



An Update on Bulk Tank Milk Quality in California

N. Silva-del-Rio and C. Collar

University of California Cooperative Extension, Tulare and Kings Counties, California, USA



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INTRODUCTION

Information about Bulk Tank Milk (BTM) quality can be used by dairy producers to compare their milk quality to industry benchmarks, and to define achievable goals for their operations.

OBJECTIVE

The objective of this study was to describe BTM quality in California dairies.

METHODS

A large dairy cooperative in California provided individual herd (n=617) information on:

From Oct-08 to Sep-09:

- Somatic Cell Count (SCC)
- Standard Plate Count (SPC)
- Laboratory Pasteurization Count (LPC), and
- Coliform Count (Coli).

From Jan-08 to Dec-08:

- BTM culture results

Milk loads, (1 - 7/day) representing all cows from each dairy, were sampled weekly. Only herds (n = 559) with BTM samples collected throughout the 12 month period were included in the final dataset (n=57,875 BTM).

BTM quality of the log10 transformed parameters were described using the Proc Univariate of SAS. Season effects (S1=Jan-Mar, S2=Apr-Jun, S3=Jul-Sep, S4=Oct-Dec) of log10 transformed data were evaluated using Proc Mixed of SAS.

RESULTS: CDFA Threshold

Table 1. Herds below the regulatory threshold set by the California Department of Food and Agriculture (CDFA)

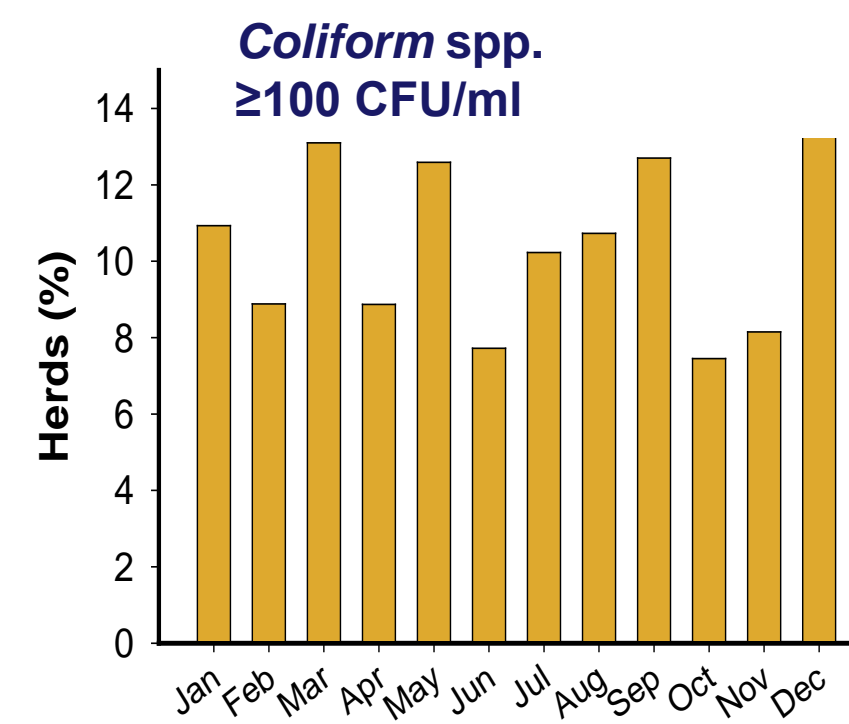
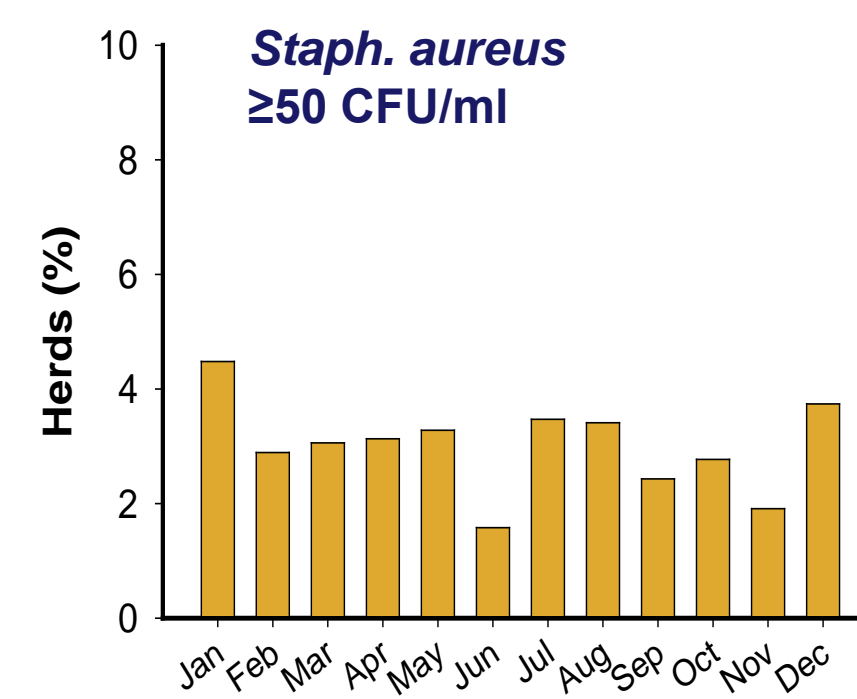
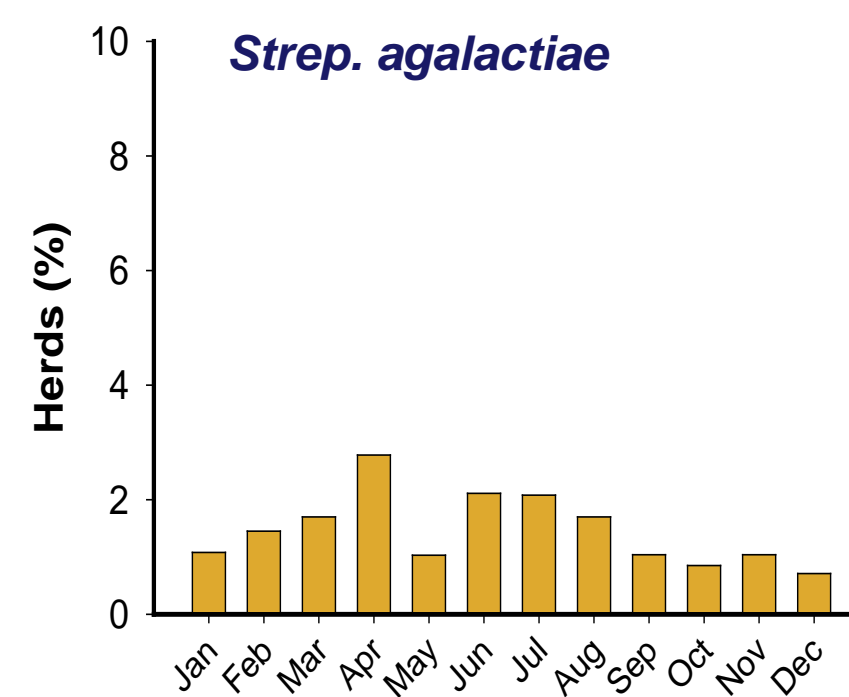
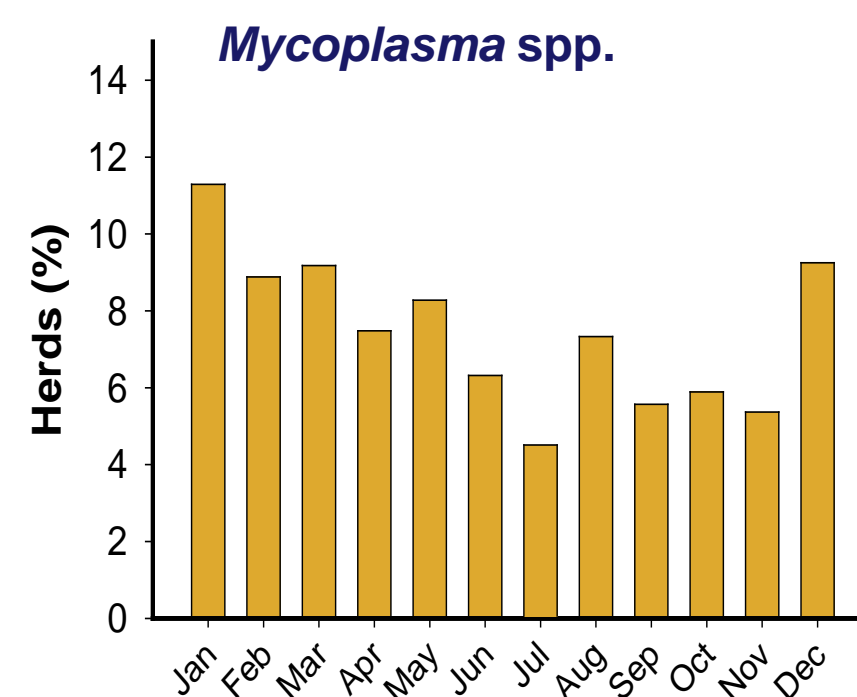
	SCC (cell/mL)	SPC (CFU/mL)	LPC (CFU/mL)	Coli (CFU/mL)
	<600,000	<50,000	<750	<750
% Herds	99.4	96.5	96.1	93.0

RESULTS: SCC, SPC, LPC and Coli Quartiles

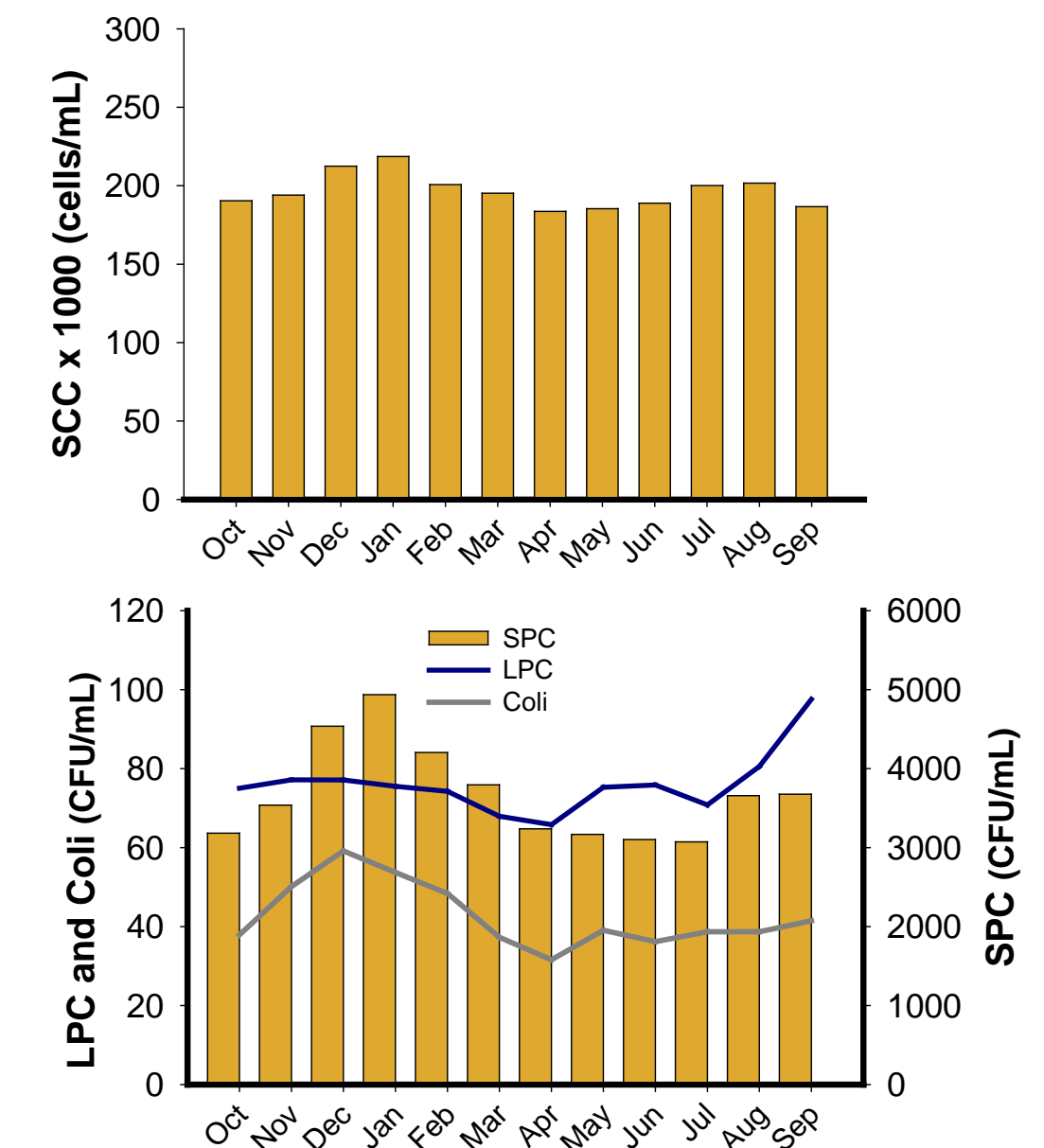
Table 1. SCC, SPC, LPC and Coli counts in California BTM, top 25% herds, bottom 25% herds and median counts from Oct-08 to Sep-09.

	SCC (cells/mL)	SPC (CFU/mL)	LPC (CFU/mL)	Coli (CFU/mL)
25% Top Herds	< 156,698	< 2,969	< 43	< 25
25% Bottom Herds	> 252,679	> 5,729	> 129	> 63
Median	202,208	3,534	74	39

RESULTS: Herds (%) With at Least One Positive Culture Result



RESULTS: BTM SCC, SPC, LPC and Coli



BTM quality parameters were influenced by season (P<0.001):

- SCC were lower in S2 than in S1, S3 and S4.
- SPC were higher for S1 than S2, S3 and S4.
- LPC and Coli were higher in S1 and S4 than in S2 and S3.

SUMMARY

During the study period, California BTM quality parameters were below the CDFA regulatory threshold 93% of the time.

A total of 7.4% of the herds were positive for *Mycoplasma* spp., while in previous studies (APHIS, 2003), 9.4% of western herds were positive. *Strep. agalactiae* has not been eradicated. However, similar BTM prevalence has been reported in North America (Keefe, 2006). *Staph. aureus* herd level prevalence of BTM samples ≥50 CFU/mL, was under 5% through out the year.

During the study period, BTM parameters showed a seasonal pattern with lower SCC in spring, higher SPC in winter, and higher LPC and Coli in fall and winter. Most areas of California have a distinct cool wet and hot dry season. Dry lot pens are still common and during the rainy season, proper maintenance is difficult.