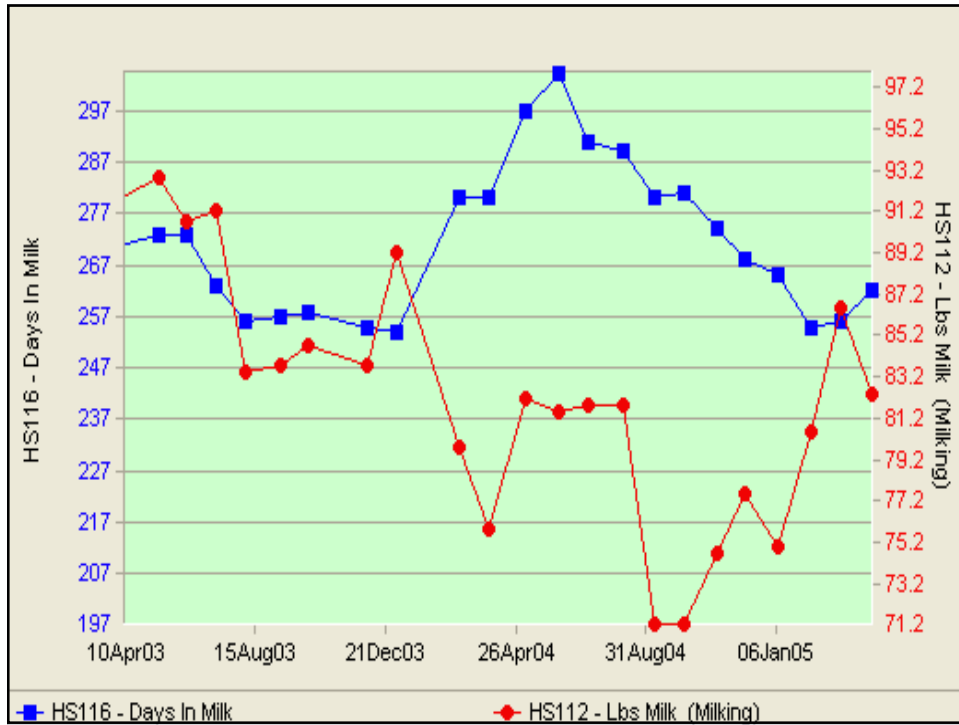
- We rely on too much subjective information at this point
- Go to the records



November 04

April 05





Nutrients to Sustain Life

- Oxygen *Minutes → Death*
- Water *Hours to Days → Death*
- Energy *Days to Weeks → Death*
- Amino Acids (Protein) *Weeks → Death*
- Vitamins, Minerals *Months → Dysfunction, Death*

Summary

- Prepare clients for a disease investigation
- Offer investigations
- Utilize numbers -
- Have resources ready
 - People
 - Facilities

Resources

- WSU - OSU
 - Field Disease Investigation Unit
 - Ambulatory Field Service
- Local Veterinarians
- Herd Health - Food Animal Production Medicine
 - Radostits
 - Saunders Publishing

Thank You !

Questions??

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I think I'll keep Driving!