

Figure 3. Individual test variation reported as percent of isolates positive for the specific test at either 4 or 24 hours.

	VP	HIP	ESC	PYRA	AGAL	BGUR	BGAL	PAL	LAP	ADH*	RIB	ARA	MAN*	SOR	LAC	TRE*	INU	RAF	AMD*	GLYG	HEM
4 hr	100%	4%	100%	4%	0%	4%	88%	0%	96%	21%	100%	0%	4%	0%	75%	21%	0%	0%	4%	0%	0%
24 hr	100%	4%	100%	4%	0%	4%	88%	0%	96%	88%	100%	21%	42%	13%	96%	92%	13%	25%	88%	13%	0%
API library	90%	40%	99%	35%	3%	0%	35%	30%	96%	95%	95%	15%	45%	1%	72%	87%	4%	5%	90%	3%	1%

\* Denotes tests where % positive study samples more closely resembles API library for *Lactococcus lactis* ssp. *lactis* at 24 hours versus 4 hours

Figure 4. Characteristics of farms representing *Lactococcus lactis* subspecies *lactis* isolates from Part 1.

	Farm				
	A	B	C	D	E
Herd Size(milking cows)	870	1491	213	2464	328
Avg Milk- Milking cows	78	92	86	87	77
Bulk Tank Somatic Cell Count	306	97	435	253	174
New Infection Rate	11%	7%	10%	10%	12%
Chronic Infection Rate	23%	8%	27%	14%	16%
% <i>Strep</i> species	22%	16%	9%	8%	23%
% <i>Lactococcus</i> samples	42%	29%	17%	8%	4%
Bedding Type	Sand	Sand	Sand	Sand	Sand

New and Chronic Infection Rates are calculated based on the 12 months leading up to study enrollment.

% *Strep* Species refers to percent of total farm milk cultures identified as non-hemolytic, esculin-positive *Streptococcus* species in the 12 months leading up to study enrollment.

% *Lactococcus* samples refers to percent of *Lactococcus lactis* ssp. *lactis* isolates from part 1 attributable to each farm.

Figure 5. MIC evaluation for *Lactococcus lactis* ssp. *lactis* isolated from milk samples

<b>Drug</b>	<b>Sensitive</b>	<b>Intermediate</b>	<b>Resistant</b>	<b>% Isolates Sensitive</b>
Ampicillin	23	1	0	96%
Penicillin	5	19	0	21%
Erythromycin	22	0	2	92%
Pirlimycin	21	0	3	88%
Penicillin/ Novobiocin	23	1	0	96%
Tetracycline	15	0	9	63%
Cephalothin	24	0	0	100%
Oxacillin*	n/a	n/a	n/a	n/a
Ceftiofur*	n/a	n/a	n/a	n/a
Sulphadimethoxine*	n/a	n/a	n/a	n/a

•No cutoffs provided for Oxacillin, Ceftiofur, or Sulphadimethoxine, so not analyzed at this time.

Figure 6. MIC evaluation for *Lactococcus lactis* ssp. *lactis* isolated from sand bedding

<b>Drug</b>	<b>Sensitive</b>	<b>Intermediate</b>	<b>Resistant</b>	<b>% Isolates Sensitive</b>
Ampicillin	8	0	0	100%
Penicillin	1	7	0	12.5%
Erythromycin	8	0	0	100%
Pirlimycin	8	0	0	100%
Penicillin/Novobiocin	8	0	0	100%
Tetracycline	3	0	5	37.5%
Cephalothin	8	0	0	100%
Oxacillin*	n/a	n/a	n/a	n/a
Ceftiofur*	n/a	n/a	n/a	n/a
Sulphadimethoxine*	n/a	n/a	n/a	n/a

•No cutoffs provided for Oxacillin, Ceftiofur, or Sulphadimethoxine, so not analyzed at this time.

•8 total isolates evaluated[Farm A (n=3), Farm B (n=1), Farm C(n=1), Farm D (n=2), Farm E (n=1)]

Figure 7. Percent of *Lactococcus* milk isolates matching MIC of environmental *Lactococcus* isolates by farm.

	Ampicillin	Penicillin	Erythromycin	Pirlimycin	Penicillin/Novobiocin	Tetracycline	Cephalothin	Oxacillin	Ceftiofur	Sulphadimethoxine
Farm A	70%	80%	80%	100%	80%	90%	30%	80%	80%	20%
Farm B	0%	0%	100%	86%	86%	100%	57%	86%	100%	57%
Farm C	75%	50%	100%	100%	100%	100%	100%	100%	100%	100%
Farm D	75%	50%	100%	100%	100%	100%	100%	100%	100%	0%
Farm E	100%	0%	100%	0%	100%	100%	0%	100%	100%	100%