Component Analysis of Milk with Different Treatments

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Who are we?

- The Dairy Authority, LLC and TDA Labs is a laboratory and veterinary group located in Greeley, Colorado


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ROUTT NATL FOR.
Fort Collins
Sterling
Greeley
Fort Morgan
76
Buford
Radium
Burns
McCoy
Boulder
Broomfield
Woodrow
Denver
Golden
Glenwood Springs
Littleton
Aspen
Leadville
Castle Rock
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Grand Junction
COLORADO
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Delta
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Salida
Montrose
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Pueblo
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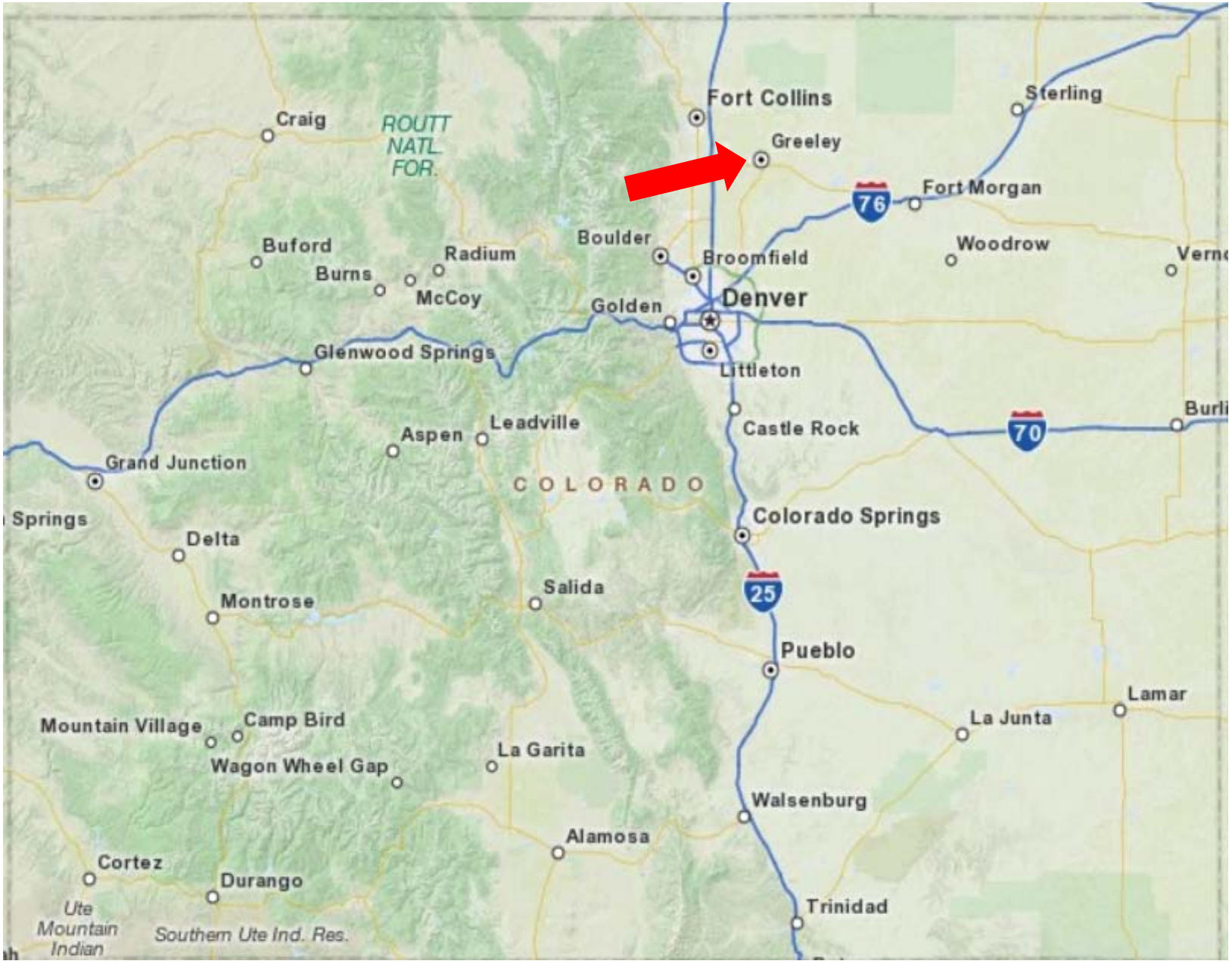
Mountain Village
Camp Bird
La Junta
La Garita
Wagon Wheel Gap
Walsenburg
Alamosa
Cortez
Durango
Trinidad
Ute Mountain Indian
Southern Ute Ind. Res.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THE DAIRY AUTHORITY

Business started in 2004

- Merged with 4 other veterinarians in Jan. 2004
- Lab combined with clinical services to enhance our business as well as that of the producer

The Clinical Side…

- We have 4 veterinarians in our group and are licensed in 5 states
- Between the lab and the clinical aspect we service over 70,000 cows at last count
- We are integrated vertically to provide clients the full realm of advanced veterinary skill sets

Vertical Integration

- Provide basic veterinarian skills (palpations, surgeries, etc.) and production medicine
- Provide consulting for herd level trouble shooting and interpretation
- Provide laboratory services (culture, ELISA, PCR, DHIA)
- Conduct research in novel areas of dairy production and reproduction

TDA Labs

- Original notion of the lab was too get results to our clients more rapidly and with a higher degree of understanding
- Started with milk culture and grew from there
- Now perform all levels of bacteriology, ELISA, PCR and DHIA testing

Increased Client Involvement

- Seeing is believing
- Results in lab delivered to dairy with purpose
- Cause for immediate action
- Something solid for vet to have continued involvement

DHIA Testing

- Natural extension for lab specializing in mastitis
- Once again allows for client interaction
- Allows for rapid, customized testing. Is another tool in the veterinarian tool box for milk quality


FOSS

Foss Technology

- Not just somatic cells and components
- MUN Analysis
- BHB Analysis
- Research
- Allows for more in depth analysis on dairies

Research

- Comparison of components on frozen and fresh milk samples
- Collected samples on 300 cow dairy 3 separate times
  - August 2010
  - September 2010
  - May 2011

Sample Collection

- Samples collected by normal procedure but in duplicate by milk tester
- Shipped to TDA Labs
- One sampled pilled with preservative and one sample not preserved

Sample Handling

- Fresh sample split.
  - Half was frozen and run 7 days later
  - Other half run immediately
- Preserved sample split
  - Half was held at room temperature for 5/7 days
  - Other half run immediately

Control Measures Across Tests

	Aug 2010	Sept 2010	May 2011
Fat	3.70	3.71	3.48
Protein	3.21	3.19	3.10
SCC	500	333	136
Geo Mean	136	96	53

Aug 2010 Descriptive Stats

	No Pill Fresh	Pilled Fresh	7D Pilled Amb	7D No Pill Frozen
Fat	3.70	3.69	3.67	2.91
Protein	3.21	3.18	3.19	3.26
SCC	500	540	387	377
Geo Mean	136	133	93	98

Results Aug 2010 Test

Treatment	No.	SCC (Log 10)	BF	Pro
NPFresh	222	1.71	3.70	3.21
PFresh	222	1.72	3.69	3.18
7DPAmb	220	1.69	3.67	3.20
7DNPFrozen	219	1.61[1]	2.91[1]	3.26

Sept 2010 Descriptive Stats

	No Pill Fresh	Pilled Fresh	7D Pilled Amb	7D No Pill Frozen
Fat	3.71	3.70	3.69	3.01
Protein	3.19	3.19	3.20	3.23
SCC	333	347	224	264
Geo Mean	96	94	55	77

Results- Sept 2010 Test

Treatment	No.	SCC (Log 10)	BF	Pro
NPFresh	279	1.98 (95)	3.71	3.19
PFresh	278	1.97 (93)	3.70	3.19
7DPAmb	279	1.74[1](55)	3.69	3.20
7DNPFrozen	279	1.89 (77)	3.01[1]	3.23

May 2011 Descriptive Stats

	No Pill Fresh	Pilled Fresh	5D Pilled Amb	5D No Pill Frozen
Fat	3.48	3.46	3.50	3.47
Protein	3.10	3.05	3.10	3.05
SCC	136	115	89	113
Geo Mean	53	52	40	49

Results- May 2011 Test

Treatment	No.	SCC (Log 10)	BF	Pro
NPFresh	279	1.71	3.48	3.05
PFresh	278	1.72	3.46	3.05
5DPAmb	279	1.69	3.50	3.10
5DNPFrozen	279	1.61[1]	3.47	3.10

Interpretive Summary

- Frozen Samples typically yielded lower SCC
- Frozen samples had more lost samples due to clotting of milk when thawed
- The lower the herd SCC the closer the values across treatments
- What is the length of sample viability when pilled at ambient temperature??