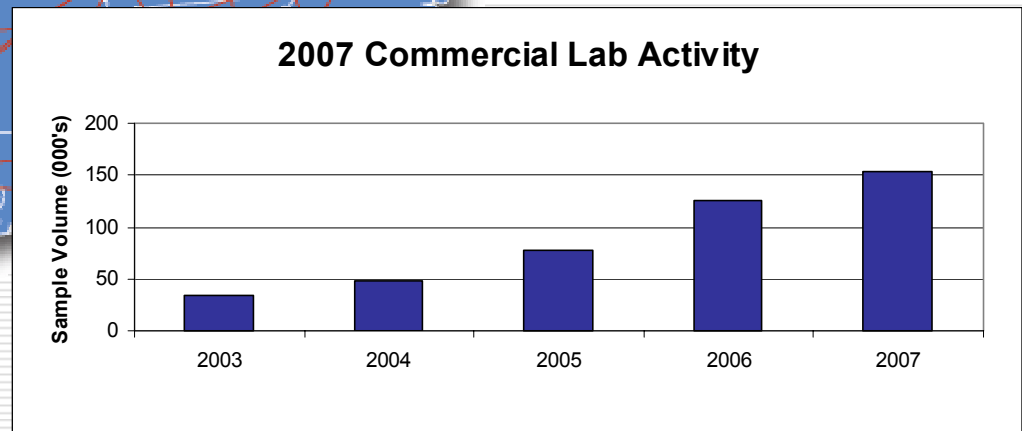
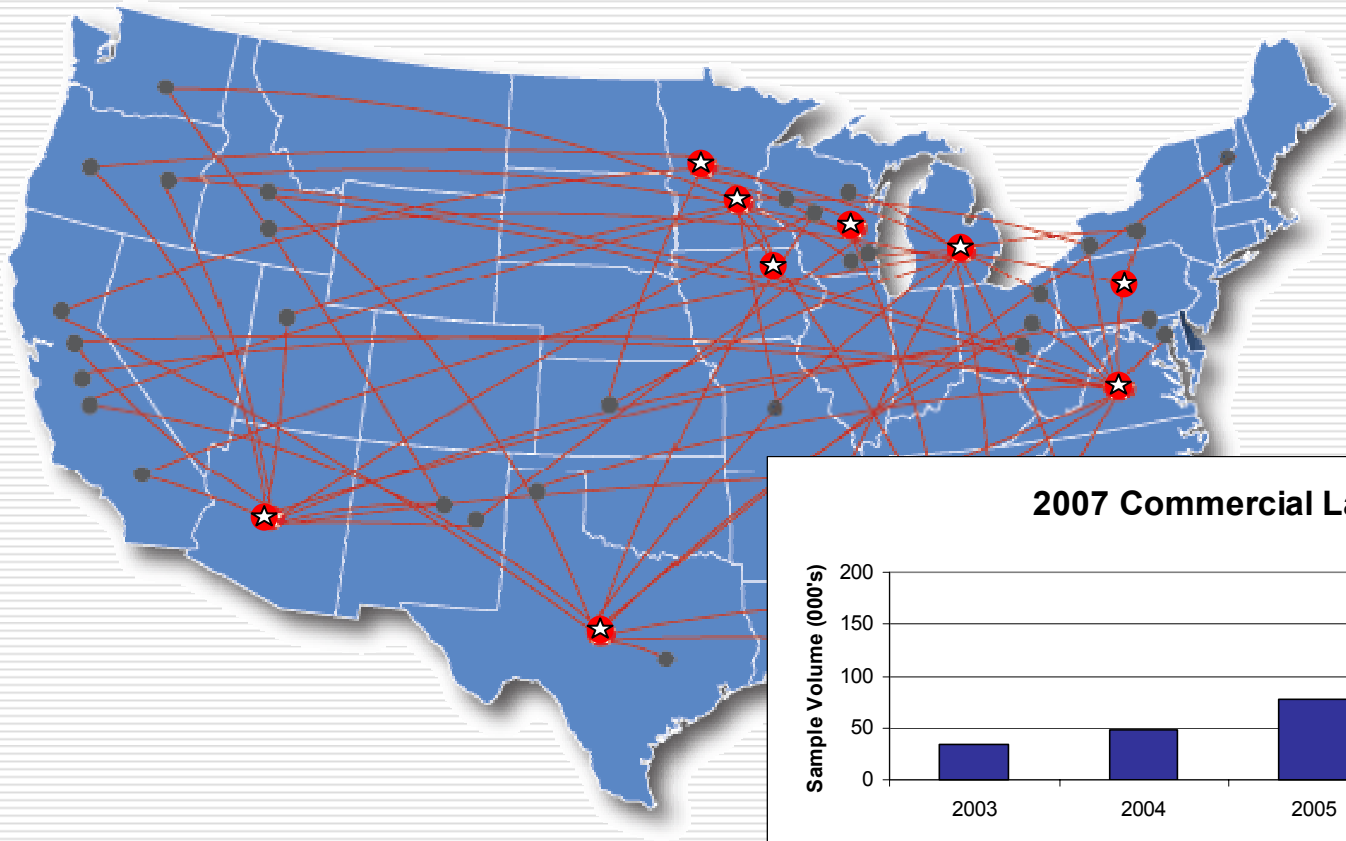


Disease Control Thru Milk ELISA Testing



Update on Johne's Disease



National Johne's Disease Control Program

Draft Strategic Plan

Appendix B: Redefined roles and responsibilities

1. Industry

- a. Develop and implement a plan for future administration and funding of the program. Classification would have different aspects based on different interests
 - i. DHIA: Johne's lab services with appropriate disease data collected, stored, analyzed and managed as part of their herd management services Work with researchers to include Johne's evaluation and management tools in their program offerings.
 - ii. Breed associations: Program adoption of recommended management practices, program participation and assist by encouraging marketing breed stock
 - iii. Dairy Coops: Educate producers, market and encourage members to participate in the program
 - iv. Producers: Change management approaches using tools to prevent and control Johne's disease and provide feedback on the practices and the program.
-

National Johne's Disease Control Program

Draft Strategic Plan

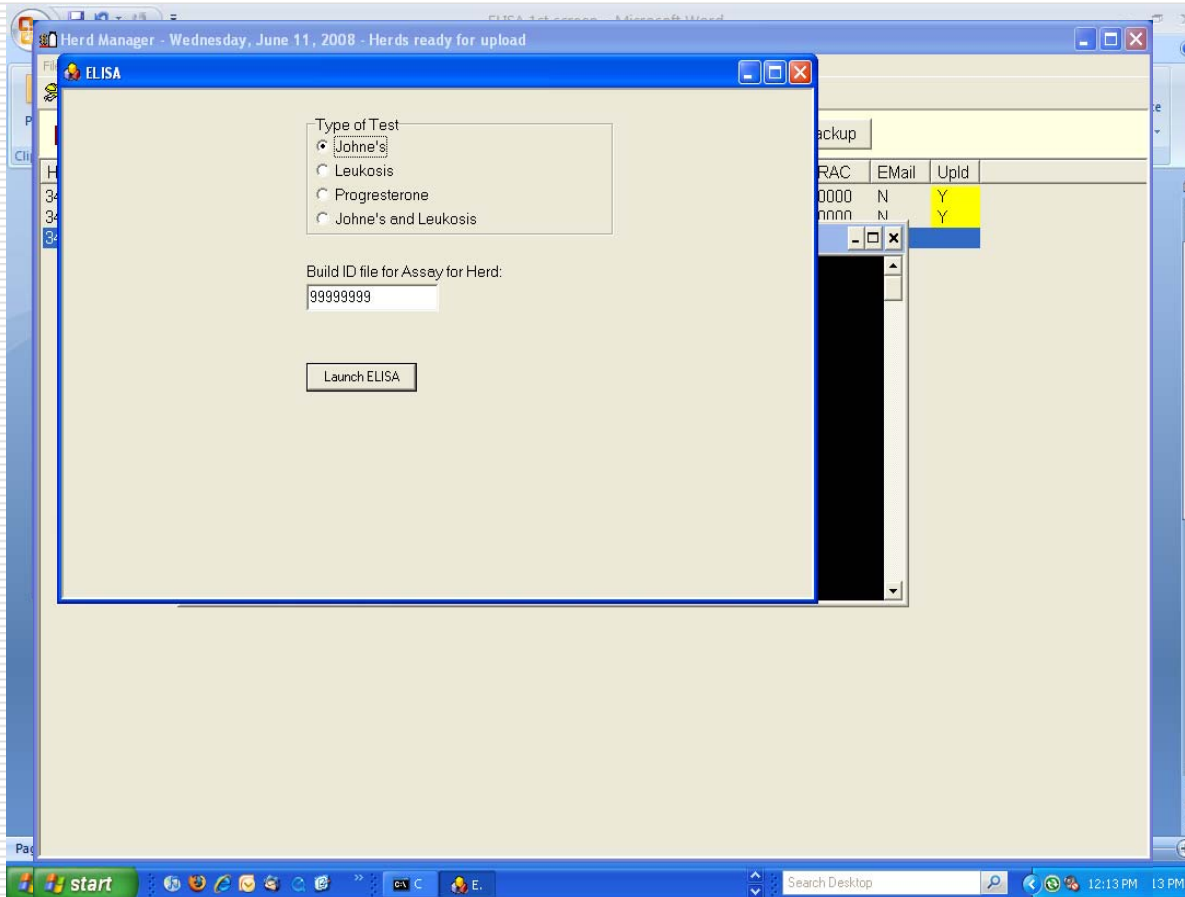
- Make data and cost analysis and management practice recommendation tools available to consultants who work with producers. Work with DHIA to include these analysis and recommendation tools into their system and utilize data from the records system to further enhance the tools. (When trusted consultants work with producers, it is a powerful learning moment to show how controlling Johne's disease can be economically beneficial).
-

National Johne's Disease Control Program

Draft Strategic Plan

- Industry consultants and service providers (e.g. DHIA for Dairy) would incorporate Johne's test data into herd management analysis and recommendations. This is a particularly powerful lever for change when the producer trusts and uses the data, analysis and recommendations provided. Could ensure compliance with QA programs/check test implementation.
-

Integration Into DHI Pick Lists



Integration Into DHI Laboratories

- Quality Assurance
 - USDA
 - QCS
 - BioTek
 - Gen5 ELISA
 - Preprogrammed Assays
 - File Imports and Exports
-

Integration Into DHI Processing Centers

- Data Storage and Reports
 - Data Release Forms
 - Reports
 - Hot lists
 - Running herd prevalence
 - Graphical interpretation
 - Economic impact
 - Integrated with National Program
-

New(ish) Testing Programs

- Bovine Viral Diarrhea
 - Poor conception rates
 - Abortion storms
 - Progesterone
 - Product of functional corpus luteum (CL)
 - Concentrations predict cycle
 - Salmonella Dublin
 - Estrone Sulphate
-

Update on Bovine Leukosis

- ❑ Viral Infection, Highly Prevalent
 - ❑ International Restrictions
 - ❑ AntelBio and EWDHIC
 - ❑ Test and Cull
-

Bovine Viral Diarrhea (BVD)

- Receiving Great Attention
 - Air and Fluid Borne Transmission
 - Affects Mucosal Tissues (MD)
 - Respiratory system
 - Digestive system
 - Reproductive system
 - Vaccination Not Fool Proof
-

Bovine Viral Diarrhea (BVD)

- Acute vs Persistent Infection (PI)
 - Fetal infection between 45-120 days
 - Shed virus continuously
 - High Risk Herds
 - Expansion by purchase
 - Shared fence lines, neighbors
 - Poor reproduction performance
 - Poor calf health (pneumonia)
 - Infection Predominantly in Calves
-

BVD Testing Strategies

□ Calves

- Ear notches, work any age
- 2 for 1, calf negative-dam negative

□ Cows

- Bulk tank / group testing (PCR)
 - Individual cows, if bulk tank positive
-

BVD Milk Analysis

- DHI Samples
 - Advantages
 - No extra individual animal sampling
 - Not affected by animal sorting / movement
 - Negative Result “PROBABLY” Means
 - BVD not an issue on repro performance
 - BVD might be an issue on calf performance
 - Positive Result
 - Implement detailed testing program
 - Bulk Tank/Group PCR \$40.00
 - Individual Sample ELISA \$6.00
-

Example Of Whole Herd Screen

□ 1000-Head Herd (\$0.15/sample to pool)

■ 4 PCR X \$40 = \$160

| | | | |
|-------------|-------------|-------------|-------------|
| 250 Samples | 250 Samples | 250 Samples | 250 Samples |
|-------------|-------------|-------------|-------------|

■ 5 PCR X \$40 = \$200

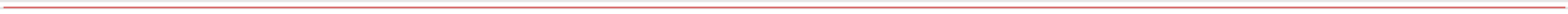
| | | | | |
|------------|------------|------------|------------|------------|
| 50 Samples | 50 Samples | 50 Samples | 50 Samples | 50 Samples |
|------------|------------|------------|------------|------------|

■ 50 ELISA X \$6 = \$300

| | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
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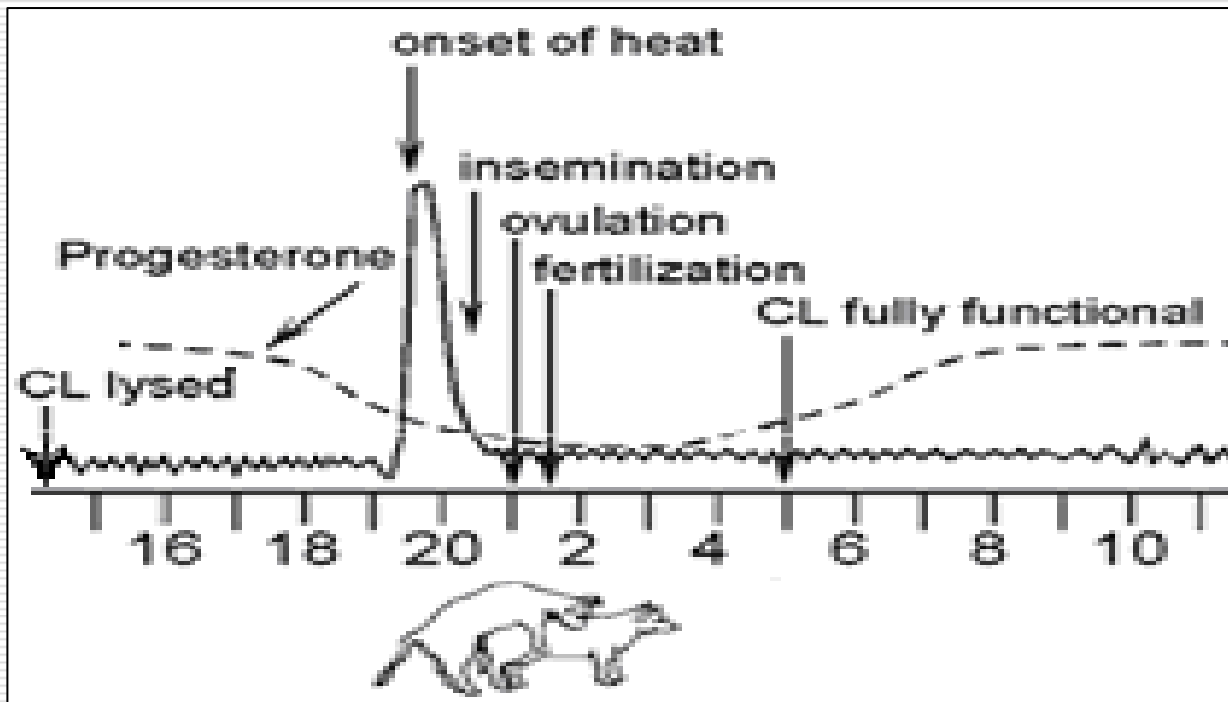
■ Total \$810/1000 = \$0.81/Cow (\$0.50-\$2.50)

| |
|--------|
| PI Cow |
|--------|



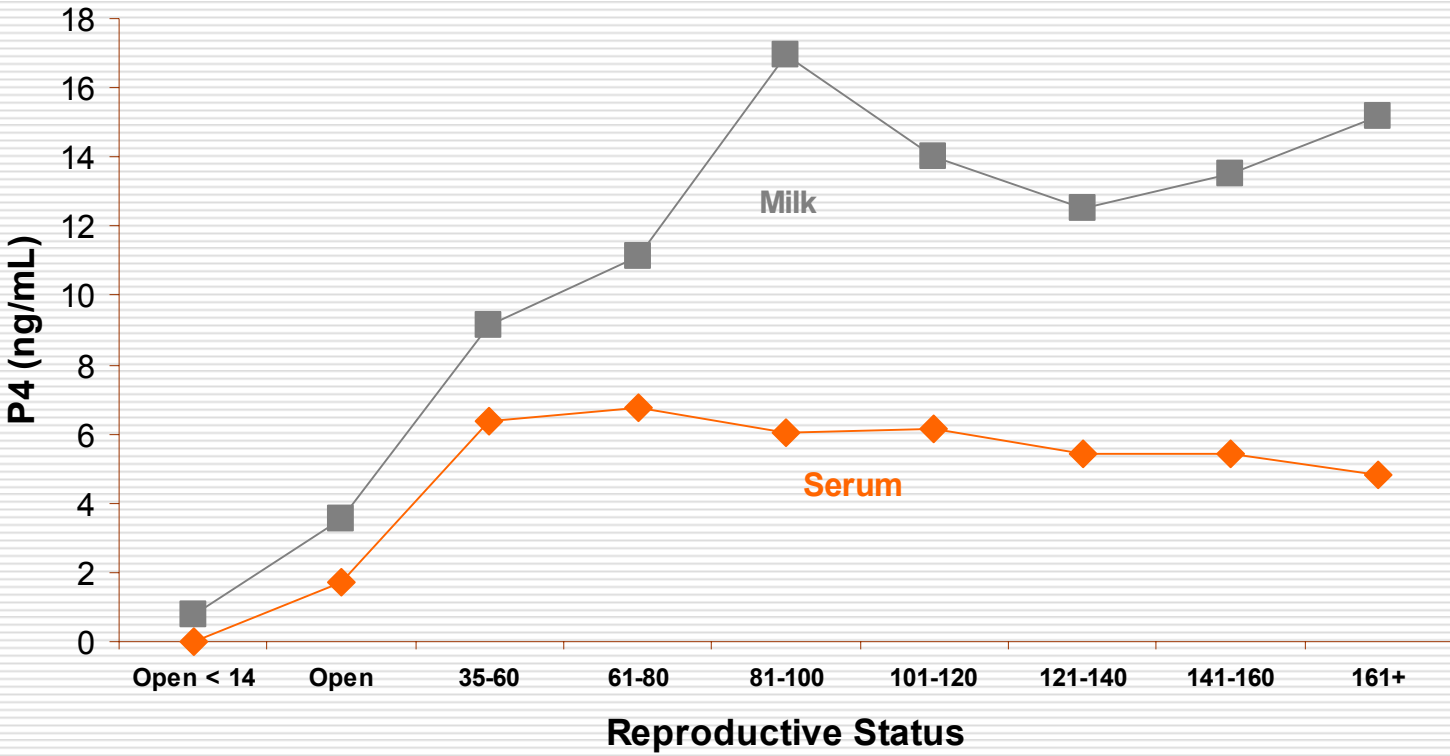
Progesterone Testing

□ Estrous Cycle



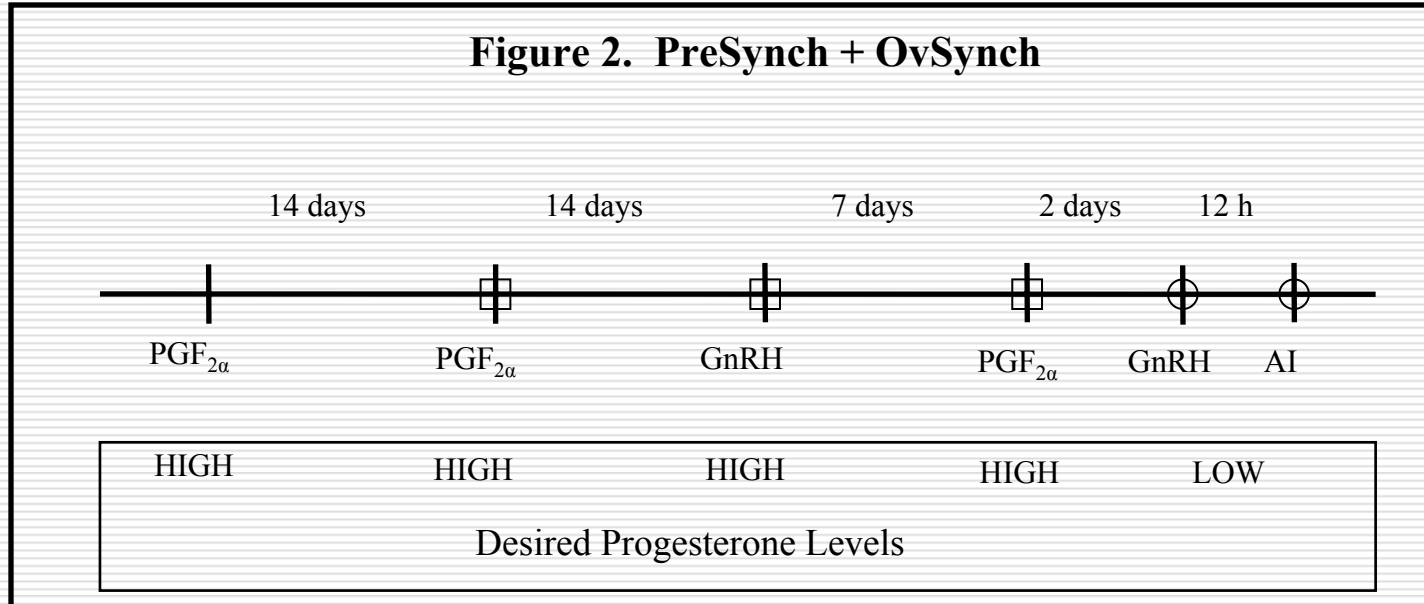
Progesterone Testing

□ ELISA Progesterone in Bovine Serum Versus Milk



Progesterone Testing

□ Analysis of Synchronization Program



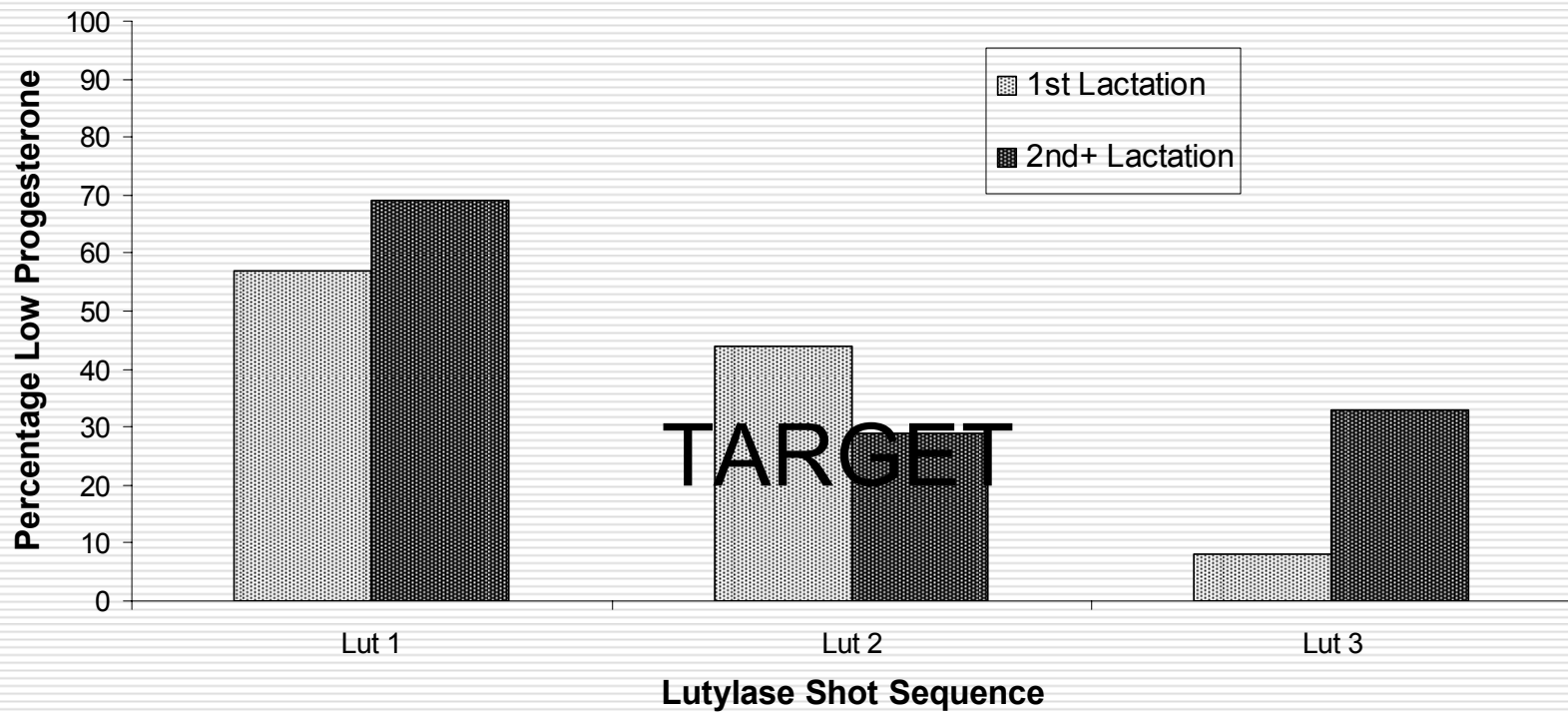
Progesterone Testing

Testing Plan

- Test 20-30 cows at critical points
 - Test separate groups
 - Heifers
 - Cows
 - Cows by lactation number
 - Expected Results
 - <30% P4 misclassification = IDEAL
 - >30% P4 misclassification = PROBLEMS
-

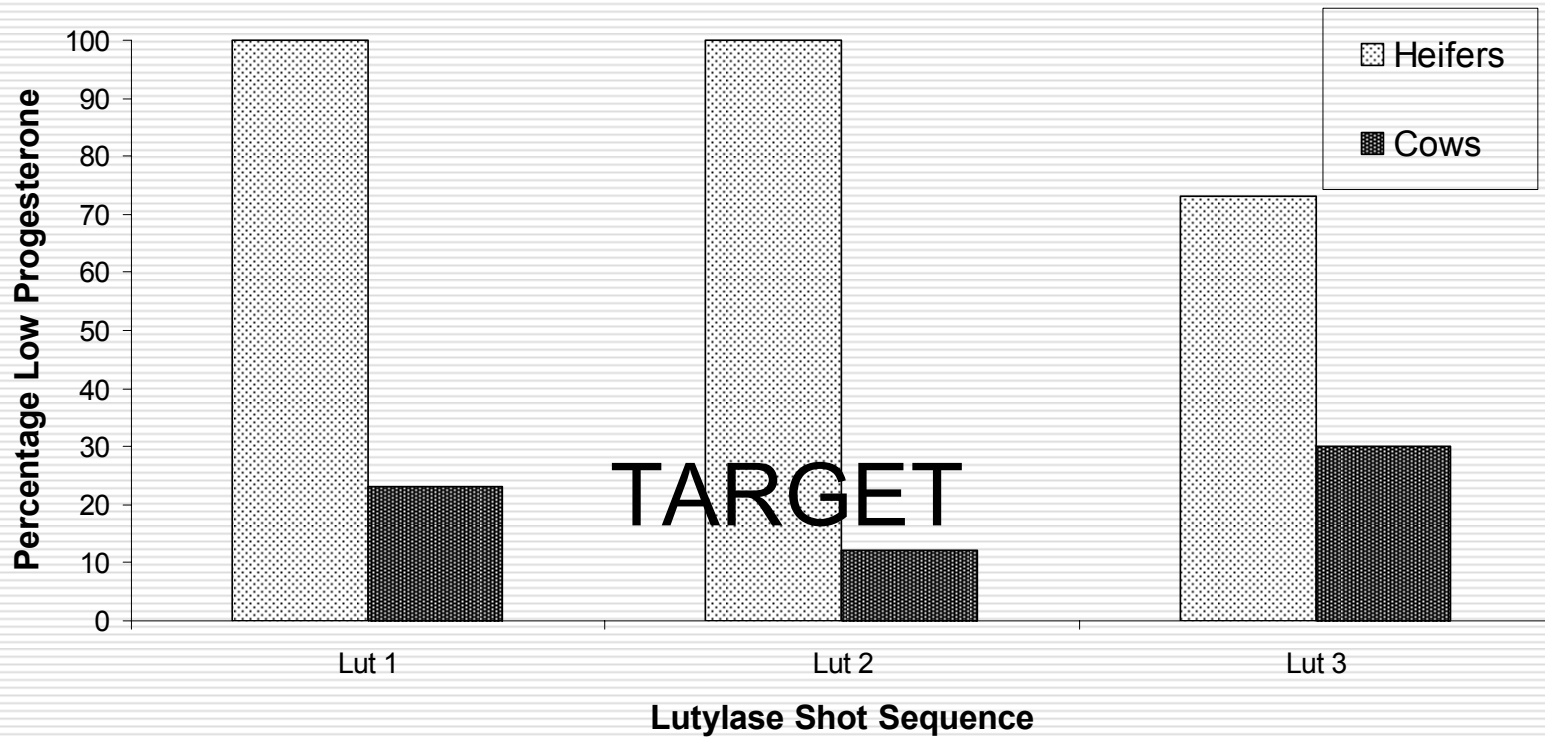
When Things Are Working

Progesterone Analysis Of Synchronization



When They Are Not

Progesterone Analysis Of Synchronization



Progesterone Testing

- Sample Handling
 - Blood/Milk -- Ship to lab ASAP
 - Serum/plasma -- Frozen or chilled
 - Cost
 - Serum/Milk -- \$5 per ELISA
 - Program Requires Planning (Call First)
-

QUESTIONS?
