

LANSING  
Cows  
Milk  
(QUANT.)

APR 3 1950

## LANSING NEUTRALIZATION = COW'S MILK

PURPOSE - To determine the effect of cow's milk on the Lansing virus.

METHODS - Equal volumes of undiluted <sup>RAW</sup> cows milk and Lansing virus were mixed making a final virus dilution of  $1:20 + 10^{-2}$  against each sample of milk. Mixtures were incubated for 1 hour at room temp + inoculated into mice.

VIRUS USED - Lansing virus - Pool IV - 8-16-49

MICE - 18-20 gram Masfield albinos (female)

Van Meter Cows  
of 3-31-50  
MILK OF COW:

		VIRUS DILUTIONS			
		1:20	10 <sup>-2</sup>	10 <sup>-3</sup>	10 <sup>-4</sup>
±?	A #1	7/8	<u>5/8</u>	-	-
	B #2	8/8	7/8	-	-
+	C #3	<u>5/8</u>	<u>3/8</u>	-	-
	D #4	7/8	7/8	-	-
	E #5	7/8	7/8	-	-
	F #6	8/8	8/8	-	-
+	G #7	6/7	<u>3/8</u>	-	-
	H #8	8/8	6/8	-	-
	I #9	7/8	7/8	-	-
	J. VIRUS CONTROL	—	8/8	7/8	3/8



LANSING NEUTRALIZATION WITH COWS MILK

MORTALITY LD 50

5/8

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		
C Cow #3	1/20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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D Cow #4	1/20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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D Cow #4	1/20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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APR 3 1950

7/8

SPECIMEN	MIXTURE	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				
I COW #9 MILK + LANSING VIRUS	1/20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
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D



MAY 1 1950

## LANSING NEUTRALIZATION = COW'S MILK

PURPOSE - Certain milks from a group of 9 cows showed protective properties against the Lansing virus in a previous test (4/3/50). These cows were again milked 4/28/50 & these fresh milk samples were used in this test to determine the stable or transient nature of the protective phenomenon previously observed.

METHODS - Equal volumes of undiluted raw cow's milk & Lansing virus were mixed making a final virus dilution of 1:20 +  $10^{-2}$  against each sample of milk. Mixtures were incubated for 1 hour at room temp. & inoculated into mice

MILKS USED - Milks obtained from 9 cows from M. Van Meter's farm on 4/28/50

VIRUS - Lansing virus - Pool IV - 8/16/49

MICE - 18-20 gram Mayfield albino (female)

<u>MILK OF COW:</u>		<u>FINAL VIRUS DILUTIONS</u>			
Milk of 4/28/50		1:20	$10^{-2}$	$10^{-3}$	$10^{-4}$
A	VM #1	5/8	4/5	-	-
B	" #2	8/8	8/8	-	-
C	" #3	8/8	8/8	-	-
D	" #4	8/8	8/8	-	-
E	" #5	8/8	6/8	-	-
F	" #6	5/8	1/6	-	-
G	" #7	7/7	6/7	-	-
H	" #8	8/8	6/8	-	-
I	" #9	7/7	6/8	-	-
J	Virus Control	—	8/8	8/8	5/8



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

SPECIMEN

C

V.M. COW # 3

MILK + LANSING

1/20

1/20

1/20

1/20

10<sup>-2</sup>

10<sup>-2</sup>

10<sup>-2</sup>

1 - PP-USED 5/4

2 - PP-USED 5/5

3 - ? PP D

4 - ? D

5 - P D

6 - P P D

7 - P D

8 - P D

D

V.M. COW # 4

MILK + LANSING

10<sup>-2</sup>

10<sup>-2</sup>

10<sup>-2</sup>

1 - ? D

2 - P-USED 5/5

3 - ? PP D

4 - ? PP D

5 - P P D

6 - P P D

7 - P P D

8 - P P D

? CNS D

? CNS D

- P PP D

MAY 1 1950

MORTALITY

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

SPECIMEN

# E

V.M. COW # 5 MILK + LANSING

1/20  
 1 P D  
 2 ?  
 3 W } used 5/5  
 4 P  
 5 - P P D  
 6 - P P P P D  
 7 - - P D  
 8 - - P P D

USG0 5/5

# F

V.M. COW # 6 MILK + LANSING

10<sup>-2</sup>  
 1 - P USG0 5/5  
 2 - - D  
 3 - - - CNS D  
 4 - - - -  
 5 - - - -  
 6 - - - -  
 7 - - - -  
 8 - - - -

10<sup>-2</sup>  
 1 - E ? - - - P D  
 2 - - - - - P D  
 3 - - - - - P P P D  
 4 - - - - - ? D P P D  
 5 - - - - - -  
 6 - - - - - -  
 7 - - - - - -  
 8 - - - - - -

V.M. COW # 6 MILK + LANSING

10<sup>-2</sup>  
 1 D  
 2 - CNS ? ? ? ? D  
 3 - - - - - P P P P D  
 4 - - - - - -  
 5 - - - - - -  
 6 - - - - - -  
 7 - - - - - -  
 8 - - - - - -



MAY 1 1950

MORTALITY

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		
I	1	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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V.M. Cow #9 MILK + LANSING	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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P USE 5/5  
 ? P P P D  
 P P P D  
 P P D

PP PP D

PP D  
 ? P P D  
 P P D

WP D

PP PP D

D



MAY 2 1950

## LANSING NEUTRALIZATION IN COW'S MILK

PURPOSE - to determine the effect of previously untreated cow's milk on the Lansing virus.

METHODS - Equal volumes of undiluted raw milk and Lansing virus were mixed making a final virus dilution of  $1:20 \times 10^{-2}$  against each sample of milk. Mixtures were incubated for 1 hour at room temp. & inoculated into mice.

MILKS USED - milks obtained from 12 cows at Mr. Schrodler's farm  
4/28/50

VIRUS - Lansing virus - Pool IV - 8/16/49

MICE - 18-20 from Mattfield alpins (female)

	MILK OF COW: 4-28-50	FINAL VIRUS DILUTIONS			
		1:20	$10^{-2}$	$10^{-3}$	$10^{-4}$
A	S #1	8/8	7/8	—	—
B	" #2	7/7	6/8	—	—
C	" #3	8/8	7/8	—	—
D	" #4	7/8	6/8	—	—
E	" #5	8/8	8/8	—	—
F	" #6	7/8	7/8	—	—
G	" #7	8/8	6/8	—	—
H	" #8	8/8	7/8	—	—
I	" #9	8/8	7/8	—	—
J	" #10	8/8	6/8	—	—
K	" #11	8/8	5/8	—	—
L	" #12 <i>Antepartum Colostrum</i>	1/7	1/7	—	—
M	Virus control	—	8/8	6/8	3/8



MORTALITY

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

SPECIMEN

C

S. COW # 3

MILK + LANSING

1/20

1 - PP  
2 - PP USED 5/5  
3 - ? D  
4 - PP D  
5 - D  
6 - P P P D  
7 - W P P D  
8 - P D

? D

P P P D  
P P D

10<sup>2</sup>

E OMS D  
W P P P P D  
P P P P D  
? D

D

S. COW # 4

MILK + LANSING

1/20

1 - PP USED 5/5  
2 - P P D  
3 - P P D  
4 - P D  
5 - P P P P D

P P P D

P P D

10<sup>-2</sup>

P D  
P D

P P P

P P P D

D

? D

MAY 2 1950

MORTALITY

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

E

S. COW # 5

MILK + LANSING

PP USED 5/5

1 - - - - -  
 2 - - - - -  
 3 - - - - -  
 4 - - - - -  
 5 - - - - -  
 6 - - - - -  
 7 - - - - -  
 8 - - - - -

PP USED 5/5

1 - - - - -  
 2 - - - - -  
 3 - - - - -  
 4 - - - - -  
 5 - - - - -  
 6 - - - - -  
 7 - - - - -  
 8 - - - - -

F

S. COW # 6

MILK + LANSING

D

1 - - - - -  
 2 - - - - -  
 3 - - - - -  
 4 - - - - -  
 5 - - - - -  
 6 - - - - -  
 7 - - - - -  
 8 - - - - -

PP USED 5/5

1 - - - - -  
 2 - - - - -  
 3 - - - - -  
 4 - - - - -  
 5 - - - - -  
 6 - - - - -  
 7 - - - - -  
 8 - - - - -

PPPPD

MORTALITY

35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

SPECIMEN

VIRUS No

1 2 3 4 5 6 7 8

S. COW # 7 MILK + LANSING

G

USED 5/5

1/20

P P P P P P D  
P P P P P P D  
P P P P P P D  
P P P P P P D

USED 5/5

10<sup>-2</sup>

P P P D

P P P P P D  
P P P P P D  
P P P P P D  
P P P P P D

H

1/20

S. COW # 8 MILK + LANSING

P P P P P P D  
P P P P P P D  
P P P P P P D  
P P P P P P D

10<sup>-2</sup>

P P P D  
P P P D  
P P P D  
P P P D

P P P P P D  
P P P P P D  
P P P P P D  
P P P P P D

MAY 2 1950

MORTALITY

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

SPECIMEN

I

S. COW # 9 MILK + LANSING

1 - P P P D  
 2 - P P P D  
 3 - - - -  
 4 - - - - WP D  
 5 - - - - P P D  
 6 - - - - P P D  
 7 - - - - P P D  
 8 - - - - P P D

1 - P P D  
 2 - P P P D  
 3 - P P P D

16-2 4 - - - - D  
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S. COW # 10 MILK + LANSING

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MAY 8 1950

## LANSING NEUTRALIZATION IN COW'S MILK

PURPOSE - To determine stability of Lansing protective qualities of Cow's milk. Previous milk samples of the animals, whose milk are tested here, were tested 4/3/50 + 5/1/50.

METHODS - Equal volume of undiluted raw cow's milk + Lansing virus was mixed making final virus dilutions of  $1/20 + 10^{-2}$  against each sample of milk. Mixtures were incubated for 1 hour at room temperature + inoculated into mice.

MILKS USED - Milks obtained from 9 cows on Mr. Van Meter's farm 5/5/50

VIRUS - Lansing virus - Pool IV of 8/16/49

MICE - 18-20 gram Maffield albinos (female)

MILK OF COW:

			FINAL VIRUS DILUTION			
			$1/20$	$10^{-2}$	$10^{-3}$	$10^{-4}$
+	A	V.M. #1	8/8	<u>4/8</u>	-	-
	B	" #2	7/8	7/8	-	-
	C	" #3	8/8	8/8	-	-
	D	" #4	8/8	8/8	-	-
+	E	" #5	7/8	<u>4/8</u>	-	-
+	F	" #6	7/8	<u>4/8</u>	-	-
	G	" #7	8/8	8/8	-	-
	H	" #8	8/8	6/8	-	-
	I	" #9	7/8	7/8	-	-
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	J	VIRUS CONTROL	-	8/8	7/8	3/8



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

V.M. COW # 3 MILK + LANSING

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3	-		CNS	D																																					
4	-		P	D																																					
5	-						? CNS	D																																	
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V.M. COW # 4 MILK + LANSING

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MAY 8 1950

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V. M. COW # 9

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MAY 10 1950

## LANSING NEUTRALIZATION - COW'S MILK

PURPOSE - to determine stability of Lansing protective qualities of Cow's milk. Previous milk samples of the animals, whose milks are tested here, were tested 5/2/50 + 5/1/50.

METHODS - Equal volume of undiluted raw Cow's milk + Lansing virus was mixed making a final virus dilution of  $1/20 \times 10^{-2}$  against each sample of milk. Mixtures were incubated for 1 hour at room temperature + inoculated into mice.

MILKS USED - milks obtained from 11 cows on [redacted] farm 5/5/50  
Milk from Van Meter Cow #7 obtained [redacted]

VIRUS - Lansing virus - Pool IV - 8/16/49

MICE - 18-20 gram maxfield albinos (female)

MILK OF COW:

		FINAL VIRUS DILUTIONS			
		$1/20$	$10^{-2}$	$10^{-3}$	$10^{-4}$
	5-5-50				
A	*S. # 1	7/8	6/8	—	—
B	" # 3	8/8	7/8	—	—
C	" # 4	8/8	7/8	—	—
D	" # 5	8/8	7/8	—	—
E	" # 6	7/8	7/8	—	—
F	" # 7	8/8	6/8	—	—
G	" # 8	8/8	6/8	—	—
H	" # 9	8/8	6/8	—	—
+	I " # 10	6/8	<u>4/8</u>	—	—
J	" # 11	8/8	7/8	—	—
+	K " # 12	6/8	<u>2/8</u>	—	—
L	*V.M. # 7	8/8	7/8	—	—
MI-VIRUS CONTROL		—	8/8	8/8	3/8

\* - S - [redacted] Cow MILK of 5/5

+ - V.M. - Van Meter Cow - MILK of 4/28



MAY 10 1950

MORTALITY 40 50

SPECIMAN

Views	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		
1/20	1	-	-	P	D																																	
	2	-	-	-	PP	D																																
	3	-	-	-	E	W	E	P	E	D																												
	4	-	-	-	?									P	D																							
	5	-	-	-										?	?	PP	D																					
	6	-	-	-																E	E	P	P	PP	D													
	7	-	-	-																CNS	E	E	E	E														
	8	-	-	-																																		

S. COW # 4 MILK + LANSING

10-2	1	-	-	?	PP	PP	D																																
	2	-	-	-			?	?	?	E	D																												
	3	-	-	-							P	P	D																										
	4	-	-	-									?																										
	5	-	-	-																																			
	6	-	-	-																																			
	7	-	-	-																																			
	8	-	-	-																																			

S. COW # 5 MILK + LANSING

1/20	1	-	D	Smear showed no bacteria - BAP-O																																			
	2	-	?	D																																			
	3	-	-	PP	D																																		
	4	-	-			P	PP	D																															
	5	-	-			P	W	D																															
	6	-	-																																				
	7	-	-																																				
	8	-	-																																				

S. COW # 5 MILK + LANSING

10-2	1	-	D	Smear showed no bacteria - BAP-O																																		
	2	-	-	CNS	D																																	
	3	-	-			?	PP	D																														
	4	-	-																																			
	5	-	-																																			
	6	-	-																																			
	7	-	-																																			
	8	-	-																																			





MAY 10 1950

MORTALITY

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

SPECIMEN

I

S. COW

#

10

MILK

+

LANSING

1/20

P D

P PP D

P D

PP D

P PP D

PP D

W D

P PP D

P PP D

?ETW DE

J

S. COW

#

11

MILK

+

LANSING

1/20

D W D

W PP D

P D

PP D

PP D

PP PP D

PP D

PP D

PP D

W PP D

P D

P D

MAY 10 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		
K S. COW # 12 MILK + LANSING	1	S	S	S	S	PP	D																																
	2	S	S	S	S	S	S	P	PP	D																													
	3	S	S	S	S	S	S	S	S	?	PD																												
	1/20 4	S	S	S	S	S	S	S	S	?	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	PD		
	5	S	S	?	-	S	S	S	S	-	S	S	S	S	S	S	S	S	S	S	S	S	S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PPPPPPD	
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L V.M. COW # 7 of 4/28/50 MILK + LANSING	1	S	S	S	PP	PP	PP	PD																															
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	3	S	S	S	S	S	S	S	S	S	S	S	S	S	S	P	PP	PP	D																				
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MAY 10 1950

MORTALITY

L D 50

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		
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M

CONTROL  
VIRUS ONLYSALINE  
+  
LANSING

P D

P D

P D

P D

EECG

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

E3 CNS

7

MAY 15 1950

## LANSING NEUTRALIZATION = COW'S MILK

PURPOSE - To determine stability of Lansing Protective qualities of Cow's milk and to determine the protective qualities of strip milk from animals whose first milks were previously tested.

METHODS - Equal volumes of undiluted raw cow's milk + Lansing virus were mixed making final virus dilutions of  $1/20$  +  $10^{-2}$  against each sample of milk. Mixtures were incubated for 1 hr at room temperature + inoculated into mice.

MILKS USED - Milks obtained from 9 cows on [redacted] farm 5/12/50; + [redacted] cow #1 milk of 9/28 was retested.

VIRUS - Lansing virus - Pool IV - 8/16/49

MICE - 18-20 gram maffield albinos (female).

<u>MILK OF COW:</u>		<u>FINAL VIRUS DILUTIONS</u>			
		$1/20$	$10^{-2}$	$10^{-3}$	$10^{-4}$
A	V.M. #1 (STRIP)	6/8	8/8	-	-
B	V.M. #2 (STRIP)	7/8	8/8	-	-
C	V.M. #3 (STRIP)	8/8	8/8	-	-
D	V.M. #4 (FIRST)	8/8	6/8	-	-
+E	V.M. #5 (FIRST)	8/8	<u>4/8</u>	-	-
+F	V.M. #6 (FIRST)	<del>7/8</del>	<u>2/8</u>	-	-
G	V.M. #7 (FIRST)	7/8	7/8	-	-
H	V.M. #8 (FIRST)	8/8	8/8	-	-
+I	V.M. #9 (FIRST)	7/8	<u>5/8?</u>	-	-
+J	V.M. #1 of 4/28/50	8/8	<u>5/8?</u>	-	-
K	CONTROL	-	-	-	-

MAY 15 1950

MORTALITY

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

SPECIMEN

A

V.M. Cow #1 MILK (STRIP)

LANSING

1/20

1 - P P P D

2 - ? P D

3 - P P P W ? C M S D

4 - P P P D

5 - P P P D

6 - P P P D

7 - P P P D

8 - P P P D

9 - P P P D

10 - P P P D

11 - P P P D

12 - P P P D

13 - P P P D

14 - P P P D

15 - P P P D

16 - P P P D

17 - P P P D

18 - P P P D

19 - P P P D

20 - P P P D

21 - P P P D

22 - P P P D

23 - P P P D

24 - P P P D

25 - P P P D

26 - P P P D

27 - P P P D

28 - P P P D

29 - P P P D

30 - P P P D

31 - P P P D

32 - P P P D

33 - P P P D

34 - P P P D

35 - P P P D

36 - P P P D

37 - P P P D

38 - P P P D

39 - P P P D

40 - P P P D

10<sup>-2</sup>

1 - P D

2 - P D

3 - P D

4 - P D

5 - P D

6 - P D

7 - P D

8 - P D

9 - P D

10 - P D

11 - P D

12 - P D

13 - P D

14 - P D

15 - P D

16 - P D

17 - P D

18 - P D

19 - P D

20 - P D

21 - P D

22 - P D

23 - P D

24 - P D

25 - P D

26 - P D

27 - P D

28 - P D

29 - P D

30 - P D

31 - P D

32 - P D

33 - P D

34 - P D

35 - P D

36 - P D

37 - P D

38 - P D

39 - P D

40 - P D

B

V.M. Cow #2 MILK (STRIP)

LANSING

1/20

1 - P D

2 - ? P P D

3 - ? C M S D

4 - ? D

5 - P P P P D

6 - P P D

7 - P D

8 - P D

9 - P D

10 - P D

11 - P D

12 - P D

13 - P D

14 - P D

15 - P D

16 - P D

17 - P D

18 - P D

19 - P D

20 - P D

21 - P D

22 - P D

23 - P D

24 - P D

25 - P D

26 - P D

27 - P D

28 - P D

29 - P D

30 - P D

31 - P D

32 - P D

33 - P D

34 - P D

35 - P D

36 - P D

37 - P D

38 - P D

39 - P D

40 - P D

10<sup>-2</sup>

1 - P P D

2 - D

3 - P P P D

4 - P P P D

5 - P P P D

6 - P P P D

7 - P P P D

8 - P P P D

9 - P P P D

10 - P P P D

11 - P P P D

12 - P P P D

13 - P P P D

14 - P P P D

15 - P P P D

16 - P P P D

17 - P P P D

18 - P P P D

19 - P P P D

20 - P P P D

21 - P P P D

22 - P P P D

23 - P P P D

24 - P P P D

25 - P P P D

26 - P P P D

27 - P P P D

28 - P P P D

29 - P P P D

30 - P P P D

31 - P P P D

32 - P P P D

33 - P P P D

34 - P P P D

35 - P P P D

36 - P P P D

37 - P P P D

38 - P P P D

39 - P P P D

40 - P P P D

MORTALITY

VIRUS No 1 2 3 4 5 6 7 8 9 10 11 12 13 14 16 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

SPECIMEN

C

V.M. cow #3 MILK (STRIP) LANSING

1 - W P P P P D  
2 - E P E D

3 - P P P D  
4 - ? P P P D  
5 - E E P D  
6 - ? W P P D  
7 - CNS P P D  
8 - P P P D

1 - W D

2 - P D  
3 - P P P D  
4 - ? P P D  
5 - P P P D  
6 - P P P D  
7 - P P P D  
8 - P P P D

10x 5 - P P P D  
6 - P P P D  
7 - P P P D  
8 - P P P D

P D

D

V.M. Cow #4 MILK (FIRST) LANSING

1 - P P P D  
2 - P P P P D  
3 - P P P D  
4 - P P P D  
5 - P P P D  
6 - P P P D  
7 - P P P D  
8 - P P P D

10x 1 - P P P D  
2 - P P P D  
3 - P P P D  
4 - P P P D  
5 - P P P D  
6 - P P P D  
7 - P P P D  
8 - P P P D

E CNS P P P P P P P D

1 - D  
2 - ? P P D  
3 - P P P D  
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5 - P P P D  
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8 - P P P D

10x 1 - P P P D  
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P P P D

MAY 15 1950

MORTALITY

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

SPECIMEN

E

V.M. COW #5 MILK (FIRST) +

LAN SING

1 - P P P P D

2 - P P P P D

3 - P P P P D

4 - P P P P D

5 - P P P P D

6 - P P P P D

7 - P P P P D

8 - P P P P D

1 - P P D

2 - P P D

3 - P P D

4 - P P D

5 - P P D

6 - P P D

7 - P P D

8 - P P D

1 - P P D

2 - P P D

3 - P P D

4 - P P D

5 - P P D

6 - P P D

7 - P P D

8 - P P D

F

V.M. COW #6 MILK (FIRST) +

LAN SING

1 - P P P P D

2 - P P P P D

3 - P P P P D

4 - P P P P D

5 - P P P P D

6 - P P P P D

7 - P P P P D

8 - P P P P D

1 - P P D

2 - P P D

3 - P P D

4 - P P D

5 - P P D

6 - P P D

7 - P P D

8 - P P D

1 - P P D

2 - P P D

3 - P P D

4 - P P D

5 - P P D

6 - P P D

7 - P P D

8 - P P D

1 - P P P P D

2 - P P P P D

3 - P P P P D

4 - P P P P D

5 - P P P P D

6 - P P P P D

7 - P P P P D

8 - P P P P D







MAY 16 1950

## LANSING NEUTRALIZATION = COW'S MILK

PURPOSE - To determine the effect of strip milk on Lansing virus & to compare the effects of first milk + strip milk of two animals as to their protective qualities against the virus.

METHODS - Equal volumes of undiluted raw Cow's milk + Lansing virus were mixed making final virus dilutions of  $1/20 + 10^{-2}$  against each sample of milk. Mixtures were incubated for 1 hour at room temperature + inoculated into mice

MILKS USED - Milks obtained from 11 Cows on [redacted] farm 5/12/50

VIROS - Lansing virus - Pool IV 8/16/49

MICE - 18-20 gram Mayfield albinos (female).

MILK OF COW:

		FINAL VIRUS DILUTIONS			
		$1/20$	$10^{-2}$	$10^{-3}$	$10^{-4}$
A	S. #1 (STRIP)	8/8	7/8	-	-
B	S #3 (STRIP)	8/8	6/7	-	-
C	S #4 (FIRST) }	8/8	7/8	-	-
D	S #4 (STRIP) }	7/8	7/8	-	-
E	S #5 (FIRST) }	8/8	7/8	-	-
F	S #5 (STRIP) }	8/8	8/8	-	-
G	S #6 (STRIP)	8/8	6/8	-	-
H	S #7 (STRIP)	8/8	7/8	-	-
I	S #8 (STRIP)	8/8	7/8	-	-
J	S #9 (STRIP)	8/8	8/8	-	-
+ K	S #10 (STRIP)	7/8	<u>4/8</u>	-	-
L	S #11 (STRIP)	8/8	7/8	-	-
M	S #12 (COLOSTRUM)	3/8	3/8	-	-
N	CONTROL	-	-	-	-



MAY 16 1950

MORTALITY

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

SPECIMEN

C

S. COW #4 MILK-(FIRST) +

LANSING

1	D
2	- PP D
3	- PP D
4	- P PP D
5	- PP D
6	- P D
7	- P PP D
8	- - P PP PP D

1	- PPP PPP D
2	- - PPP D

3	- - - P PP D
4	- - - - PP D
5	- - - - P PP D
6	- - - - - PP D
7	- - - - - PP PP D
8	- - - - - PP PP PP D

W E E E E PP D  
E CANS

D

S. COW #4 MILK-(STRIP) +

LANSING

1	- ? D
2	- - D
3	- - P PP D
4	- - CWS PP PP D
5	- - - ?
6	- - - PP PP D
7	- - - ? W
8	- - - - ? ? ? ?

1	- - - - - PP PP D
2	- - - - - ? W
3	- - - - - ? ? ? ?
4	- - - - - ? ? ? ?
5	- - - - - ? ? ? ?
6	- - - - - ? ? ? ?
7	- - - - - ? ? ? ?
8	- - - - - ? ? ? ?

W E E ? ? ? ? ? ? ? ?

10-2

1	- - - P D
2	- - - P PP D
3	- - - ? D
4	- - - - P E D
5	- - - - - P D
6	- - - - - PP D
7	- - - - - PP D
8	- - - - - PP D

PP D

MAY 16 1950

MORTALITY

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

E

S. COW # 5 MILK (FIRST) +

LANSING

1 - D  
2 - PP D  
3 - P P D  
4 - P P D  
5 - P P D  
6 - P P D  
7 - P P D  
8 - P P D

1/20 P P D  
T T P P D  
P P P P P P D  
P P P P P P D  
P P P P P P D  
P P P P P P D  
P P P P P P D  
P P P P P P D

PP O

1 - D  
2 - PP D  
3 - PP D  
4 - PP D  
5 - PP D  
6 - PP D  
7 - PP D  
8 - PP D

10<sup>2</sup> ? O  
W PP D  
W PP D  
W PP D  
W PP D  
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W PP D  
W PP D  
W PP D

cas cas D

F

S. COW # 5 MILK (STRIP) +

LANSING

1 - D  
2 - PP D  
3 - PP D  
4 - P PP D  
5 - P PP D  
6 - P PP D  
7 - P PP D  
8 - P PP D

1/20 P D  
P PP D  
P PP D  
P PP D  
P PP D  
P PP D  
P PP D  
P PP D

PP PP D

1 - D  
2 - PP D  
3 - P PP PP D  
4 - ?  
5 - ?  
6 - ?  
7 - ?  
8 - ?

10<sup>2</sup> P D  
P D  
P D  
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P D  
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P D

P P P P D  
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MAY 16 1950

MORTALITY

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

G

S. Cow #6 MILK (STRIP) +

LANSING

1/10

1 - PP D  
 2 - PP D  
 3 - P D  
 4 - ? P D  
 5 - - - ? D  
 6 - - - EE D  
 7 - - - P P P D  
 8 - - - P P P D

10-2

1 - PP D  
 2 - PP P P D  
 3 - EE P P D  
 4 - - - ? P P D  
 5 - - - P P P D  
 6 - - - ? P P D  
 7 - - - - -  
 8 - - - - -

H

S. Cow #7 MILK (STRIP) +

LANSING

1/10

1 - PP D  
 2 - P D  
 3 - - - P D  
 4 - - - P P D  
 5 - - - P P P D  
 6 - - - P P P D  
 7 - - - P P P D  
 8 - - - P P P D

10-2

1 - ? D  
 2 - - - P P D  
 3 - - - P P D  
 4 - - - P P P D  
 5 - - - P D P P D  
 6 - - - - -  
 7 - - - - - P P D  
 8 - - - - - P P D

MAY 16 1950

MORTALITY LD 50

VIEWS 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

SPECIMAN

I

S. COW # 8 MILK (STRIP) + LANSING

1 2 3 4 5 6 7 8

1/20

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

1 2 3 4 5 6 7 8

10-2

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

J

S. COW # 9 MILK (STRIP) + LANSING

1 2 3 4 5 6 7 8

1/20

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

1 2 3 4 5 6 7 8

10-2

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

SPECIMAN

Viruses

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

LD 50

K

S. COW #10 MILK (STRIP)

LANSING

1 - PP D

2 - PP D

3 - ? D

4 - P PP D

5 - ? PP D

6 - ? PP D

7 - ? PP D

8 - ? PP D

1/20

1 - P P D

2 - P P D

3 - P P D

4 - P P D

5 - P P D

6 - P P D

7 - P P D

8 - P P D

10-2

1 - PP D

2 - PP D

3 - P PP D

4 - P PP D

5 - P PP D

6 - P PP D

7 - P PP D

8 - P PP D

1/20

L

S. COW #11 MILK (STRIP)

LANSING

1 - P D

2 - P D

3 - P D

4 - P D

5 - P D

6 - P D

7 - P D

8 - P D

10-2

SEE CHANGES

EPD

MAY 16 1950

MORTALITY

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

SPECIMEN

1 -  
2 -  
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8 -

M

S. COW

# 12

MILK (6/12/50)

LANSING

Antepart 10x

E P P D

P P D

E E E

C M S

D

W

C M S

D

PPP D

+

1/20

3 3 D

1

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1

1

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MAY 16 1950

MORTALITY LD50

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			
N	10 <sup>2</sup>	-	PPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		-	L	W	-	P	PPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		-	-	-	-	-	-	W	-	-	-	PPD	PPD	PPD	PPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	E	PPD	PPD	PPD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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VIRUS CONTROL	10 <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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SALINE + LANSING	10 <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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VIRUS CONTROL	10 <sup>4</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
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SPECIMEN

VIRUS NO.

N

VIRUS CONTROL

SALINE +

LANSING

10<sup>4</sup>

Further Tests with Milk of [redacted] Cow # 12 (Emerald)

This cow gave birth to her first calf on 5-18-50

Milk specimens obtained on 4-28-50

" 5-5-50

" 5-12-50

The first two post-delivery milkings were unfortunately discarded, but the following subsequent ones were saved & frozen in sterile containers.

Evening May 19, 50

Morning " 20, 50

Even " 20, "

Morning " 21, "

MAY 24 1950

<u>Specimen of 4-28-50</u>	- undil.	vs.	50% <sub>30</sub>	or final	1:2
	1:4	"	"		1:8
	1:16	"	"		1:32
	1:64	"	"		1:128
	1:256	"	"		1:512

Even - 5-19-50 - 1:20  
1:100

Morn. 5-20-50 - 1:20  
1:100

Even " - 1:20  
1:100

Morn. 5-21-50 - 1:20  
1:100

## Some properties of factors present in Cow's Milk

██████████ Cows 3 + 7 yielded active milk on 3/31/50. Kept frozen in dry ice since then. Pooled to-day and treated as follows:

1.5cc in sealed amp. heated at 60°C for 30min  
" " " " at boiling water " "

5cc centrifuged in graduated tube at  $\approx 2000$  rpm for 20 min. Skimmed milk + fat separately

Pool <sup>U.M.</sup> cows 3 + 7 of 3/31/50 - untreated	1:20 1:100
" " " " - skim	1:20 1:100
" " " " - fat	1:100
" " " " - 60°C-30min	1:20 1:100
" " " " - 100°C - "	1:20 1:100

## Results of Centrifugation

4cc amounts were centrifuged in special, narrow tube about 10cm long, 7mm. internal diameter. The fatty layer on top measured only about 1-2 mm. and was estimated at about 1% of total. There was no sediment + the portion beneath the fatty cake was used as skim. There was not enough "fat" for a complete test or for exact measurement - approximately (very rough) equal parts of fat + 1:50 virus were mixed for test.

Heating at 100°C - sealed ampule submerged in boiling water. There was no coagulation or any other gross change in appearance of the milk.

MAY 24 1950

VIRUS 10<sup>-2</sup>  
LANSINGFINAL  
1/2MILK  
1/8DILUTION  
1/32    1/128

1/512

A. S. COW #12 - MILK OF 4/28/50    0/8    0/8    2/8    8/8    8/8

	MILK	FINAL 1/20	VIRUS 10 <sup>-2</sup>	DILUTION 10 <sup>-3</sup>	10 <sup>-4</sup>
B	S. COW #12 - EVE 5/19	5/8	<u>2/8</u>	—	—
C	" - MORN 5/20	7/8	6/8	—	—
D	" - EVE 5/20	6/8	6/8	—	—
E	" - MORN 5/21	7/8	<u>3/8</u>	—	—
F	V.M. COW POOL OF 3/31/50	7/8	<u>3/8</u>	—	—
G	" CENT. 2000RPM X 20MIN (SKIM)	<u>5/8</u>	<u>3/8</u>	—	—
H	" FAT AFTER 2000RPM	—	2/4?	—	—
I	" HEATED 60°C X 30MIN	8/8	<u>2/8</u>	—	—
J	" HEATED 100°C X 30MIN	<del>8/8</del> 8/8	8/8	—	—
K	VIRUS CONTROL	—	8/8	8/8	7/8







MAY 24 1950

MORTALITY

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

E

S. COW #12

MILK OF MORN. 5/11/50

+ LANSING

1 - ? D  
2 - BB B B D  
3 - PD  
4 - PP D  
5 - D  
6 - P P P D  
7 - E P D  
8 -

? P P

P P P  
? E E  
(NSP)

10<sup>-2</sup>

F

V.M. Cows Pool of # 3 & 7

MILK OF 3/11/50

+ LANSING

1 - P P P D  
2 - P P P D  
3 - E E P P D  
4 - ? P P D  
5 -

10<sup>-2</sup>

~~P E D~~

P E D

P P D  
P P D

P P D

? E E D

10<sup>-2</sup>

MAY 24 1950

MORTALITY

SPECIMEN VIRUS nos 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

G

V.M. COWS  
POOL OF  
# 3+7

MILKS OF 3/31/50  
2000 SN X 20 MIN  
(FAT FREE)  
+

LANSING 10<sup>-2</sup>

PP D  
EE D  
PP PP D

P D

3 PP PP D

PP D

PP D  
PP D

OMITTED

H

V.M. COWS  
# 3+7 (Pool)  
MILKS OF 3/31/50  
FAT - following 10<sup>-2</sup>  
2000 SN X 20 MIN  
+

PP D

EE CMS ? IV TYD

? TYD

LANSING





Further tests with milk of [redacted] Cow # 12 (Embold) 5-29-50

This cow gave birth to her first calf on 5-18-50

Milk samples taken on

5-22-50	} BAP. only shown c gray spreading org.
5-23-50	
5-24-50	
5-25-50	
5-26-50	
5-27-50	

Milks of each of the above date were tested against  $1/20 + 10^{-2}$  dilution of Lansing (Pool IB of 8-16-49)

### TESTS = HUMAN MILK Pool B 5-29-50

The milks in this pool were obtained from 3 mothers 190 - 340 days after delivery (Gooch, Gumble, Davenport)

#### Effect of 100°C on Human milk Pool B:

no gross physical change in the milk was observed following 100°C x 1/2 hour. The milk was heated by placing 1.5cc in a glass ampule which was sealed & submerged in boiling water.

#### Effect of Centrifugation at 2000 RPM x 20 min on Pool B:

4cc in small centrifuge tube (10cm long - 7mm inside diam.) yielded fatty cake @ 5mm at the top; a middle watery layer; and the bottom 2mm of the tube contained a white granular material.

The top fatty layer + the middle layer were used in the test.

MILK  
SPEC.

FINAL VIRUS DILUTIONS  
 $1/20$   $10^2$   $10^3$   $10^4$

A.	S. cow #12 of 5/22/50	—	—
B.	S. cow #12 of 5/23/50	—	—
C.	S. cow #12 of 5/24/50	—	—
D.	S. cow #12 of 5/25/50	—	—
E.	S. cow #12 of 5/26/50	—	—
F.	S. cow #12 of 5/27/50	—	—
G.	HUMAN POOL B	—	—
H.	HUMAN-POOL B - CENT. MIDDLE LAYER	—	—
I.	HUMAN POOL B - $100^{\circ}\text{C} \times 30 \text{ MIN}$	—	—
J.	HUMAN POOL B - FATTY LAYER	—	—
K.	VIRUS CONTROL	—	—





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

SPECIMAN

F

EMERALD MILK OF 5/20/50

+

LANSING VIEWS

10<sup>-2</sup>

F

EMERALD MILK OF 5/20/50

+

LANSING VIEWS

10<sup>-2</sup>

1 - P D  
2 - P P D  
3 - P P P P D  
4 - ? ? D  
5 - P P D  
6 - P P P P D  
7 - P P P P D  
8 - P P P P D

1 - P D  
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# GN NEW PROTOCOL

MAY 29 1950

MORTALITY LD50

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

## G

HUMAN POOL 1/20  
#B  
(GOOCH, GAMBLE  
DAVENTPORT)

ORIGINAL  
UNTREATED  
MILK

+

LANSING  
VIRUS

## H

HUMAN POOL 1/20  
#B  
(GOOCH, GAMBLE  
DAVENTPORT)

MILK  
~~1/20 - 3000~~  
CENT. MIDDLE  
LAYER (SKIM)

LANSING  
VIRUS 10<sup>-2</sup>5

1 - PPD  
2 - PPD  
3 - PPD  
4 -  
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1 - PP PPD  
2 - P PPD  
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SPECIMAN

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JUN 15 1950

Test for Antipolionmycelitic Factor in Milk of Goats

Specimens available for test:

Texas Goat Milk - obtained @ June 7, 1950 - pool from 19 goats from farm of [redacted], Abilene Texas -

bacteria count by State inspector said to be 300. Immediately frozen in "sterile" 2 quart carton (w/ 1.5-2 quarts of milk) in dry ice and arrived here in good condition frozen in dry ice.

On morning of test put in incubator at 37°C to thaw out. ~~but~~ ~~was of large quantity, only about 1/2 of it was thawed out after several hours. Since we could not wait it was used this way and therefore represents about 2x concentrated milk.~~

Culture on BAP - 150 Colonies some round yellow + hemolytic <sup>2</sup> remainder round, gray + non hemolytic  
Iowa Goats - French Alpine does - supplied by [redacted] of Cedar Rapids, Iowa.

The milk from individual goats was 6/12/50 put in sterile bottles (filled to brim) and sent here frozen in dry ice. The bottles cracked - were washed with alcohol - and allowed to thaw out in sterile beakers

Goat - Van na mama	-	Culture on BAP	- TMC	} small, round, white colonies = no hemolysis
" Penma	-	" " "	- TMC	
" S Lu ga	-	" " "	- TMC	

Cincinnati Goats - from [redacted] Eversole Rd., Mt. Washington Beechmont 7933 - 6/16/50 Used fresh

Ella - 2 yrs. old - mixture of Toggenberg and French Alpine Freshened 8 weeks ago. Culture on BAP - sterile

Suzanne - 4 years old - Mixture of Toggenberg + Saanen Freshened 14 months ago. Culture on BAP - sterile

Notes - How to get to Wedeneyer house

JUN 15 1950

Kellog Ave to Salem Pike - on pike for  
1 1/2 miles to Eversole Rd - turn right +  
1/2 mile down - house on right (opposite  
Dr. Light's)

Other Goat dairies near Cincinnati

██████████ - Cherry Grove - Route 125 - Batavia, Ohio

████████████████████ - Batavia, Ohio

██████████ - " "

Viruses used - Laming virus pool V - 6-6-50  
Viruses swept in centrifuge 2000 RPM x 10 MIN  
to remove flocculent precipitate which appeared  
in the stored material. This ppt. was not  
present in the material which was used for the  
original titration of the pool (6-9-50).

BAP of 2000SN - 000

JUN 15 1950 JUN 15 1950

Occurrence of Antipoliomyelitic Factor in Cow's Milk  
at Various Intervals after Delivery of Calf.

██████████ Cow No. 13 (not previously tested) freshened  
on June 8, 1950 (evening)

Milk specimens obtained -	hrs.	-	culture	# of colonies	
	24			100	large gray
	36	"	"	250	} round, yellow; small, round gray; small irregular gray; non-hemolytic
	48	"	"	100	
	60	"	"	300	
	72	"	"	100	
	84	"	"	100	

These were all frozen (in large quantity - also small lusteroid) by ██████████ in deep freeze. Transported from farm in dry ice.

Virus Used Lansing virus pool V - 6-6-50 (Cont. 2000 R.P.M. x 10 m.v.)  
Final dilution of Virus

1:20                      1:100

- 24 hr. milk
- 36 " "
- 48 " "
- 60 " "
- 72 " "
- 84 " "

JUN 15 1950

MORTALITY

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

A

S. Cow #13  
MILK 24hr.  
AFTER DELIVER  
+

LANSING

SPECIMEN

1/20

MISSING 6/18

7 CHSD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

checked today  
↓

10<sup>-2</sup>

B

S. Cow #13  
MILK 36hr.  
48?  
+

LANSING

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

H M<sup>1/2</sup> D-TYPHOID

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

PPD

10<sup>-2</sup>

D

PPD

PPD

PPD

PPD

PPD

PPD

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PPD

PPD

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PPD

JUN 15 1950

MORTALITY

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

SPECIMEN

C

S. Cow #13  
48h. MILK  
36+

LANSING

1/20 E P PP EE D - P P P D

P P P D  
E E E E E E  
E E E E E E  
E E E E E E  
E E E E E E

PPD EP D - P ?

P D

PP D  
E E

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P E D

P P P D

D P P D  
- CNS

D P P D  
E E P P D

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PE D

D

PP D  
E P P P D  
E P P P D  
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E P P P D

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P P P D  
E E

D

S. Cow #13  
60h. MILK  
+

LANSING

10<sup>-2</sup>

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JUN 15 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						
E S. COW #13 MILK - 72 hrs. AFTER CALF +	1/20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
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E

S. COW #13  
MILK - 72 hrs.  
AFTER CALF  
+

LANSING

F

S. COW #13  
MILK - 84 hrs.  
+

LANSING





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

K

CINCINNATI GOAT  
(ELLA)  
MILK  
+  
LANSING

1	-	D
2	-	D
3	-	?
4	-	- PPD
5	-	- PPD
6	-	- PPD
7	-	- PPD
8	-	- PPD

1	-	? chs D
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4	-	- PPD PPD
5	-	- PPD
6	-	- PPD
7	-	- PPD
8	-	- PPD

PPD PPD PPD

L

CINCINNATI GOAT  
(SUZANNE)  
MILK  
+  
LANSING

1	-	D
2	-	D
3	-	PPD
4	-	P PPD
5	-	- PPD
6	-	- PPD
7	-	- PPD
8	-	- PPD

1	-	D
2	-	D
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6	-	- PPD
7	-	- PPD
8	-	- PPD

PP PPD

P D

JUN 15 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

1 - D  
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 5 - P P P D  
 6 - - - - ? ? - ? CNS D  
 7 - - - - ? P P D  
 8 - - - - - - - ? - ? D

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10 - P P P D  
 11 - ? P P D  
 12 - P P P D  
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14 - P P D  
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Milk obtained from Schroder Farm on 6-23-50

Test 6/26/50

Purpose - Since approximately 1 month elapsed since last sampling it was desirable to determine possible effect of "early summer" pasture on presence of milk factor. Also recheck cows previously positive, and obtain specimens on "dried up" cows due to freshen soon.

All specimens were "first" specimens, i.e. obtained at very beginning of milking.

Culture on BAP

- S # 1 - 100 - large raised mucoid colonies = grayish yellow pigment; small white + small yellow colonies. none hemolytic
- # 2 - TMC - small white, gray, + yellow colonies + 1 mold - ana hemolytic
- # 3 - TMC - gray round colonies + small tan colonies. slight hemolytic
- # 4 - 75 - gray, yellow, + white colonies, no hemolytic
- # 5 - 60 - 8 large molds; large flat gray, + small yellowish gray
- # 6 - 44 - raised grayish yellow hemolytic; + small round white colonies
- # 7 - 60 - 5 small grayish yellow hemolytic; small gray; + round yellow
- # 8 - { 80 colonies - large white hemolytic; small yellow + small orange
- # 9 - colored colonies = no hemolysis.
- # 10 - 15 - hemolytic *Staph aureus*, 3 molds, 1 *Staph citreus*, 2 large gray *Alb*
- # 11\* - 300 colonies - large glistening gray colonies + small grayish white. none hemolytic.
- # 12 - 34 - round yellow = raised centers; small, round white, 1 mold.
- # 13 - TMC - small flat gray colonies; large yellow = raised centers; (Dekol) large gray = raised center.
- # 14 - 200 colonies - medium sized gray colonies = dark gray centers, (VAR) small tan colonies. none hemolytic.

Cow No. 11 (Radesta). Has been dry for about a month. However, yellow, antepartum "colostrum" was obtained about 10 cc stored.

Cow No. 14 (VAR) - not previously used - is due to freshens about Aug. 3. - Yellow, antepartum colostrum

8cc frozen in small lusteroid + 4/1cc in large lusteroid.

8cc of each of above first frozen in lusteroids in dry ice - then transferred to deep freeze at @ -20°C.

VIRUS USED - Lansing Pool V of 6/6/50 - 2000 RPM x 10 min in K<sub>2</sub> sulfate flocc. 1/4

JUN 26 1950

SPECIMEN	FINAL	VIRUS	DILUTION	
	$\frac{1}{20}$	$10^{-2}$	$10^{-3}$	$10^{-4}$
A - S. COW #1 - MILK OF 6/23/50	8/8	7/8	—	—
B - S. COW #3 " " "	8/8	8/8	—	—
+ C - S. COW #4 " " "	7/7	<u>5/8?</u>	—	—
D - S. COW #5 " " "	8/8	7/8	—	—
E - S. COW #6 " " "	8/8	6/8	—	—
F - S. COW #7 " " "	8/8	6/8	—	—
G - S. COW #8 " " "	7/8	6/8	—	—
H - S. COW #9 " " "	8/8	6/8	—	—
+ I - S. COW #10 " " "	8/8	<u>4/8</u>	—	—
+ J - S. COW #11 " antepartum colostrum	3/8	0/8	—	—
+ K - S. COW #12 " 34 days postpartu	7/8	<u>4/8</u>	—	—
+ L - S. COW #14 " antepartum 26 wks	6/8	<u>2/8</u>	—	—
M - VIRUS CONTROL	8/8	8/8	8/8	5/8

JUN 26 1950  
MORTALITY

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

1 -D } no fruit seen on specimen ; BAP 000  
2 -D }  
3 -D }  
4 PP PP D  
5 - P D  
6 - - - PP D  
7 - - - PP D  
8 - - - ? PP PP D

A

S. COW #1 MILK OF 6/23/50 + LANSING

1 5 PP D  
2 - ? ? PP D  
3 - - - ? PP PP D  
4 - - - ? ? P D  
5 - - - ? ? CNS D  
6 - - - - - ? P D  
7 - - - - - ? ? D  
8 - - - - - - - ? ? D  
9 - - - - - - - - - ? ? D  
10 - - - - - - - - - - - ? ? D  
11 - - - - - - - - - - - - - ? ? D  
12 - - - - - - - - - - - - - - - ? ? D  
13 - - - - - - - - - - - - - - - - - ? ? D  
14 - - - - - - - - - - - - - - - - - - ? ? D  
15 - - - - - - - - - - - - - - - - - - - ? ? D  
16 - ? ? D  
17 - ? ? D  
18 - ? ? D  
19 - ? ? D  
20 - ? ? D  
21 - ? ? D  
22 - ? ? D  
23 - ? ? D  
24 - ? ? D  
25 - ? ? D  
26 - ? ? D  
27 - ? ? D  
28 - ? ? D  
29 - ? ? D  
30 - ? ? D  
31 - ? ? D  
32 - ? ? D  
33 - ? ? D  
34 - ? ? D  
35 - ? ? D

THAT

B

S. COW #3 MILK OF 6/23/50 + LANSING

1 9 PP D  
2 - - - - - P D  
3 - - - - - P D  
4 - - - - - PP D  
5 - - - - - PP PP D  
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34 - - - - - PP PP D  
35 - - - - - PP PP D

THAT

SPECIMEN VIEW 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

C

S. COW #4 MILK OF 6/23/50 + LANSING

D } no but on screen; BAP000

1 - D }  
 2 - ? D  
 3 - - - - - PP D  
 4 - - - - - PP PP D  
 5 - - - - - EE PP D  
 6 - - - - - PP D  
 7 - - - - - ESE Pw/P D  
 8 - - - - - MISSING 9/5

1 - BREED  
 2 - PP D  
 3 - P PP D

PPPP D

PPED

D

S. COW #5 MILK OF 6/23/50 + LANSING

1 - P } no but on screen; BAP000  
 2 - DS }  
 3 - PP D

4 - P PP D  
 5 - - - - - D  
 6 - - - - - PP D  
 7 - - - - - PP PP D  
 8 - - - - - PP D

1 - PP D  
 2 - ? D

3 - - - - - PP D  
 4 - - - - - D  
 5 - - - - - ? D  
 6 - - - - - PP PP D  
 7 - - - - - PP PP D

EMS PP D

JUN 26 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

E  
S. COW  
# 6  
MILK  
OF 6/23/50  
+  
LANSING

1/20  
1 - PP D  
2 - P D  
3 - P PP D  
4 - - - ? - - - ? PP D  
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7 - - - - - - - ? PP PP PP D  
8 - - - - - - - PP PP PP D

10<sup>-2</sup>  
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F  
S. COW  
# 7  
MILK  
OF 6/23/50  
+  
LANSING

1/20  
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3 - - ? D  
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8 - - - - - - - PP PP PP D

10<sup>-2</sup>  
1 - - PP D  
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5 - - - - - - ? PP PP PP D  
6 - - - - - - P PP PP D  
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SPECIMEN 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

**K**

S. COW # 12 MILK OF 6/23/50 + LANSING

1 - PP D  
2 - ? D  
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6 - PP PP D  
7 - ?  
8 - PP PP D

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**L**

S. COW # 14 MILK OF 6/23/50 + LANSING ANTEPARTUM Colostrum

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JUN 26 1950

MORTALITY L D 50

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

M

CONTROL  
LANSING  
+  
SALINE

8/8

8/8

10-4.1

8/8

5/8

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Milk from Van Meter Farm on 6-23-50

Test 6/28/50

Purpose - See [redacted] Farm sheet of same date

Culture on BAP

- V.M. # 1 5 - very small round, flat, white colonies  
# 2 21 - raised white colonies; 1 hemolytic streptococcus  
# 3 120 - Small, round, raised, yellow colonies, 20 small white colonies  
# 4 9 - 2 round yellow; 7 small flat white colonies, some hemolytic  
# 5 80 - medium large, round yellow colonies = no hemolysis  
# 6 Tmc - flat, round, gray colonies = no hemolysis  
# 7 2 colonies - 1 round = golden pigment + hemolytic; 1 rough yellow  
# 8 40 hemolytic colonies = rough edges, yellow pigment, + dark center  
# 9 0 - sterile

Cows 1, 2, 3, 4, 5 and 7 - no alcohol used to wash udders. After about 1 quart had been milked into pail specimen was squirted into sterile bottle.

Cows 6, 8 + 9 - "first" milk - obtained in usual manner - alcohol wipe on before milking - few squirts on floor + then into sterile bottle

Cow # 9 - dry about 1 month - very viscid, yellow antepartum colostrum.

On lusteroid with 8cc  
2 lusteroids with 13cc each

All specimens first frozen in dry ice overnight, then in deep freeze at about -20°C.

Vials used - Laming pool V of 6/6/50 - Cent 2000 Rpm x 10 min

JUN 28 1950

<u>SPECIMEN</u>	FINAL		DILUTION	
	<u>Y<sub>20</sub></u>	<u>VIRUS</u> <u>10<sup>-2</sup></u>	<u>10<sup>-3</sup></u>	<u>10<sup>-4</sup></u>
A- V. M. COW #1 - MILK OF 6/23/50			-	-
B- V. M. COW #2 " " "			-	-
C- V. M. COW #3 " " "			-	-
D- V. M. COW #4 " " "			-	-
E- V. M. COW #5 " " "			-	-
F- V. M. COW #6 " " "			-	-
G- V. M. COW #7 " " "			-	-
H- V. M. COW #8 " " "			-	-
I- V. M. COW #9 " " "			-	-
* J- <u>PROLACTIN</u>			-	-
K- VIRUS CONTROL			-	-

Prolactin BAP - TMC - Hammy rods (pleomorphic)

Prolactin obtained as solution from Dr. Arthur Mirsky



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

C  
V.M. Cow  
#3  
MILK  
OF 6/23/50  
+  
LANSING

1 - P P D  
2 - ? P P D  
3 - P P D  
4 - P P D  
5 - P P P D  
6 - P P P D  
7 - P P D  
8 - P P D

1 - P D  
2 - P P D  
3 - ? D  
4 - P D  
5 - P P P D  
6 - P P P D  
7 - P P P D  
8 - P P P D

D  
V.M. Cow  
#4  
MILK  
OF 6/23/50  
+  
LANSING

1 - P P D  
2 - P P P D  
3 - P P P D  
4 - P P P D  
5 - ? D  
6 - P P D  
7 - P D  
8 - P D

1 - D P P D  
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8 - P D

? P P D  
? P P D





JUN 28 1950

MORTALITY

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

I

V.M. COW  
# 9  
MILK  
OF 6/23/50  
+

LANSING

ANTEPARTUM

10<sup>-2</sup>  
COLOSTRUM

EEEE E E E E E

1 - D  
2 - D  
3 - BB D  
4 - BB D  
5 - ?  
6 - ?  
7 - ?  
8 - ?

PROLACTIN  
+

LANSING

10<sup>-2</sup>

1 - D  
2 - D  
3 - BB D  
4 - BB D  
5 - ?  
6 - ?  
7 - ?  
8 - ?

PP D

PP D

PP D

PP D

PP D

PP D

PP D

PP D



Postpartum Milk Specimens on [redacted] Cow # 13 (DekoC)

~~Sp.~~ Cow freshened on June 8, '50. Specimens up to 84 hours later, i.e. June 12 already tested.

From each morning milking - 5-8cc was then removed and stored in deep freeze on [redacted] farm.

Following specimens, transported in dry ice, were brought to laboratory on 6-23-50.

6-13-50 - 5 days after delivery

6-14-50 - 6 " " "

6-15-50 - 7 " " "

6-16-50 - 8 " " "

6-17-50 - 9 " " "

6-18-50 - 10 " " "

6-19-50 - 11 " " "

6-23-50 - 15 " " "

Test of 6/29/50

VIRUS USED - Lancing Pool V of 6/6/50 - Cent. 2000 RPM x 10 min  
to remove flocculent ppt.

BAP Before Cent - 10 small white colonies

BAP 2000 SN - " " " "

JUN 29 1950

<u>SPECIMEN</u>	<u>FINAL VIRUS DILUTION</u>			
	<u>1/20</u>	<u>10<sup>-2</sup></u>	<u>10<sup>-3</sup></u>	<u>10<sup>-4</sup></u>
A- S. Cow #13 MILK - 6/13/50 (5 DAYS AFTER CALF)			—	—
B- " " " " 6/14/50 (6 DAYS AFTER CALF)			—	—
C- " " " " 6/15/50 (7 DAYS AFTER CALF)			—	—
D- " " " " 6/16/50 (8 DAYS AFTER CALF)			—	—
E- " " " " 6/17/50 (9 DAYS AFTER CALF)			—	—
F- " " " " 6/18/50 (10 DAYS AFTER CALF)			—	—
G- " " " " 6/19/50 (11 DAYS AFTER CALF)			—	—
H- " " " " 6/23/50 (15 DAYS AFTER CALF)			—	—
I- VIRUS CONTROL Pool I of 6/6/50				

VIRUS USED



JUN 29 1950

MORTALITY

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

C

S. COW #13 MILK OF 6/15/50 + LANSING

7 days

1/10

1 - P O  
 2 - P O  
 3 - ? P D  
 4 - ? P P D  
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 9 - ? P R D  
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S. COW #13 MILK OF 6/15/50 + LANSING

10<sup>-2</sup>

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D

S. COW #13 MILK OF 6/16/50 + LANSING

8 days

1/10

1 - P P D  
 2 - P D  
 3 - ? D  
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10<sup>-1</sup>

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JUN 29 1950

MORTALITY LD50

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CONTROL

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CMS

JUL 24 1950

# Test on Antepartum and Postpartum Colostrum of Various Cows

<u>Code</u>	<u>Cow</u>	<u>Specimen</u>	<u>Location</u>
A	Freiberg "olive"	1 <sup>st</sup> milking - 7/11/50	Deep freeze - jar
B	" "	3 <sup>rd</sup> " - 7/12/50	" "
C	V.M. #9	Antepartum - 7/19/50	" - R1, Sh 6
D	S. # 11	" - 7/19/50	" - " "
E	S # 14	" - 7/8/50	" - " "
F	"	" - 7/15/50	" - " "
G	"	" - 7/19/50	" - " "

## Virus Lot V

Since the titer of this virus has proved to be higher than that of previous lot, the virus will be used as 1:20 and 1:100 for final conc. of 1:40 and 1:200.

Simultaneous titration under conditions of test:

10 <sup>-2</sup>	-	20 mice
10 <sup>-3</sup>	-	20 "
10 <sup>-4</sup>	-	20 "
10 <sup>-5</sup>	-	20 "

BAP RECORD OF MILKS USED IN TEST OF JUL 24 1950

COVN SPECIMEN	# OF COLONIES	COMMENT
(M) FRIBERG - "OLIVE" - 7/11/50 (1 <sup>st</sup> )	TMC	Area entirely covered = small, round, flat, grayish yellow colonies = zone of hemolysis around area
(N) FRIBERG - "OLIVE" - 7/12/50 (3 <sup>rd</sup> )	TMC	Small, round, flat, grayish yellow colonies @ 150 raised mucoid colonies. Hemolysis of area
(O) V.M # 9 - 7/19/50	TMC	Small, round, flat, grayish yellow colonies = zone of hemolysis around entire area
(P) S # 11 - 7/19/50	TMC	flat grayish yellow colonies. Hemolysis true.
(Q) S # 14 - 7/8/50	50	Few white, raised, mucoid colonies Hemolysis true <u>Staph aureus</u> + non hem <u>Staph albus</u>
(R) S # 14 - 7/15/50	0	<u>Stenob</u>
(S) S # 14 - 7/19/50	3	<u>Staph albus</u> = slight hemolysis









SIMULTANEOUS LANSING (Pool V; 6/6/50) TITRATION  
 INCUBATED 1 hr at room temperature

JUL 24 1950

	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				
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21d

16/20

28d

19/20

35d

20/20



JUL 25 1950

Antipoliovirulent Activity of Antepartum Cow Colostrum

<u>Code</u>	<u>Cow</u>	<u>Laussing Virus - Final</u>	
		<u>1:40</u>	<u>1:200</u>
A	Marcus # 1 (Susanah)		
B	" # 2 (Pearl)		
C	" # 3 (BAR-LASSIE)		
D	" # 4 (BAR-LUCY)		
E	" # 5 (Ophelia)		
F	" # 6 (LOUELLA)		
G	Johnson # 1		
H	" # 2		
I	" # 182		
<del>J</del>	<del>Lysozyme (repeat)</del>		
J	SALINE CONTROL		

VIRUS USED - Laussing Pool V (6/6/50)

MICE - 18-20 gram Maffield albino (females)

Test incubated 1 hr. at room temp

BAP RECORD OF MILKS USED IN TEST OF - JUL 25 1950

<u>COW SPECIMEN</u>	<u># OF COLONIES</u>	<u>COMMENT</u>
█ #1 (SUSANHA)	300	Tan-yellow, round Colonies + round white Colonies - Hemolytic
█ #2 (PEARL)	TMC	Small, gray + gray-green Colonies, no hemolysis
█ #3 (BAR-LASSIE)	75	Hem. 5 large colonies; + few small round white Colonies - no hemolysis
█ #4 (BAR-LUCY)	50	Irregular edged gray-yellow Colonies - hemolysis Small round white
█ #5 (OPHELIA)	TMC	gray, pin point Colonies - no hemolysis Few small white Colonies
█ #6 (LOVELLA)	275	Round white, small round pink, round yellow. Many hemolytic
█ █ █ █ █ #1	TMC	Very small gray Colonies + large gray Colonies, none hemolytic
█ █ █ #2	120	Small, round, white, mucoid Colonies: 1 round + 1 gray spreader
█ █ █ █ █ #182	TMC	Small, brownish-pink Colonies - hemolysis





ANTEPARTUM  
COLOSTRUM

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

JUL 25 1959

MORTALITY

1 D }  
2 D } BAP - many colonies  
3 D }  
4 PR D  
5 S S S D  
6 S S S PP D  
7 S S S S S ?  
8 - - - - -

1/40  
Smear?

cow  
#5 - OPHELIA  
MILK  
+

LANSING

1 D  
2 PR D  
3 S S S S D<sup>+</sup> EATEN  
4 S S S S S TYPH D - TYPHOID  
5 S S S S S ?  
6 S S S S S  
7 S S S S S  
8 - - - - -

1/200

1 D }  
2 D } BAP - many colonies  
3 S S S S PP D  
4 S S S S P D  
5 S S S S S ?  
6 S S S S S  
7 ? S S S S S  
8 - - - - -

1/40  
? PD

cow  
#6 - LOVELLA  
MILK  
+

LANSING

1 S S S ?  
2 S S S ?  
3 S S S ?  
4 S S S ?  
5 S S S ?  
6 S S S ?  
7 S S S ?  
8 S S S ?

1/200

Smear?





JUL 28 1950

		# of colonies	COMMENT
(A)	Boston milk & mystery 7/24/50	TMC	gray shades & minute yellow, food water
(B)	S. COW #14 1 <sup>st</sup> post. partur	15	Have Staph aureus & albus
(C)	S. COW #11 7/26/50	TMC	Raised slightly, + pin point gray yellow small yellow = no hem.
(D)	S. COW #7 7/26/50	@ 250	
(E)	V. M. COW #9 7/26/50	TMC	Small, yellow no hem.
(F)	██████ S #5 (OPHELIA) 7/22 - HEATED 60° X 30 min	0	streak
(G)	██████ "OLIVE" 7/11/50 - HEATED - 60° X 30 min	0	streak
(H)	██████ "OLIVE" - 7/12/50 HEATED 60° X 30 min	200	Small, yellow, no hem
(J)	D. 590 LYSOZYME	0	streak









V.M.

COW #9 MILK vs LANSING

SEP 22 1950

Colostrum vs. Regular Milk

PURPOSE - to determine effect of certain cow milks on Lansing virus.

VIRUS - Lansing Pool V of 6/6/50

MICE - 18-20 pure strain field albino (female)

MILK - V.M. cow #9 of 8/2/50

V.M. cow #9 of 9/10/50

METHODS - Incubation of milk-virus mixtures for 1 hr at room.

BAP RECORD - VM #9 of 8/2/50 - @ 75 small yellow hemolytic colonies

VM #9 of 9/10/50 - @ 200 small yellow hemolytic colonies

<u>CODE</u>	<u>SPECIMEN</u>	FINAL VIRUS DILUTION		
		1:40	1:200	10 <sup>-3</sup> 10 <sup>-4</sup>
J	V.M. cow #9 of 8/2/50	3/7	0/8	0/7 -
K	V.M. cow #9 of 9/10/50	8/8	6/8	4/8 -
CONTROLS		6/7	8/8	8/8 5/8

Controls = mechanism experiment of above data.



