COW MILK + SERUM (QUANT.)

SUMMARY OF TEST OF 9/25/50

TITER OF ACTIVITY OF LANSING PROTECTIVE SUBSTANCE IN COW SERA - AGAINST 50 PD_{50} OF LANSING VIRUS.

DONOR	MORTALITY AT INDICATED FINAL DILUTION OF SERUM VS. 50 LD_{50} OF VIRUS (1:200)					50% PROTECTIVE END POINT
	2	8	32	128	512	
V.M. COW # 3 7/24/50	3/8	2/8	8/8	8/8	7/8	10
V.M. COW # 4 7/24/50	1/7	1/8	6/8	6/7	6/8	23
V.M. COW # 9 7/24/50	4/8	3/8	3/8	8/8	8/8	13
S. COW # 7 7/26/50	2/8	4/8	8/8	8/8	8/8	6
S. COW # 10 7/26/50	2/7	1/8	2/8	4/8	7/8	70
S. COW # 11 7/26/50	1/8	3/8	4/8	7/8	8/8	20
S # 12 = 6 S # 14 = 9 VIRUS CONTROL	1.6 8/8	2.3 8/8	3.0 6/8	4.0 5/8	LD_{50} $10^{-4.0}$	

STANDARD B&P "NOTEAR"

SEP 25 1950

TITRATION OF COW SERA ± LANSING VIRUS

PURPOSE - To determine titer of certain cow sera using @ 50 PO_{50} of virus.

METHODS - Sera undiluted & diluted 1:4, 1:16, 1:64, 1:256 placed in proper tubes & an equal amount of 1/100 Lansing virus (@ 100 PO_{50}) was added. Final sera dilutions of 1:2, 1:8, 1:32, 1:128, 1:512 against 1/200 virus final (@ 50 PO_{50}) incubated for 1 hr at room temperature before inoculation.

SERA - Van Metter Cows # 3, 4, 9
Schroeder Cows # 7, 10, 11

VIRUS - Lansing - Pool V of 6/6/50

MICE - 18-20 gram m/f field albino (females)

FINAL VIRUS 1/200

CODE	COW SERUM SPECIMEN	FINAL SERUM DILUTION 1:2	1:8	1:32	1:128	1:512
A.	V.M. # 3	3/8	2/8	8/8	8/8	7/8
B.	V.M. # 4	1/7	1/8	6/8	6/7	6/8
C.	V.M. # 9	4/8	3/8	3/8	8/8	8/8
D.	S. # 7	2/8	4/8	8/8	8/8	8/8
E.	S. # 10	2/7	1/8	2/8	4/8	7/8
F.	S. # 11	1/8	3/8	4/8	7/8	8/8

	FINAL VIRUS DILUTION 1:40	1:200	10^{-3}	10^{-4}
G. VIRUS CONTROL	8/8	8/8	6/8	5/8

STANDARD B&P "NOTEAR"

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SPECIMEN	SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	PD 50%
A V.M. COW #3 SERUM + LANSING 1/200	1:2	1	-	-	P	P	D																															3/8	
		2	-	-	-	-	PP	D																															
		3	-	-	-	-	-	-	-	-	-	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TY	TY	TY ?	TY	TY	P TY		
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	1:128	1	-	PP	D																																	8/8	
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SEP 25 1950

SPECIMEN	SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	PD:50
A (CONT.)		1	-	D																																			
		2	-	?	P CNS	D																																	
		3	-	-	-	?	?	WW PP	D																														
V.M. COW #3	1:512	4	-	-	-	-	-	?	?	-	D																											7/8	
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V.M. COW		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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SEP 25 1950

SPECIMEN	SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	PD50
B (CONT) V.M. COW #4 SERUM + LANSING 1/200	1:128	1	–	PP	D																																	6/7	
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C V.M. COW #9 SERUM + LANSING 1/200	1:2	1	–	–	–	–	–	–	–	–	–	–	–	–	AP	D																					4/8	
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SEP 25 1950

SPECIMEN	SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	PD 50
C (cont) V.M. COW #9 SERUM + LANSING 1/200	1:32	1	-	-	-	D																																3/8	
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D S. COW #7 SERUM + LANSING 1/200	1:2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	D													2/8	
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EXTER

SEP 25 1950

SPECIMEN	SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	PD 50
D (CONT.) S. COW #7 SERUM	1:8	1	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	D															4/8	
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SEP 25 1950

SPECIMEN

E

S. COW
#10
SERUM
+
LANSING 1/500

SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	P.O.D.
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SEP 25 1950

SPECIMEN	SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	PD50
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SEP 25 1950

SPECIMEN	SERUM	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	PDS
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SEP 25 1950

SPECIMEN	VIRUS	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	LD50
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SUMMARY OF TEST OF 10/24/50

QUANTITATIVE TEST FOR LANSING ANTIBODIES IN COW'S SERUM AND MILK

DONOR	MORTALITY AT INDICATED FINAL DILUTION OF ~~MILK~~ SERUM VS. 50 LD_{50} OF VIRUS				50% PROTECTIVE END POINT
	2	8	32	128	
REGULAR POOLED COW'S MILK (10/23/50) Polio Positive	7/8	6/8	8/8	7/8	< 2
POOL OF COW SERA (10/23/50) V.M. #1, 2, 4, 8, 9	2/8	3/8	1/8	7/8	1: 40
V.M. #9 ANTEPARTUM OF 7/19/50 -12	1/8	0/7	4/8	5/8	1: 47
V.M. #9 POSTPARTUM OF 8/2/50	2/8	2/8	7/8	7/8	1: 12
V.M. #9 ANTEPARTUM OF 6/23/50 -38	0/8	1/8	5/8	5/8	1: 32

CONTROLS - VIRUS 1/200 - 16/16

OCT 2 4 1950

QUANTITATIVE TEST FOR LANSING ANTIBODIES IN POOLS OF COW SERA AND MILKS

PURPOSE: To determine the titer of neutralizing of the antiviral factor in the specimens in high and aliquots of specimens to be bacteriated by Dr. Buchanan. The titer will then be compared with various fractions. Various dilutions of milk + sera + tested against 50 PD_{50} of Lansing virus.

VIRUS: Lansing virus: Pool II of 6/6/50. 10% Suspension in saline. Centrifuged 10 minutes at 2,000 rpm. to remove flocculent ppt.

PROCEDURE: The milk was serially diluted in two-fold dilutions in saline. 0.2 ml of undiluted, 1:4, 1:16 1:64, dilutions were distributed in appropriate tubes and 0.2 ml of 50 PD_{50} of virus added to 1:100 dilution. Final dilutions of milk were 1:2, 1:8, 1:32, 1:128 and that of virus 1:200. Mixtures shaken and incubated at room temperature for 1 hour. Inoculation lasted 25 minutes.

MICE: PRI 18-20 gram ♀ and ♂

CODE	SPECIMEN	1:2	1:8	1:32	1:128
A	REGULAR POOLED COW'S MILK (10/23/50)	7/8	6/8	8/8	7/8
B	POOL OF COW SERA (10/23/50) V.M. # 1, 3, 4, 8, 9	2/8	5/8	1/7	7/8
C	VIRUS - LANSING 16/16 1:200				

Describe pool of regular cow's milk

" " " cow sera

OCT 2 4 1950

SPECIMEN

A

REGULAR POOLED COWS MILK
10/23/50
POLIO-POSITIVE

(ALIQUOT OF MILK TO BE FRACTIONATED)

+

LANSING

MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
	1	–	P	P	P	D		EX-	Litter		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	2	–	P	P	P	D																															
	3	–	–	–	–	D																															
1:2	4	–	–	–	–	–	–	–	–	EE	P	PR	D																								7/8
	5	–	–	–	–	–	–	–	–	?	?	–	–	–	–	P	P	D																			< 1:2
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	W	P	D																
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	←H	D						
PRE	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
														Little 4	20 clock		Little 6	5			after clock																
	1	–	–	W	P	D																															
	2	–	–	–	–	–	–	–	–	–	PP EE	D																									
	3	–	–	–	–	–	–	–	–	–	–	W	D																								
1:8	4	–	–	–	–	–	–	–	–	–	–	?	D																								6/8
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	←H	←H	P	D	P																		
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	D																	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	? CNS	? CNS	?	–	–	–	–	–	–	–	–	–	–	–	–	
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	1	–	–	P	D																																
	2	–	–	?	–	–	PP	D																													
	3	–	–	–	–	–	–	?	PP	D																											
1:32	4	–	–	–	–	–	–	–	?	P	D																										8/8
	5	–	–	–	–	–	–	–	–	P	PR	D																									
	6	–	–	–	–	–	–	–	–	–	P EE	D																									
	7	–	–	–	–	–	–	–	–	–	–	–	W EE	W W EE	W EE	D																					
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	EE P	D														
											Little 11																										
	1	–	D																																		
	2	–	P	D																																	
	3	–	–	?	–	–	–	–	–	–	P EE	D																									7/8
1:128	4	–	–	–	P	D																															
	5	–	–	–	–	–	–	–	–	?	PP	D																									
	6	–	–	–	–	–	–	–	–	–	–	P	P	D																							
	7	–	–	–	–	–	–	–	–	–	–	–	–	?	WPP	D																					
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

76

SPECIMEN

B

POOL OF COW SERA FROM VM # 1,3,4,8,9 10123150

(ALIQUOT OF SERUM TO BE FRACTIONATED)

t

LANSING

SERUM	DD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
	1	–	–	?	–	–	–	–	–	–	–	?	–	–	–	–	–	?	–		P	D																
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	?	?	–			–	–	–	–	–			D	
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
1:2	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	2/8
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
	1	–	PP	PP	PP	CNS	CNS	CNS	CNS	D																											
	2	–	?	?	–	P	P	PP	CNS	D																											
	3	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–		?	–	–	–	–			?	–	–	–	WE	PP			D	
1:8	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	3/8
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–	–			–	–	
	1	–	–	–	–	–	–	–	EE	T	D																										
	2	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–		–	–	?	?	–	–		–	–	–	–	–	–		–	–	
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	
1:32	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	1/8
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	
PRI	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	
	1	–	–	D																																	
	2	–	–	–	–	–	EE	P	D																											
	3	–	–	–	–	–	–	–	–	D																											
1:128	4	–	–	–	–	–	–	–	P	D																											7/8
	5	–	–	–	–	–	–	–	E	P	ET	D																									
	6	–	–	–	–	–	–	–	–	?	P	D																									
	7	–	–	–	–	–	–	–	–	–	–	–	D																								
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	

Litter 8 (×4)

1:40

OCT 2 4 1950

SPECIMEN	VIRUS	NO.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	MORTALITY
C	1/200	1	– PP D	14/16
		2	– PP D	
		3	– PP D	
		4	– – PP – – D	
		5	– – – – PP D	
		6	– – – – – EE D	
CONTROL		7	– – – – – – ? ? EE PR D	
		8	– – – – – – – – – ? ? ? P D	
LANSING ALONE		1	– D	
		2	– PP D	
		3	– – – – – PE D	
	1/200	4	– – – – – – ? PE D	
		5	– – – – – – – – D	
		6	– – – – – – – – – P D	
		7	– – – – – – – – ? ? – – – – EE P D	
		8	– – – – – – – – – – – – – – EE P PR D	

QUANTITATIVE TEST FOR LANSING ANTIBODIES IN ANTEPARTUM AND POSTPARTUM COLOSTRUM OF COW

PURPOSE: To determine the titer of activity of the antiviral factor present in the antepartum and postpartum Colostrum under test. To determine whether or not a quantitative change takes place in the amount of this factor up to the time of delivery and after. Various dilutions of milk tested against 50 PD_{50} of Lansing virus.

VIRUS: Lansing Virus - Pool IV of 6/6/50. 10% suspension in saline. Centrifuged 10 minutes at 2,000 rpm to remove ppt.

PROCEDURE: The milk was serially diluted in two-fold steps in saline. 0.2 ml of undiluted, 1:4, 1:16, 1:64 dilutions distributed in indicated tubes. 0.2 ml of 50 PD_{50} of Lansing virus added as 1:100 dilution. Final dilution of milk were 1:2, 1:8, 1:32, 1:128 and that of virus 1:100. Mixtures shaken and incubated at room temperature for one hour. Inoculation lasted 75 minutes.

MICE: PRI 18-20 gram ♀ and ♂.

CODE	SPECIMEN	1:2	1:8	1:32	1:128
A	V.M #9. ANTEPARTUM OF 7/19/50	1/8	0/7	4/8	5/8
B	V.M #9. POST PARTUM of 8/2/50	2/8	2/8	7/8	7/8
C	V.M #9. ANTEPARTUM of 6/23/50.	0/8	1/8	5/8	5/8
D	VIRUS-LANSING 1:200	16/16			

OCT 2 4 1950

SPECIMEN

A

V. M. COW #9

ANTEPARTUM COLOSTRUM OF 9/19/50

(ALIQUOT OF MILK TO BE FRACTIONATED)

+

LANSING (1:200)

MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
1:2	1	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–		D																	1/8
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
1:8	1	–	–	–	–	–	–	–	–	–	–	Lite	–	–	–	–	–	–	–		–	–	–	–	–													1:47
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													0/7
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	MISSING 11/11/50	+																	
1:32	1	–	–	?	?	?	–	?	?	–	PP	D																									4/8
	2	–	–	–	–	–	–	–	–	–	?	?	D																								
	3	–	–	–	–	–	–	–	–	–	–	PP	D																								
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		?	–	?	D														
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
1:128	1	–	–	PP	D																																5/8
	2	–	–	–	–	–	–	WE	D																												
	3	–	–	–	–	–	–	–	E	PP EE	D																										
	4	–	–	–	–	–	–	–	–	?	?	–	W	D																							
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	D																			
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–													

log 32 + .165 =

SPECIMEN

B

V.M. COW #9

POSTPARTUM COLOSTRUM OF 8/2/50 (1 DAY)

(ALIQUOT OF MILK TO BE FRACTIONATED)

+

LANSING (1:200)

MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
	1	–	CNS	CNS	CNS	D																													Litter 12		
	2	–	–	–	–	–	–	–	–	2	?	–	–	–	–	–	–				P	D															
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	–			–	–						–	–	
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
1:2	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	2/8
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
	1	–	–	–	–	–	P	D																												
	2	–	–	–	–	–	–	–	–	–	–	–	W	D																						
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
1:8	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	2/8
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–						–	–	
	1	–	–	D																																
	2	–	–	–	–	–	–	–	P PE	D																										
	3	–	–	–	–	–	–	–	?	W T	PR	D																								
	4	–	–	–	–	–	–	–	?	?	PR	D																								
1:32	5	–	–	–	–	–	–	–	–	–	–	–	P E	PR	D																					
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	←	HD																			
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	?	W P R	D													
PRI	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–						–	–	
	1	–	P P GE	D																																
	2	–	–	P P E E	D																															
	3	–	–	P E E	D																															
	4	–	–	–	–	W	W	D																												
1:128	5	–	–	–	–	–	–	–	–	–	–	–	?	W W	P	D																				
	6	–	–	–	–	–	–	–	–	–	–	–	?	P	E	D																				
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P P	D																		
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–						–	–	
PRI																																				

1:12 + 1950

7/8

7/8

OCT 24 1950

SPECIMEN

C

V.M. COW #9

ANTEPARTUM COLOSTRUM OF 6/23/50

+

LANSING (1:200)

MILK	NO	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	MORTALITY
1:2	1	Litter 3 · Litter 9 · Litter 7	0/8
	2		
	3		
	4		
	5		
	6		
	7		
PRI	8		
1:8	1	Litter 8 · Litter 5 · 3 Litter 19 · 11 · PP D Litter 8	1/8
	2		
	3		
	4		
	5		
	6		
	7		
PRI	8	Litter 4	
1:32	1	PPPPPPPD	5/8
	2	PP D	
	3	D	
	4	PPP D	
	5	D	
	6		
	7		
PRI	8		
1:128	1	?P ? ? D	5/8
	2	D	
	3	PP D	
	4	PP D	
	5	deformed feet ? ?	
	6	? ? D	
	7		
	8		
PRI			

1:32

SPECIMEN	VIRUS	NO	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	MORTALITY
		1	– D	
		2	– PP D	
		3	– PP D	
	1/200	4	– – NW – – D	
		5	– – – – PP D	16/16
		6	– – – – – EE P D	
CONTROL		7	– – – – – – ? ? EE P PR D	
	PRI	8	– – – – – – – – – – ? ? ? P D	
			Litter 7	
LANSING ALONE		1	– D	
		2	– PP D	
		3	– – – – – PE D	
	1/200	4	– – – – – – ? P E D	
		5	– – – – – – – – P	
		6	– – – – – – – – P D	
		7	– – – – – – – – ? ? – – – – – – EE P EE P D	
		8	– – – – – – – – – – – – – – – – – – P EE PR D	
	PRI			

STANDARD B & P "NoTEAR"

SUMMARY OF TEST OF OCTOBER 25, 1950

QUANTITATIVE TEST FOR HANSING ANTIBODIES IN COLOSTRUM AND SERUM OF S. COW #12.

SPECIMEN	MORTALITY AT INDICATED FINAL DILUTION OF MILK OR SERUM VS. 50 LD_{50}				50 % PROTECTIVE ENDPOINT
	2	8	32	128	
S. COW # 12 - ANTEPARTUM COLOSTRUM OF 5/12/50	0/8	0/8	4/8	5/8	52
S. COW #12 - POSTPARTUM COLOSTRUM OF 5/19/50 (1 DAY)	1/8	6/7	8/8	8/8	4
S. COW #12 - POSTPARTUM COLOSTRUM OF 5/21/50 (3 DAY)	7/8	8/8	8/8	8/8	< 2
S. COW #12 - POSTPARTUM COLOSTRUM OF 5/24/50 (6 DAY)	4/8	6/8	8/8	7/8	3
S. COW #12 SERUM OF 7/26/50	2/8	4/7	7/8	7/7	6

CONTROL VIRUS 1:100 - 16/16

OCT 25 1950

QUANTITATIVE TEST FOR LANSING ANTIBODIES IN COW'S COLOSTRUM AND SERUM — S. COW #12

PURPOSE: To determine the titer of activity of the antiviral factor against 50PD$_{50}$ of virus. Here are serial specimens of milk ~~specimens~~ including antepartum colostrum, postpartum colostrum and regular milk. To determine when changes of activity occur. A serum specimen obtained 7/26/50 has been included to determine if there is any correlation between amount of the "antibody" in milk and serum.

VIRUS: Lansing virus: Pool V of 6/6/50. 10% suspension in saline. Centrifuged 10 minutes 2000 rpm to remove flocculent ppt.

PROCEDURE: The milks and serum were diluted serially in pH 7.6 diluting - undiluted, 1:4, 1:16, 1:64. To 0.5 ml of each dilution 0.5 ml of 50PD$_{50}$ of Lansing was added (so that final dilution of virus was 1:200). Mixtures shaken and incubated at room temperature for 1 hour. Inoculation lasted 70 minutes. final dilutions = 1:2, 1:8, 1:32, 1:128

MICE MAXFIELD ♀ and PRI ♂ and ♀ as indicated 18-20 grams.

CODE	SPECIMEN	1:2	1:8	1:32	1:128
A	S. COW #12 ANTEPARTUM COLOSTRUM OF 5/12/50	0/8	0/8	4/8	5/8
B	S. COW #12 POST PARTUM COLOSTRUM OF 5/19/50 (1 day)	1/8	6/7	8/8	8/8
C	S. COW #12 POSTPARTUM COLOSTRUM OF 5/21/50 (3 day)	7/8	8/8	8/8	8/8
D	S. COW #12 POST PARTUM COLOSTRUM OF 5/24/50 (6 day)	4/8	6/8	8/8	7/8
E	SERUM OF S. COW #12 7/26/50	2/8	4/7	7/8	7/7
F	CONTROL - LANSING 1:200	16/16			

STANDARD B & P "NOTEAR" STANDARD B & P "NOTEAR" OCT 25 1950

SPECIMEN

A

S. COW #12

ANTEPARTUM COLOSTRUM OF 5/12/50

+

LANSING (1:200)

MILK	NO	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	MORTALITY
	1		
	2		
	3		
1:2	4		0/8
	5		
	6		
	7		
MAT.	8		
	1		
	2		
	3		
1:8	4		0/8 1:52
	5		
	6		
	7		
MAX	8		
	1	E D	
	2	D	
	3	W D	
	4	P D	
1:32	5		4/8
	6		
	7		
MAX.	8		
	1	PP D	
	2	PP D	
	3	P D	
	4	P D	
1:128	5	? WPP P P D	5/8
	6		
	7		
MAX.	8		

1.5 + .2118

SPECIMEN

B

S. COW #12

POSTPARTUM COLOSTRUM OF 5/19/50 (1 day)

+

LANSING (1:200)

MILK	NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
1:2	1	–	?	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	D																1/8
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	
MAX.	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	–	–	–		–	–	–	
1:8	1	–	P	D																																	
	2	–	W	P	D																																
	3	–	E	WW	PP	D																															
	4	–	–	CNS	CNS	D																															
	5	–	–	–	–	P	P	D																													
	6	–	–	–	–	CNS	CNS	CNS	CNS	CNS	CNS	CNS	CNS	?	CNS	?	CNS	CNS	CNS	CNS	CNS	CNS	CNS	?	CNS	?	–	–	?	–	–	–	–	–	–	–	
	7	–	–	–	–	–	–	–	–	–	?	^	–	?	–	?	T	?		D	TYPHOID																
MAX	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–		P EE	D									
1:32	1	–	P	D																																	
	2	–	P	D																																	
	3	–	WW	? CNS	D																																
	4	–	–	–	PP	D																															
	5	–	–	–	PP	D																															
	6	–	–	–	–	–	–	–	?	P	D																										
	7	–	–	–	–	–	–	–	–	W	?	–	–	PP	PR	D																					
MAX.	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	D	
1:128	1	–	PPP	D																																	
	2	–	PPP	D																																	
	3	–	PPP	D																																	
	4	–	–	–	PP	D																															
	5	–	–	–	–	–	–	–	–	–	–	P	D																								
	6	–	–	–	–	–	–	–	–	–	–	–	–	?	P	D																					
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	EE	P	EE	D																		
MAX.	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	PP	D																		

1:4

.3 + 30 SY

OCT 25 1950

SPECIMENS

C

S. COW #12

POST PARTUM COLOSTRUM OF 5/21/50 (3 day)

+

LANSING (1:200)

MILK	DO	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	MORTALITY
1:2	1	– EE WP EE PP EE D	7/8 < 1:2
	2	– EE CNS CNS CNS PP PP PP PP WPR D	
	3	– – CNS → → TY D	
	4	– – ? ? ? ? ? – – ? ? – – D	
	5	– – • – – – – – – – – – – – – – D	
	6	– – • – – – – – – – – – – – – – ? ? ? ? PEE D	
	7	– – • – – – – – – – – – – – – – – – – – ? D	
MILK PRI.	8	– – • –	
1:8	1	P PP D	8/8
	2	– WW WW EE EE PR D	
	3	– ? CNS ? PP D	
	4	– – – – – D –	
	5	– – – – – P D	
	6	– – – – – P PP D	
	7	– – – – – – EE EE D	
PRI	8	– – – – – – – – – PPP EE D	
1:32	1	– PW EE D	8/8
	2	– WW EE D	
	3	– W PP D	
	4	– – PP D	
	5	– – CNS D	
	6	– – ? ? – – – P D	
	7	– – – – – – – – WW D	
PRI	8	– – – – – – – – – PP EE D	
1:128	1	– PW EE D	8/8
	2	– WW EE P D	
	3	– – – D	
	4	– – – ? – – – P D	
	5	– – – – – – – D	
	6	– – – – – – EPP E D	
	7	– – – – – – – ? PE D	
	8	– – – – – – – – E WW EE D	
PRI			

SPECIMEN	MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY	
D POST PARTUM COLOSTRUM OF 5/24/50 (6 day) + LANSING (1:200) S. COW #12		1	-	?	-	-	-	-	-	-	-	-	?.	? cns	?.	D																							4/8	
		2	-	?.	-	-	-	-	-	-	-	-	-	-	-	PP	D																						
		3	-	-	-	-	-	-	-	-	-	-	-	-	-	PP	D																						
		4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	P	D													
	1:2	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-		
		6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-		
		7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-		
	PRI	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-		
		1	-	P	PP	D																										Litter 4						6/8	
		2	-	-	-	D																																	
		3	-	-	-	-	T?	?.	?.	?.	-	$\overset{W}{EE}$	D																										1:3
	1:8	4	-	-	-	-	-	-	-	-	-	-	-	P	D																								
		5	-	-	-	-	-	-	-	-	-	-	-	EE	D																								
		6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	?.	D																
		7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-		
	PRI	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-		
		1	-	P $\overset{P}{E}$	D																																	8/8	
		2	-	PP	PP	D																																	
		3	-	P	PP	D																																	
		4	-	-	PP	D																																	
	1:32	5	-	-	?	?	-	-	-	-	?.	$\overset{P}{E}$	D																										
		6	-	-	-	-	-	-	-	-	-	-	$\overset{PP}{EE}$	D																									0.3 + .2016
		7	-	-	-	-	-	-	-	-	-	-	-	-	-	P	P	D																					
	PRI	8	-	-	-	-	-	-	-	-	-	-	-	-	-	PP	$\overset{PP}{PP}$	$\overset{PP}{PP}$	D																				
		1	-	D																																		7/8	
		2	-	PP	D																																		
		3	-	PP	D																																		
		4	-	P	D																																		
		5	-	$\overset{P}{T}$	D																																		
	1:128	6	-	-	-	-	-	$\overset{P}{T}$	D																														
		7	-	-	-	-	-	PP	$\overset{P}{T}$	D																													
	PRI	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-		

[illegible]

OCT 25 1950

SPECIMEN

E

S. COW
#12

SERUM
OF 7/26/50
+
LANSING
1/200

SERUM NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
1:2	–	PR	PR	S PR	D																															2/8
1:8	–	?	E	PR	D																															4/7
1:32	D	E	PP	D																																7/8
1:128	D	?	PP	D																																7/7
PRI	D	?	E	PR	D																															

1:6

.3
+
.4614

SPECIMEN

F

CONTROL

SALINE

+

LANSING

VIRUS NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
	1	–	D																																	
	2	–	D																																	
	3	–	P	R	D																															
	4	–	–	–	–	–	–	–	P	E	D																									
1:200	5	–	–	–	–	–	–	–	?	?	?	–	W	?	?	?	?			–	–	–	–	N	W	E	E	D								
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–	–	E	?	D										
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–	–	–	–	H	D									
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–	–	–	–	–	?	D								
MAX																																			
	1	–	P	P	P	MAXFIELD																														
	2	–	P	P	P	D																														
	3	–	?	W	?	P	D																													
1:200	4	–	?	–	–	–	D																													
	5	–	–	–	–	P	D																													
	6	–	–	–	–	–	–	?	?	W	D																									
	7	–	–	–	–	–	–	–	–	ER	D																									
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			–	–	–	–	–	–	?	EE	D							
TPRI																																				
MAX																																				

16/16

SUMMARY OF TEST OF OCTOBER 26, 1950

QUANTITATIVE TEST FOR LANSING ANTIBODIES IN COLOSTRUM AND SERUM OF COWS.

SPECIMEN	MORTALITY AT INDICATED FINAL DILUTION OF MILK OR SERUM VS. 50 PD_{50}				50% PROTECTIVE ENDPOINT
	2	8	32	128	
S. COW #7 - ANTEPARTUM COLOSTRUM OF 7/26/50	5/6	5/7	6/8	8/8	2
S. COW #11 - ANTEPARTUM COLOSTRUM OF 7/26/50	2/8	2/5	7/8	8/8	8
S. COW #14 - ANTEPARTUM COLOSTRUM OF 6/23/50	3/8	3/7	6/8	8/8	8
S. COW #14 - ANTEPARTUM COLOSTRUM OF 7/15/50	5/8	4/8	4/8	7/8	8
S. COW #14 - POSTPARTUM COLOSTRUM OF 7/26/50 (1 DAY)	4/8	2/7	5/8	6/7	12
S COW #14 - SERUM OF 7/26/50	3/8	3/8	6/7	7/8	9

CONTROL - LANSING 1:200 - 15/16

QUANTITATIVE TEST FOR LANSING ANTIBODIES IN COLOSTRUM AND SERUM OF COWS.

OCT 26 1950

PURPOSE: To determine the titer of activity of the antiviral factor against 50 PD_{50} of Lansing virus. Serial specimens of antepartum and postpartum colostrum plus serum from one cow are included to determine when changes in titer occur and if there is any correlation between the amount of "antibody" in milk and serum.

VIRUS: Lansing virus. Pool V of 6/6/50. 10% suspension in saline. Centrifuged 10 minutes at 2000 rpm to remove flocculent ppt.

PROCEDURE: The milks and serum were serially diluted in the following concentrations: undiluted, 1:4, 1:16, 1:64. To 0.5 ml of each dilution 0.5 ml of 50 PD_{50} of Lansing virus was added so that final concentration of virus was 1:200 and final dilution of specimens was 1:2, 1:8, 1:32 and 1:128. One milk was also diluted out so that final concentration in another tube was 1:256. Inoculation lasted 85 minutes.

MICE: Mice held 7. 18-20 grams.

CODE:	SPECIMEN	1:2	1:8	1:32	1:128	1:256
A	ANTEPARTUM COLOSTRUM OF S. COW #7 (7/26/50)	5/6	5/7	6/8	8/8	
B	ANTEPARTUM COLOSTRUM OF S. COW #11 (7/26/50)	2/8	2/5	7/8	8/8	
C	ANTEPARTUM COLOSTRUM OF S. COW #14 (6/23/50)	3/8	3/7	6/8	8/8	
D	ANTEPARTUM COLOSTRUM OF S. COW #14 (7/15/50)	5/8	4/8	4/8	7/8	
E	POSTPARTUM COLOSTRUM OF S. COW #14 (7/26/50)	4/8	2/7	5/8	6/7	8/8
F	SERUM OF S. COW #14 7/26/50	3/8	3/8	6/7	7/8	
G	CONTROL - LANSING 1:200	15/16				

OCT 2 6 1950

SPECIMEN

A

ANTEPARTUM COLOSTRUM OF S. COW # 7 (7/26/50) + LANSING 1:200

MILK	NO	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 29 28 29 30 31 32 33 34 35	MORTALITY
1:2	1	D	5/6 1:2
	2	– EE CNS D	
	3	– S S S S? CNS D	
	4	– ? S? S – – ? ? CNS CNS D	
	5	– – – – – – – – – – – – – P P EE D	
	6	– – – – – – – – – – – – – Wa. PEE EE PP D	
	7	– D	
	8	– –	
1:8	1	– – P D	5/7
	2	– – – – – – ? ? W ? W P P P D	
	3	– – – – – – – ? ? – – – – ? D Typhoid	
	4	– – – – – – – – – – – – – – ? ? ? E D	
	5	– – – – – – – – – – – – – – – – – – D	
	6	– – – – – – – – – – – – – – – – – – ? P PP D	
	7	– –	
	8	– –	
1:32	1	– – – D	6/8
	2	– – – D	
	3	– – – – – – ? ? ? ? ? D	
	4	– – – – – – – ? ? – – – – ? P D	
	5	– – – – – – – – – – – – – – W P PP D	
	6	– – – – – – – – – – – – – – – ? – – D	
	7	– –	
	8	– –	
1:128	1	– P D	8/8
	2	– – D	
	3	– – – – – – W P PP R D	
	4	– – – – – – – – P D	
	5	– – – – – – – – – – ? W W E D	
	6	– – – – – – – – – – – – – – – ? ? PP PP P PP D	
	7	– – – – – – – – – – – – – – – – – PW P EE D	
	8	– E D	

SPECIMEN

B

ANTEPARTUM COLOSTRUM OF S. COW # 11 (7/26/50)

+

LANSING

1:200

MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	29	28	29	30	31	32	33	34	35	MORTALITY
1:2	1	–	S	S	?	–	?			P	D																										
	2	–	–	–	–	–	–			?	CNS	PP	PP	PP CNS	PP CNS	PP CNS	PP CNS	CC CNS	D																		
	3	–	–	–	–	–	–			–	?	?	–	–	–	–	–		–	–	–	–	–		?	–	?	–	–		–	–	–	–	–		2/8
	4	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		
	5	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		
	6	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		
	7	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		
	8	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		–	–	–	–	–		
1:8	1	D																																		
	2	D																																		
	3	–	–	? CNS	D																															
	4	–	–	–	D																															
	5	–	–	–	–	–	–			TY	D	TYPHOID																									2/5
	6	–	–	–	–	–	–			?	–	–	–	–	H	H	H		H	H	H	H	?	–		–	–	–	–		–	–	–	–	–		
	7	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–		–	–	–	–	–		
	8	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–			–	–	–	–		–	–	–	–	–		
1:32	1	–	–	–	PP	D																														
	2	–	–	–	CNS	D																														
	3	–	–	–	–	PP	D																													
	4	–	–	–	–	?	?			?	?	?	W	W	W	?	–	M	D PW																		7/8
	5	–	–	–	–	–	–			?	–	?	–	–	–	–	–		D																		
	6	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	?	?	D														
	7	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	?		WN EE	WP EE	D										
	8	–	–	–	–	–	–			–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	?	–	–		–	–	–	–	–		
1:128	1	–	P	D																																
	2	–	P	PP	D																															
	3	–	–	–	P P	P	D																													
	4	–	–	–	–	P	PE	P EE	D																											
	5	–	–	–	–	–	–	–	–	?	?	–	M	PP	D																					8/8
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	PP P	D																			
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		?	?	W W EE	W W EE	D													
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	?	?	?	–		–	–	–	–		–	D				

1:8

OCT 2 6 1950

SPECIMEN

C

ANTEPARTUM COLOSTRUM OF S. COW # 14 (6/23/50)

+

LANSING 1:200

MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
1:2	1	–	–	/		PPP	D																														
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	P		D												
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	?	–	?	–	–	–	P	D				3/8
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–				
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–				
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–				
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–				
	8	–	–	–	–	–	–	/	–	–	–	–	–	–	–	–	/	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–				
1:8	1	–	–	?	–	–	D																														
	2	–	–	–	–	–	–	–	?	?	–	–	CNS	CNS	CNS	CNS	CNS	CNS	CNS	CNS	?	CNS	?	?		–	–	–	–	–	–	–	–	–			
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	W	D																		
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	H	H	H	H	D														3/7
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	D														
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–				
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	8	–	–	–	–	–	–	–	–	/	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–				
1:32	1	–	–	–	–	–	PP	D																													
	2	–	–	–	–	/	–	–	?	?	?	WP	D																								
	3	/	–	–	–	/	–	–	–	–	–	–	?	?	?	P	D																				
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	D																		6/8
	5	–	–	–	–	/	–	–	–	–	–	–	–	–	–	–	–	–	–	–	WN EE	WN EE	D														
	6	–	–	–	–	/	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		E	D												
	7	–	–	–	–	/	–	–	–	–	–	–	–	–	–	–	/	–	–	–	–	–		–	?	?	–	–	–	?	?	–					
	8	–	–	–	–	/	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–					
1:128	1	–	–	–	P	P	PP	D																													
	2	–	–	–	P	P	PP	P																													
	3	–	–	–	–	–	PP	D																													
	4	–	–	–	–	–	–	–	–	?	P	D																									8/8
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	W	D																		
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	CNS	–	WN EE	WN EE	WN EE	D												
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		?	?	?	–	–	?	D						
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	D						

1:8

SPECIMEN

D

ANTEPARTUM COLOSTRUM OF S. COW # 14 (7/15/50)

MILK	WD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
1:2	1	–	–	–	–	?	P	D																													
	2	–	–	–	–	–	2.	P	D																												
	3	–	–	–	–	–	–	–	WPA	D																											
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	?	D																					
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	–	D										5/8
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	2	–	–	–	–	?	–	–		
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
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1:8	1	–	–	–	–	–	–	?	–	–	–	–	–	–	–	–	–	–	P H→	D																	
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	D																	1:8
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	P	EE	D															
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	P	EE	D														4/8
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	!	?	–	–	–	–	–	–	–	–	–	–	–	–		
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
1:32	1	–	–	D																																
	2	–	–	–	D																																
	3	–	–	–	–	–	–	?	?	–	–	P	D																							
	4	–	–	–	–	–	–	–	–	–	–	?	?	?	–	–	–	–	–	–	–	–	–	–	–	–	–	P EE	D								4/8
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	–	–	–	–	–	–	–		
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		
1:128	1	–	–	–	PP	D																														
	2	–	–	–	–	P	P	D																												
	3	–	–	–	–	–	–	?	D																											
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	PP	D																			
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?	D																			
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	PP	D								7/8
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	?		D					
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		

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SPECIMEN

E

POSTPARTUM COLOSTRUM OF S. COW #14 (7/26/50)

+

LANSING 1:200

MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
1:2	1	–	–	–	–	–	–	–	P	D																											4/8
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	P	D																				
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		WW EE	D																	
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		P	D																	
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
1:8	1	–	–	–	–	–	–	–	D																												1:12
	2	–	–	–	–	–	–	–	TY	TY	D	TYPHOID																									
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	?	–	–	–		E	?	?	P	PP EE	D							
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–							
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–							
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–							
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–							
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–							
1:32	1	–	S	P	D																																2/7
	2	–	–	–	D																																
	3	–	–	–	D																																
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		EEE ←H ←H	D																	
	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		?	?	?	?	EEEE		D						
	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	
	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	–	–	–	–	–	–	–	–	–	–	–	
1:128	1	D																																			5/8
	2	–	D																																		
	3	–	P	PP	D																																
	4	–	CWS	PP	D																																
	5	–	?	?	PP	PP	PP	D																													
	6	–	–	–	–	–	?	T	WW T	D																											
	7	–	–	–	–	–	–	–	–	–	–	–	–	?	–	–		?	?	–	P EE	D															
	8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–		–	–	–	–	–		–	?	–	–	–	–							

6/7

SPECIMEN	MILK	NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	MORTALITY
E (CONT.) POST PARTUM COLOSTRUM OF S. COW #14 (7/26/50) + LANSING 1:200	1:256	1	-	CNS	PP	D																															8/8
		2	-	?	?	D																															
		3	-	-	-	PP	D																														
		4	-	-	-	-	-	-	-	?	WW EE	PP EE	PP EE	D																							
		5	-	-	-	-	-	-	-	-	?	?	P	D																							
		6	-	-	-	-	-	-	-	-	-	-	-	-	P	D																					
		7	-	-	-	-	-	-	-	-	-	-	-	-	-	P	D																				
		8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	D													
F SERUM OF S. COW #14 (7/26/50) + LANSING 1:200	SERUM 1:2	1	-	-	-	-	-	-	?	?	-	-	-	-	-	D																							3/8
		2	-	-	-	-	-	-	-	-	-	-	-	-	-	?	?	-		?	?E	PE	EPE	D													
		3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	?	-	-		-	-	-	P	D							
		4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
		6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
		7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
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	1:8	1	-	-	-	-	PP	PP	D																													3/8
		2	-	-	-	-	?	-	D																												
		3	-	-	-	-	-	-	-	-	?	?	-	W	W ?	?	W	?		D																	
		4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	?	-		E ?	E	-	-	-	? TY		?	?	W ?	-	-	-		-	-	-	-	
		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
		6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
		7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
		8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	
	1:32	1	-	CNS	CNS	PR	D																														6/7
		2	-	-	-	-	PR	PR	D																												
		3	-	-	-	-	-	-	-	-	-	-	-	-	D																						
		4	-	-	-	-	-	-	-	-	-	-	-	-	P	D																					
		5	-	-	-	-	-	-	-	-	-	-	-	-	-	?	-	-		-	?	-	-	-	T		D										
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1:9

OCT 26 195

SPECIMEN	SERUM	NO	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	MORTALITY
F (CONT.) SERUM OF S.COW #14 7/26/50 + LANSING 1:200	1:128	1	– W D	7/8
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G CONTROL SALINE + LANSING	VIRUS 1:200	1	– – PP D	8/8
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