Udder Health: What Can a Dairyman do. PREVENTION

Earl Aalseth PhD DVM
Dairy Consulting
Lake Stevens Washington

Udder Health: A Global Perspective

- Thoughts presented are based on questions and concerns of my dairy clients from the last 16 years.
- In general the dairymen's challenge is "How can I reduce mastitis rather than just treat and/or cull the cows".

Cow Health Principles

- Milk production is 30% due to genetics (genotype) and **70% affected by environment** (phenotype).
- Management decisions/actions control the “environment” of this biological factory.

- **Clinical disease is the tip of the iceberg.**

- **Undetected subclinical disease affects far more cows.**

Management directed at reducing subclinical disease will be perceived in the reduction of LDA's, ketosis, milk fever, metritis, mastitis, etc.

Plus milk production and decreased involuntary cow losses.

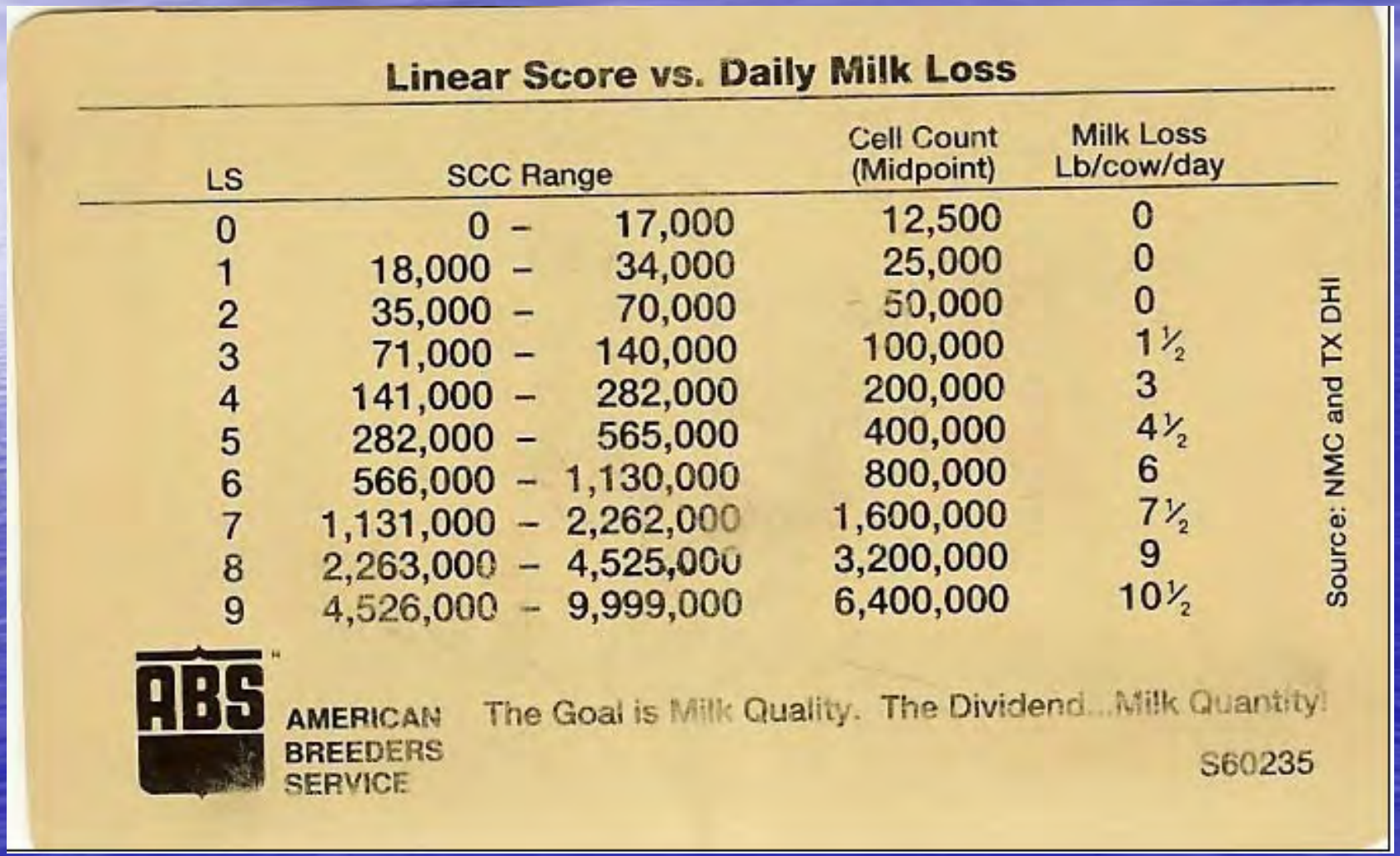
Cow Health Principles

- Depending on the disease syndrome, recovery is to varying degrees incomplete.
- Recovery is incomplete either for quality of life and/or production.
- Therefore preventing disease adds great value to the productive life of a dairy cow.

Some financial values to improved udder health

- Milk quality bonus
- Improved milk production
- Reduced cull rate
- Improved reproduction
- Reduced drug costs
- Reduced off line milk loss

Effect of SCS on milk production



Linear Score vs. Daily Milk Loss

LS	SCC Range	Cell Count (Midpoint)	Milk Loss Lb/cow/day
0	0 – 17,000	12,500	0
1	18,000 – 34,000	25,000	0
2	35,000 – 70,000	50,000	0
3	71,000 – 140,000	100,000	1½
4	141,000 – 282,000	200,000	3
5	282,000 – 565,000	400,000	4½
6	566,000 – 1,130,000	800,000	6
7	1,131,000 – 2,262,000	1,600,000	7½
8	2,263,000 – 4,525,000	3,200,000	9
9	4,526,000 – 9,999,000	6,400,000	10½

Source: NMC and TX DHI

ABS AMERICAN BREEDERS SERVICE

The Goal is Milk Quality. The Dividend...Milk Quantity!

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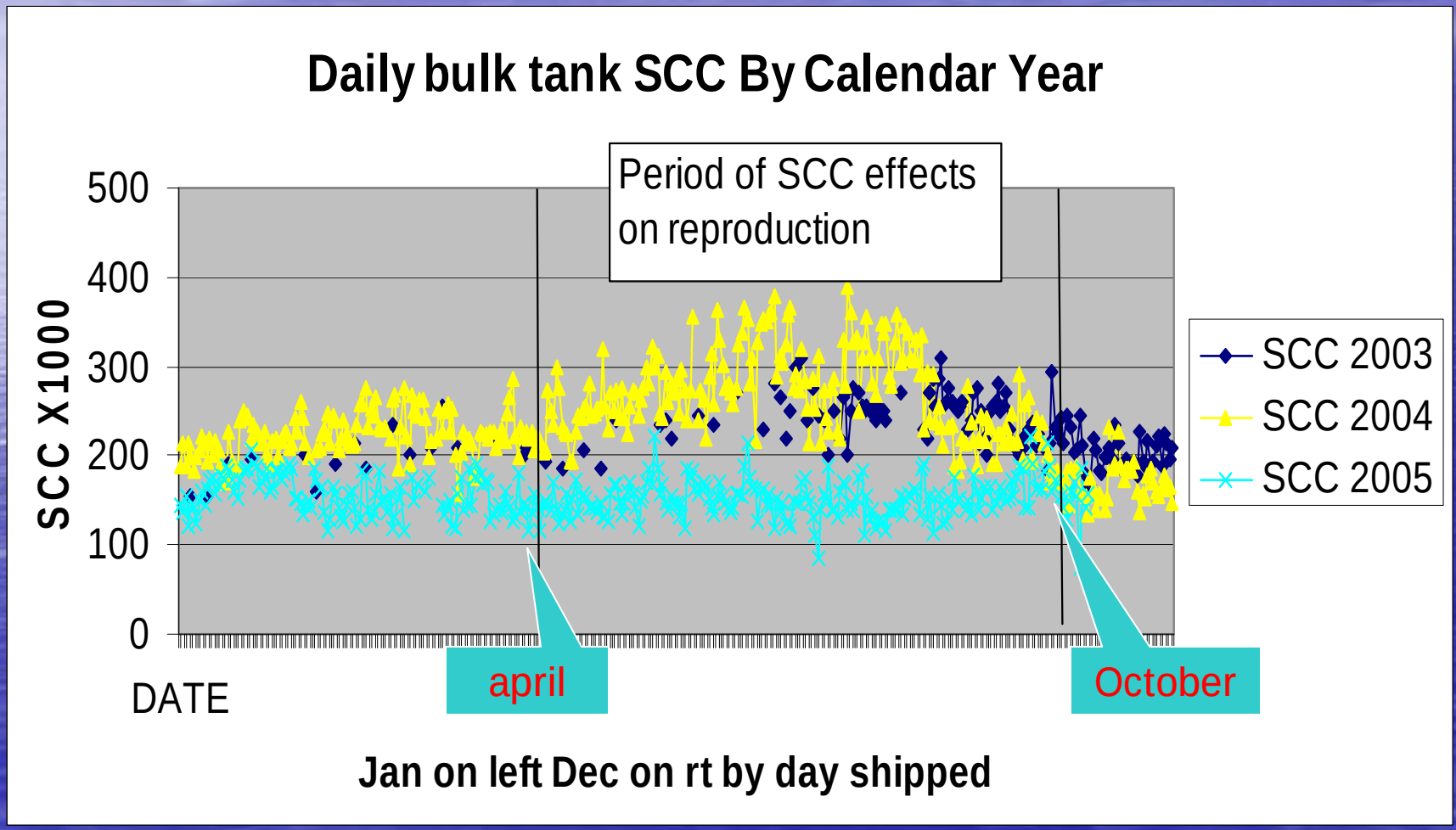
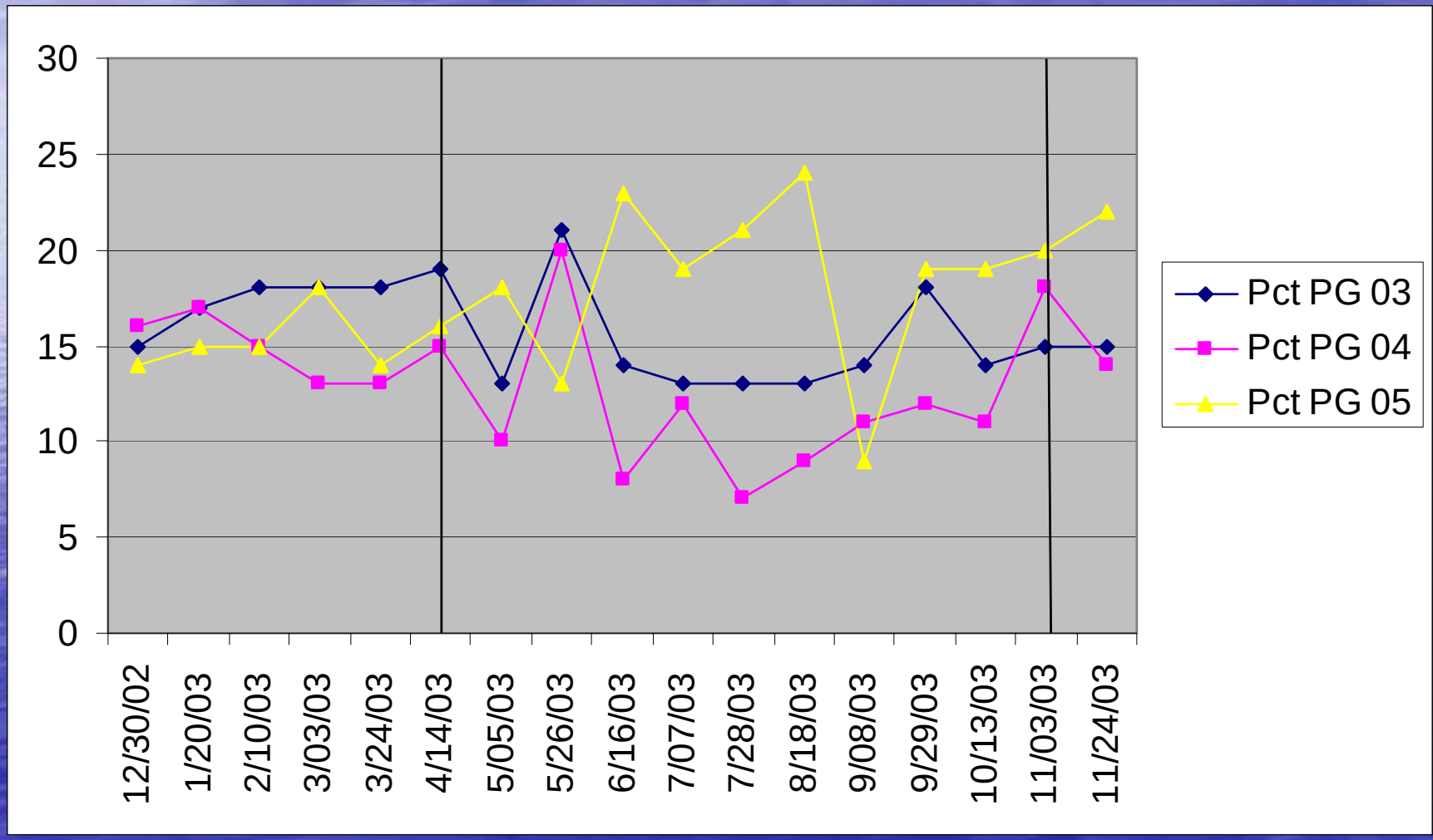
Effects of Udder Health on Repro



Effects of SCC on 21 day preg rate



Udder health the big picture

- How can you measure udder health? You cannot consistently manage what you do not measure.
- General Management Categories that affect udder health.
- What are the different management areas to focus on?

Measures of udder health

- Milk culture data
- SCC history
- Mastitis Case incidence rate

How can you monitor udder health?

- SCC or SCS of the bulk tank (daily?).
- Individual cow test day SCC history
- Individual cow Clinical SCC history
- Mastitis cases currently in hospital and over time.
- Proportion of mastitis types: mild, moderate, severe.
- Types of pathogenic mastitis bacteria

Culture for types of mastitis bacteria

- Processor Lab results: SPC, LPC or PI, E. coli count
- Pathogenic bulk tank culture: At least monthly looking for:
  - Contagious Pathogens-Mycoplasma, Staph aureus, Strep ag
  - Environmental pathogens-streps, staphs, coliforms

Udder Health Systems, Inc
6401 Old Guide Rd
Bellingham, WA 98226

Phone : (360) 398-1360
Fax : (360) 398-7617

www.udderhealth.com

01023
Brown Dairy
786 Dairy Lane
Tipton, CA 93272

Contact

Phone ☐ (380) 281-2143

BULK TANK MILK CULTURE

LAB DATE: 3/2/2007 TANK: 0 COMMENTS: (milk tank #2)
LAB NUMBER: 530300 SAMPLE DAY: REPORT DATE: 3/12/2007

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STAPH AUREUS:	0
STREP AG:	0
ECOLI:	200
KLEBSIELLA:	0
PS AERUGINOSA:	0
STREP SPECIES:	0
E STREP:	4000
STAPH SPECIES:	0
PS SPECIES:	0
BACILLUS:	100
SERRATIA:	0
YEAST:	0
NOCARDIA:	0
PROTOTHECA:	0
A PYOGENES:	300
PASTEURELLA:	0
OTHER :	0
TOTAL:	4600
PROTEUS:	N
MYCOPLASMA:	0

Test results are reported as numbers of bacteria per milliliter of milk for Staph aureus, Strep ag. and Mycoplasma. Because of the tremendous variation in individual quarter shedding rates, it is not possible to make accurate correlations between bulk tank pathogen counts and herd infection levels. Your daily somatic cell counts are a better indicator of level of infection.

MILK QUALITY TESTING

SPC:	0
LPC:	0
PI:	0
SCC:	0
BF:	
Protein:	
Lactose:	
Solids, Other:	

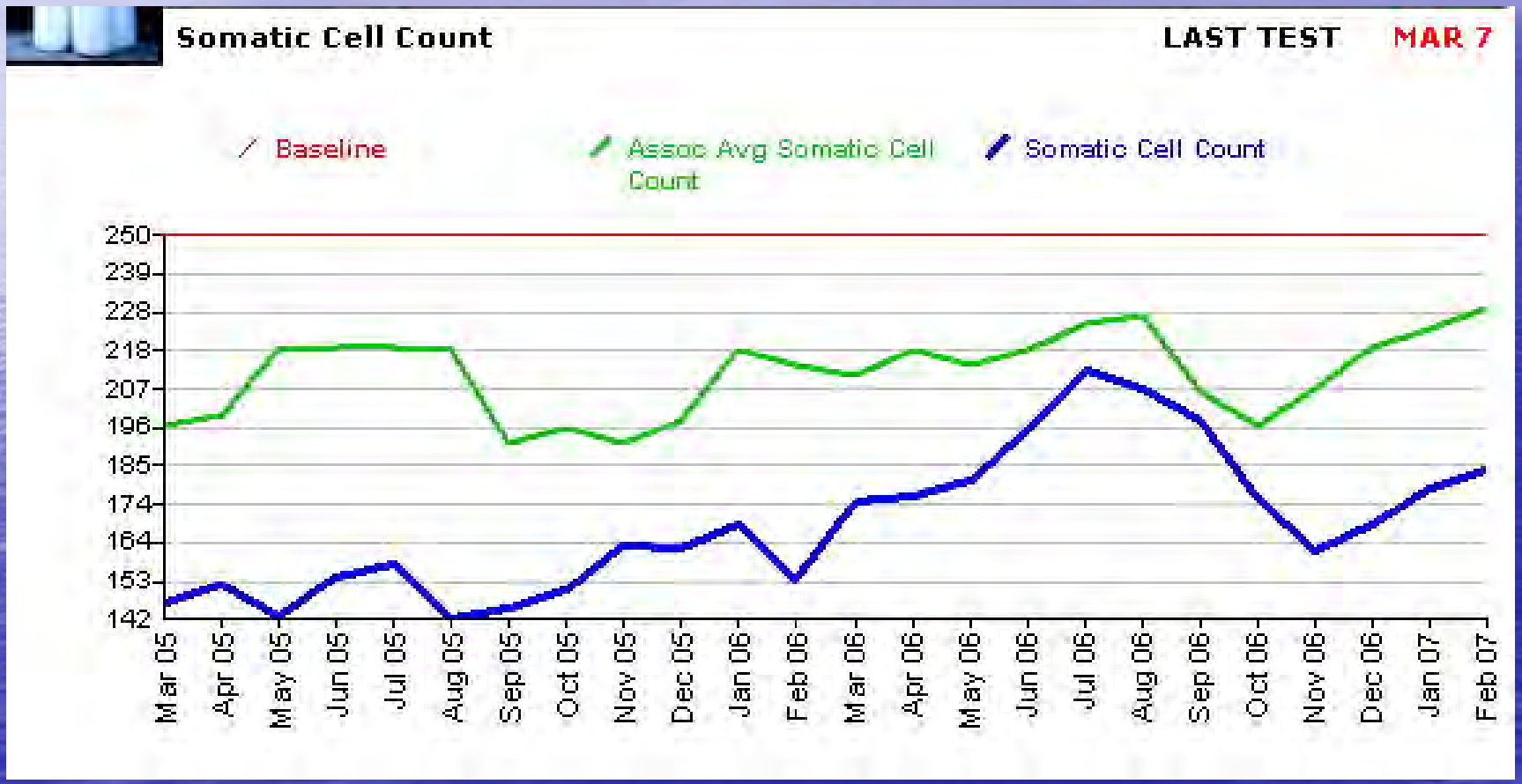
Be advised that mycoplasma testing may take up to 10 days of incubation before results are complete. A revised report will be issued to you only IF you have a positive mycoplasma result.

Culture for types of mastitis bacteria: Individual cow cultures

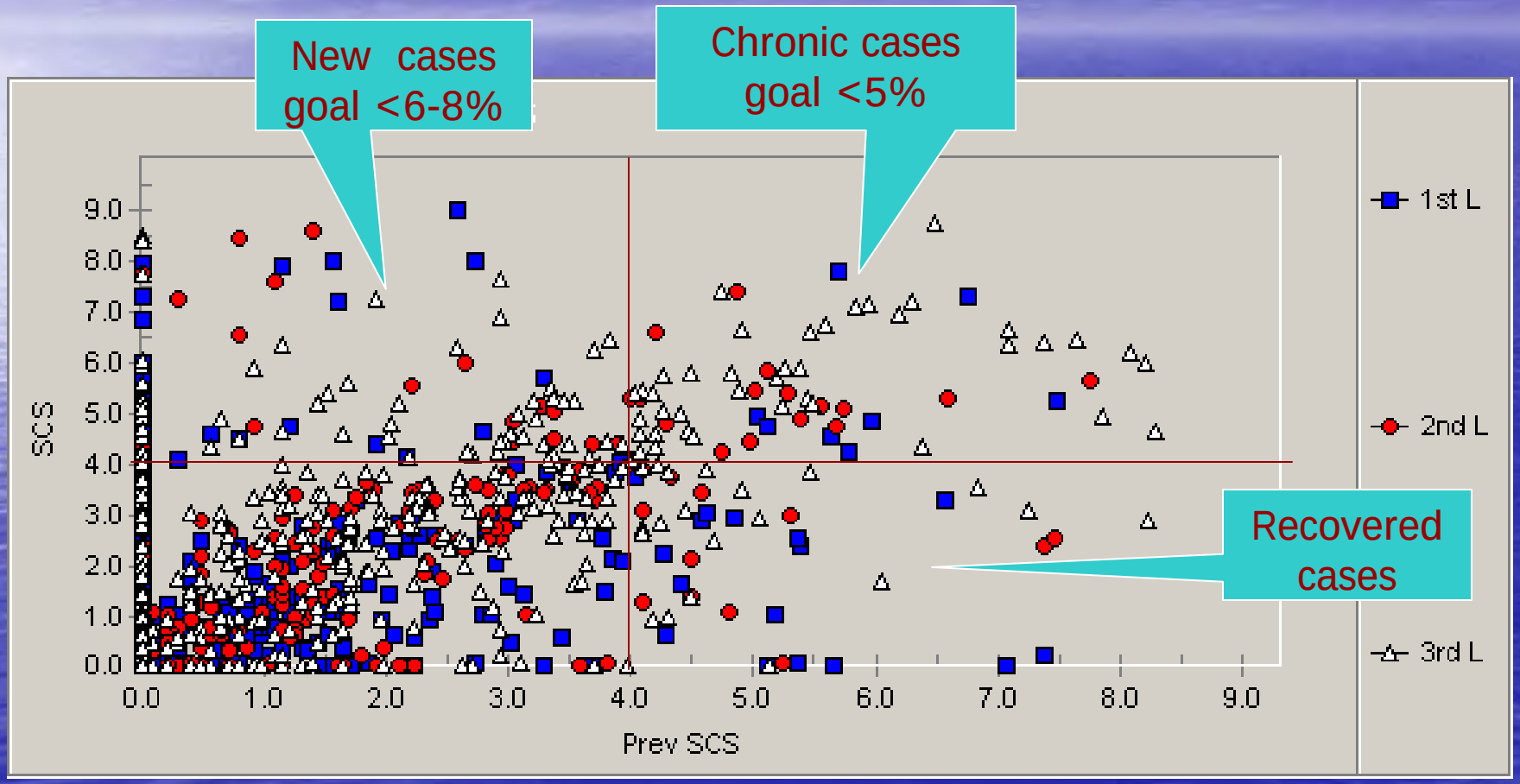
- Submit fresh cow and mastitis cow samples.
  - Create history of pathogens
  - Find contagious pathogens early
- Use on farm Biplate cultures
  - Results
    - Gram + need mastitis tube
    - Gram – might respond to a tube
    - NO bacterial growth-do not need an antibiotic
    - NO bacterial growth-might be mycoplasma

Biplate culture of gram + and – mastitis pathogens

Processor SCC data



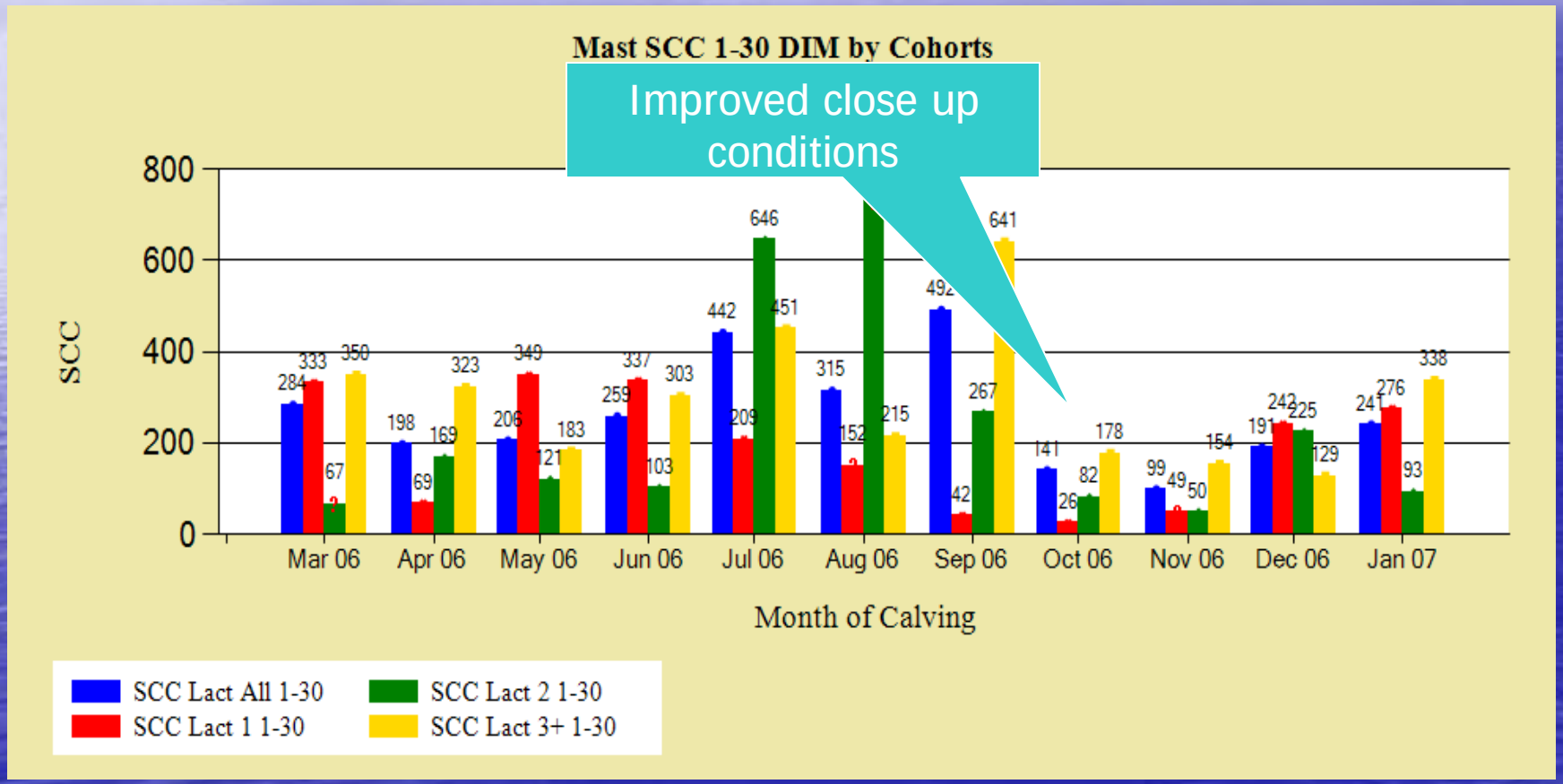
Quadrant analysis of subclinicals with goals



Monitoring Udder Health: clinical cases

- Less than 1% of herd having mastitis per month or 0.5 % in the hospital.
- Fresh cow mastitis rate less than 3%.
- About 1% herd in hospital for every 100,000 SCC.

Calving month cohorts



Calving month cohorts by first 4 tests.