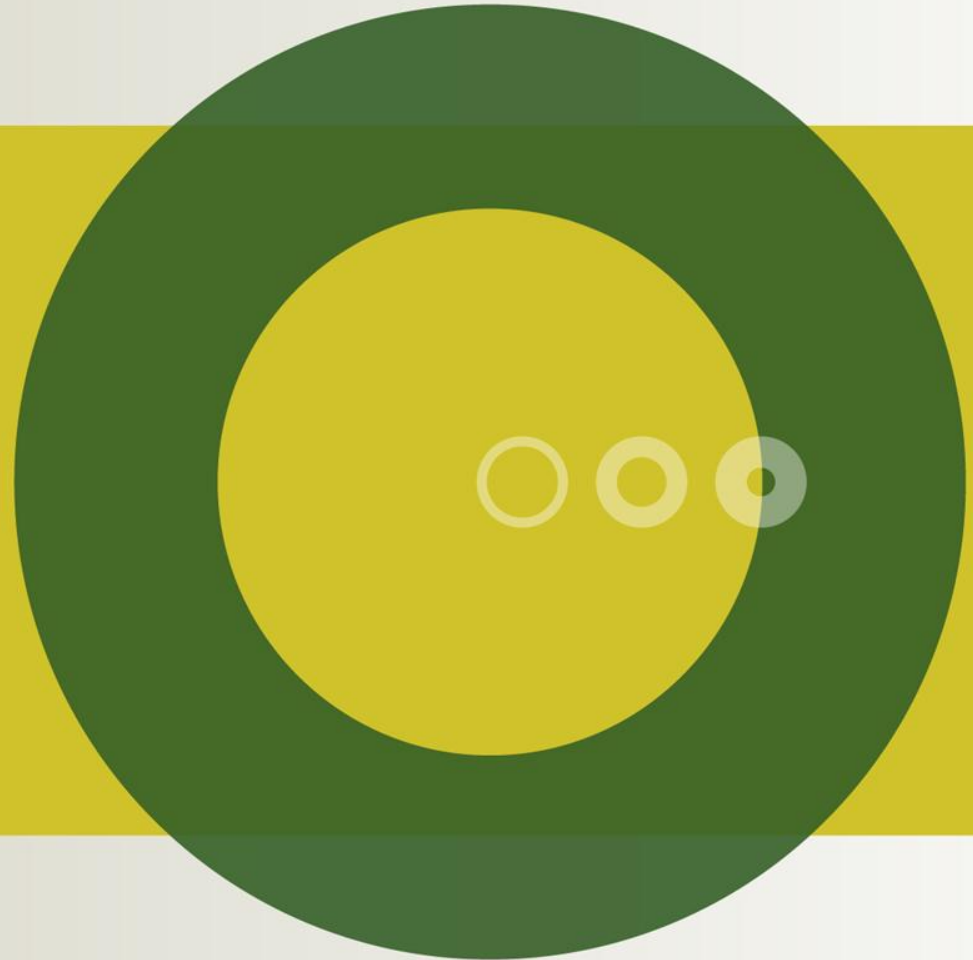




PCR og Sverige Flourkinolonforsøg

Jørgen Katholm





Therapi

- Udmalkning
- Calcium PMD
- Hypertonic NaCl 2 l
- Antiinflammatorisk behandling
- Evt ekstra væske
- Smerte behandling
- Antibiotika
 - ingen, danofloxacin i.v., cefquinome 3*imm



Clinical cure rate of 70 cases of coliform mastitis grouped by colony density

Colony density	No of cases	Clinical cure rate Day 14
Moderate infection	47	94%
Severe infection	23	48% ***

Katholm et al 1989



Coliform mastitis:

Colony density in milk, endotoxin in blood and clinical outcome

Cow no status	Colony density	Day 0		Day 1		Day Clinical
		CFU/ml	Endotoxin EU/ml	CFU/ml	Endotoxin EU/ml	
14 teat ¹	Severe	10 ⁹	2.88	10 ⁷	0.82	dry
OK ²	Moderate	10 ⁴	0.8	10 ⁴	n.d.	
OK ³	Moderate	10 ⁴	n.d.	10 ³	n.d.	
4 Dead	Severe	10 ⁷	4.32	10 ⁷	15.36	







Total number of clinical mastitis treated in 1996

Relations between microbial diagnosis and clinical diagnosis including Limast test

		Microbial Diagnosis		
		Coli +	Coli -	Total
Clinical Diagnosis + Limast test	Coli +	28	1	29
	Coli -	44	391	435
	Total	72(16%)	392	464



VIDENCENTRET FOR LANDBRUG

CFU/ml and CFU/cm²

Orion Diagnostic

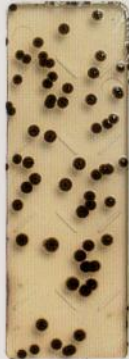
Hygicult E/ β -GUR (growth on β -GUR medium)

10^3 /ml



1/cm²

10^4 /ml



5/cm²

10^5 /ml



45/cm²

10^6 /ml



80/cm²

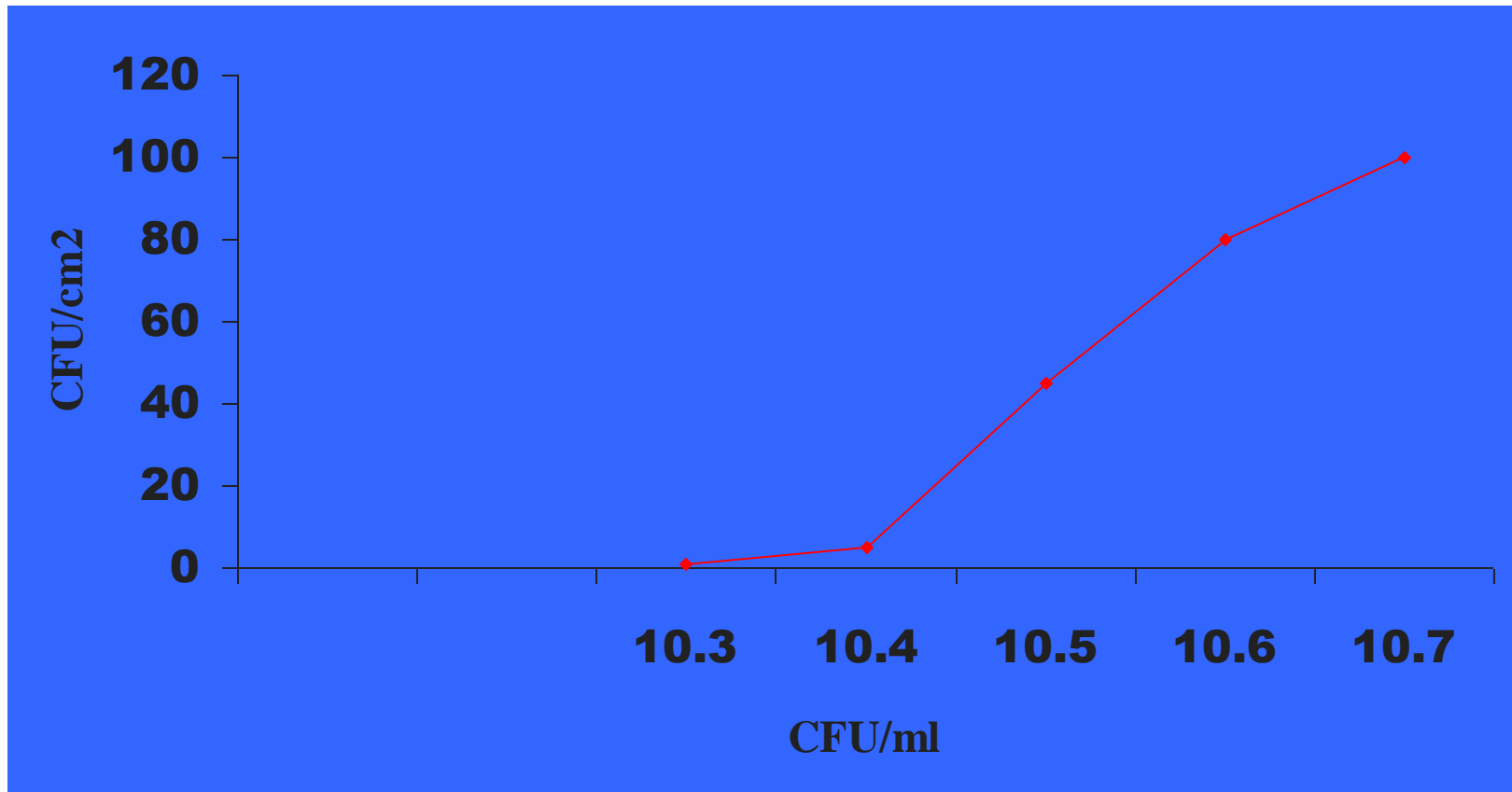
10^7 /ml



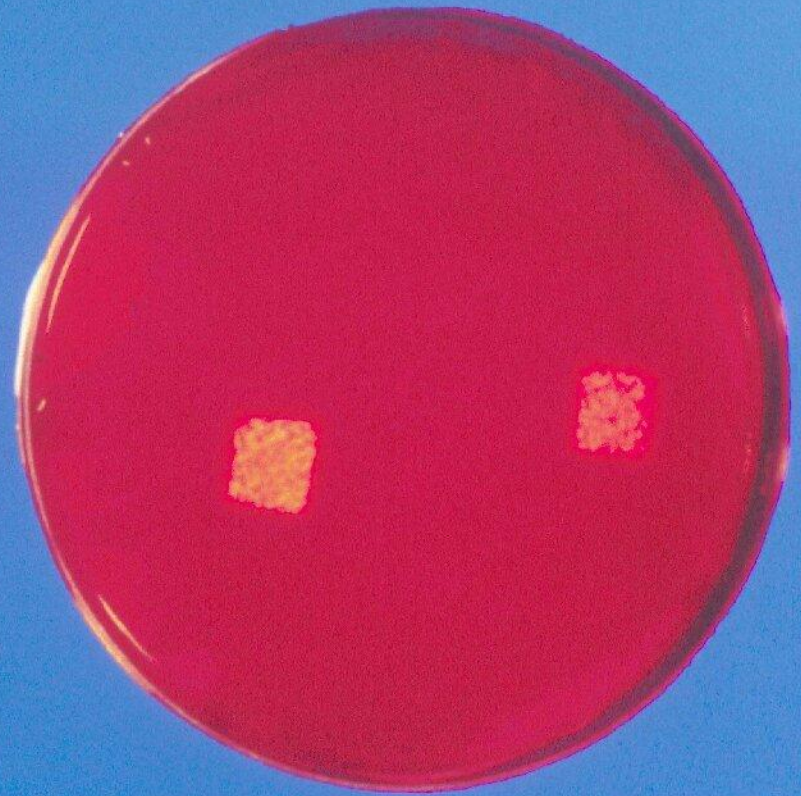
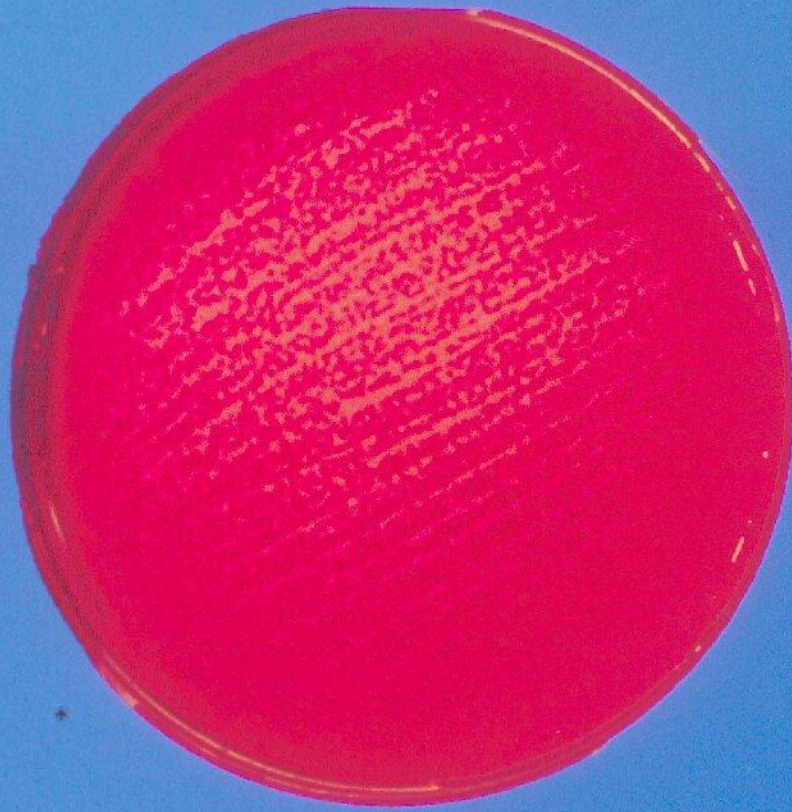
>100/cm²

CFU/ml and CFU/cm²

Orion Diagnostica



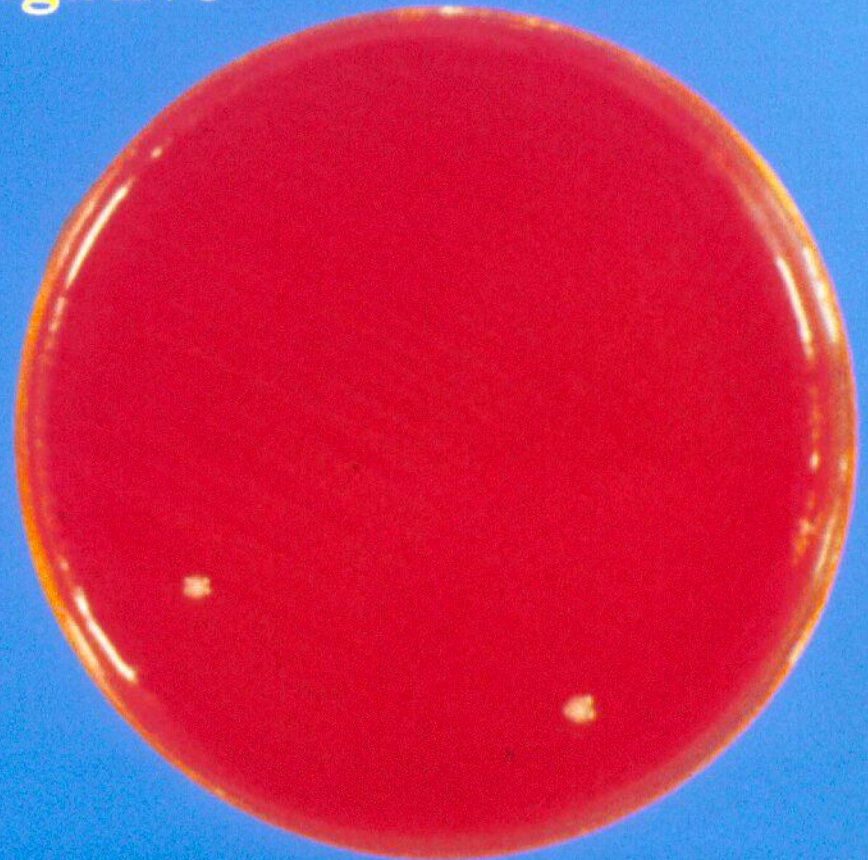
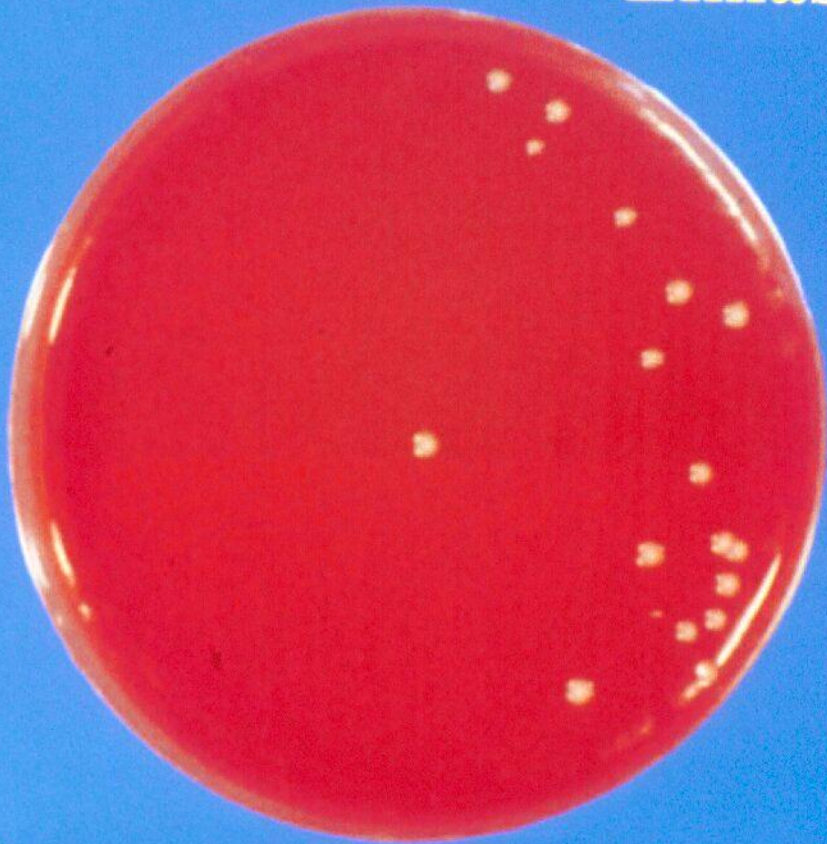
E.coli mastitis
CFU/cm²



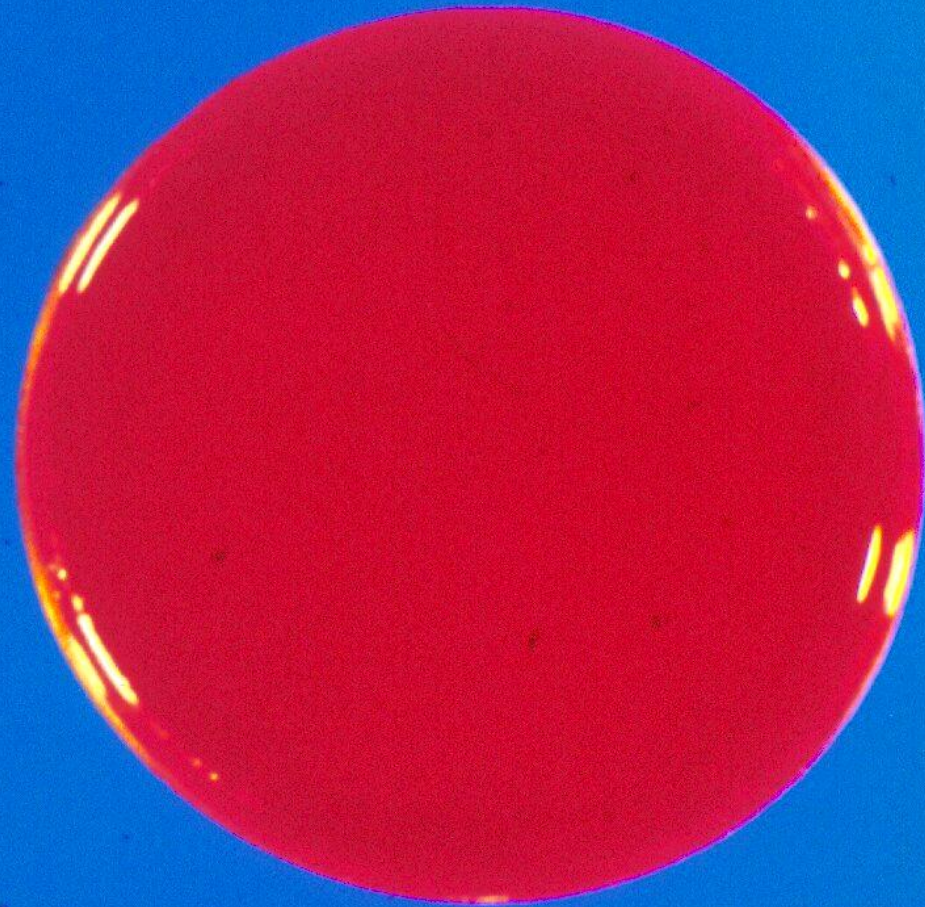
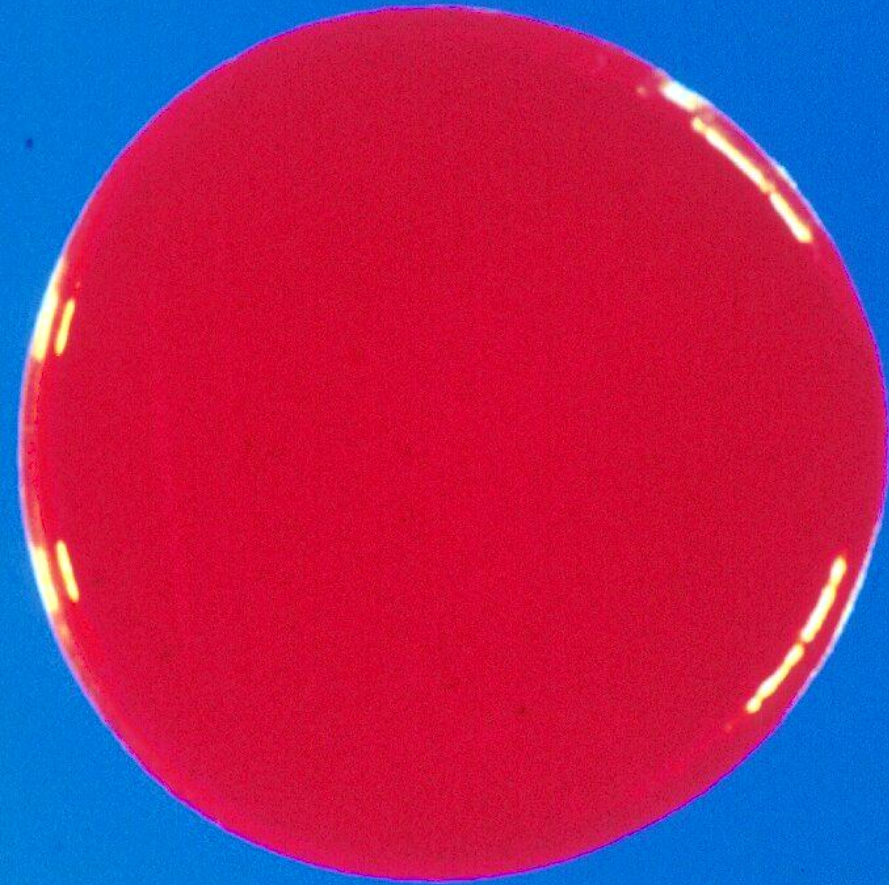


Ret syg ko
Limast negative
Mild infektion
Excluded

E.coli mastitis
Mild infection day 0 CFU/cm² =1
Limast negative



E.coli mastitis
Mild infection day 1. CFU/cm²=0





udmalkning



Calcium PMD



Hypertonisk NaCl
2 l



Tilbyd vand



Evt. ekstra væske

Smerte behandling: Epidural injection xylazin, morfin and NaCl





Antibiotika terapi

I Ingen

Jan. 1996 – dec. 1996

II Danofloxacin 1.25 mg/kg i.v. 0 and 24 hours

Jan 97 – feb 1998

III Cefquinom 75mg imm. 0, 12 and 24 hours

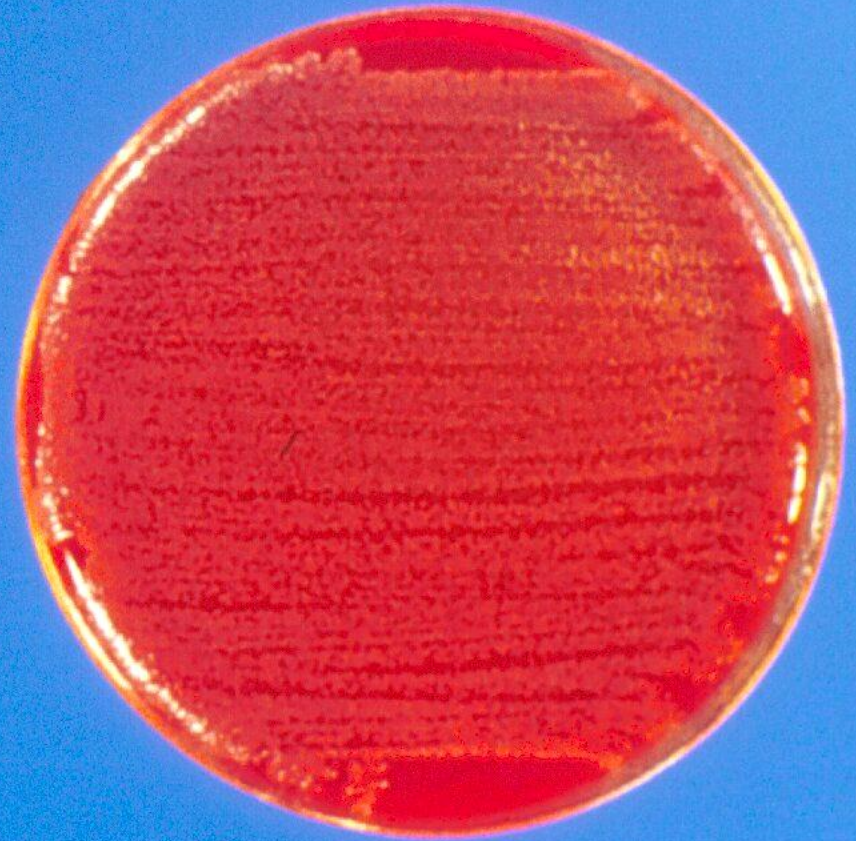
Aug. 1998 – april 1999

Moderat infektion



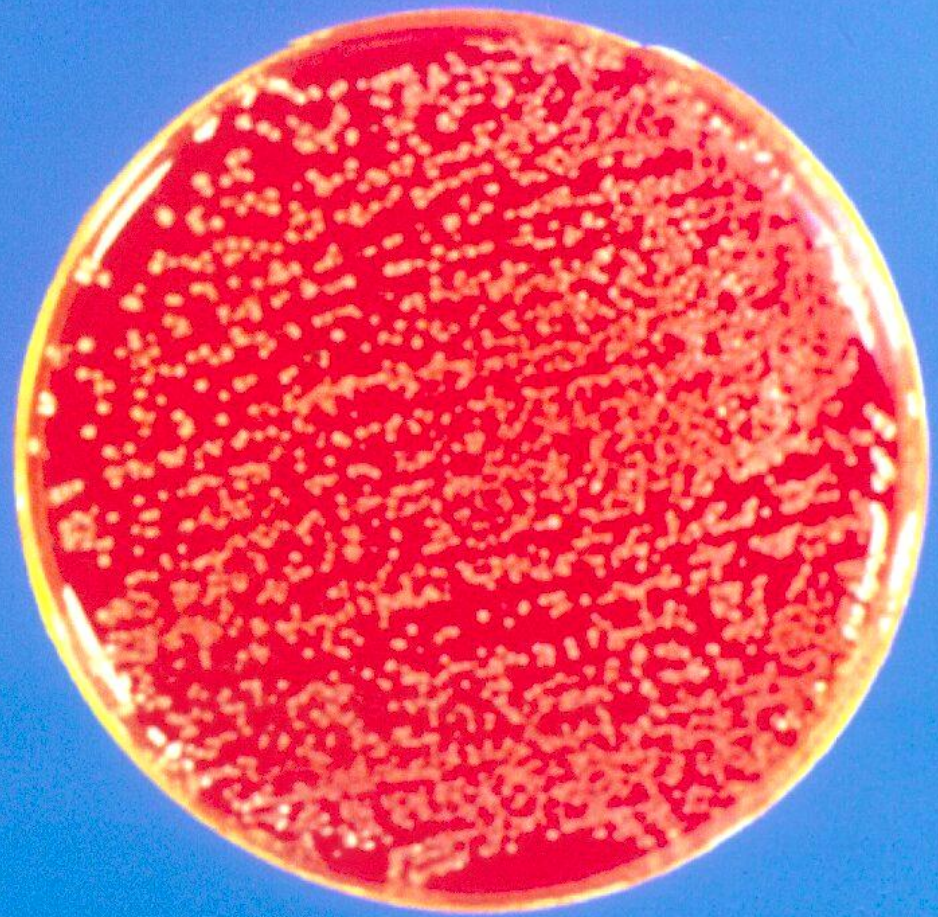
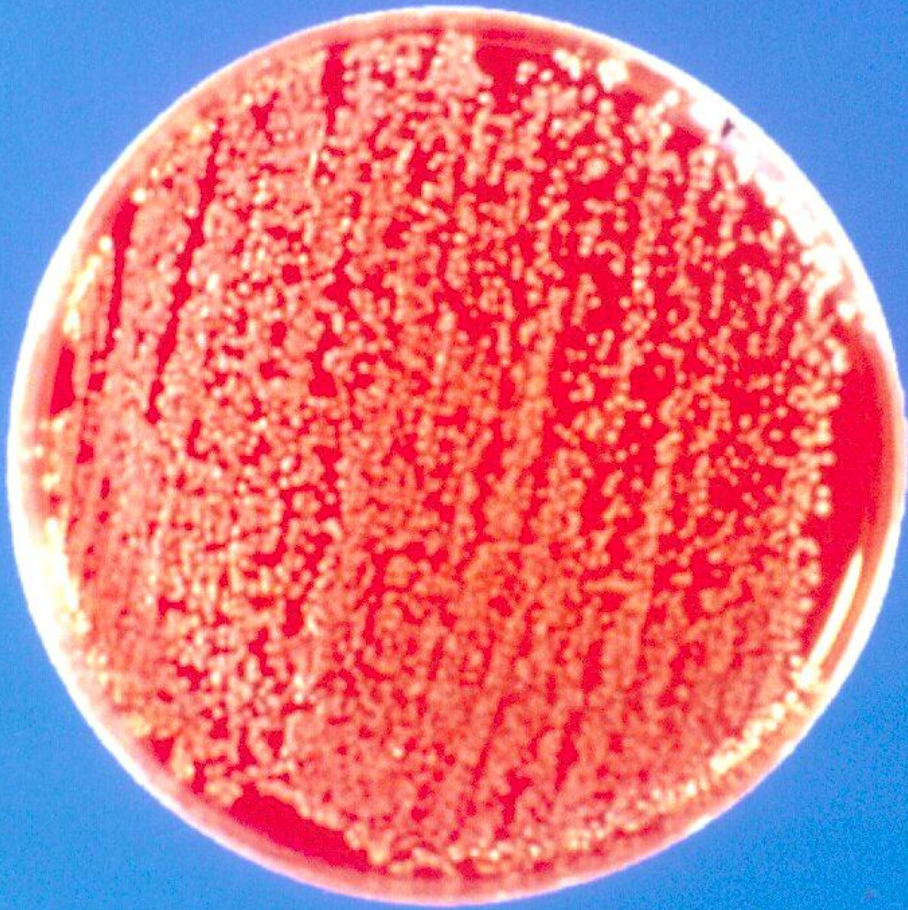
E.coli mastitis

Moderate infection day 0 CFU/cm² >200



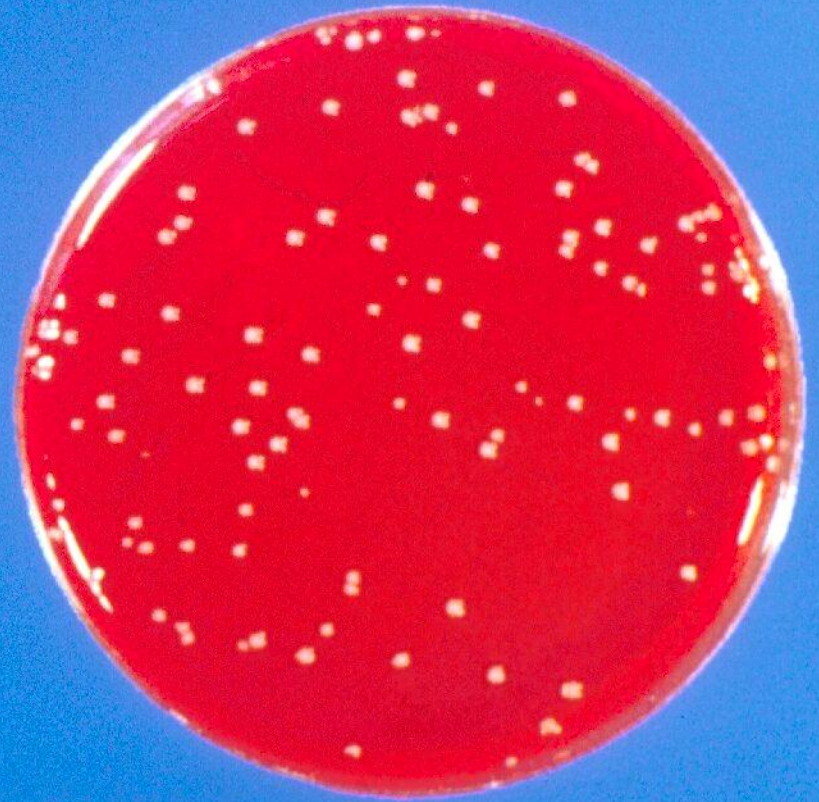
E.coli mastitis

Moderate infection day 1 CFU/cm² = 10²



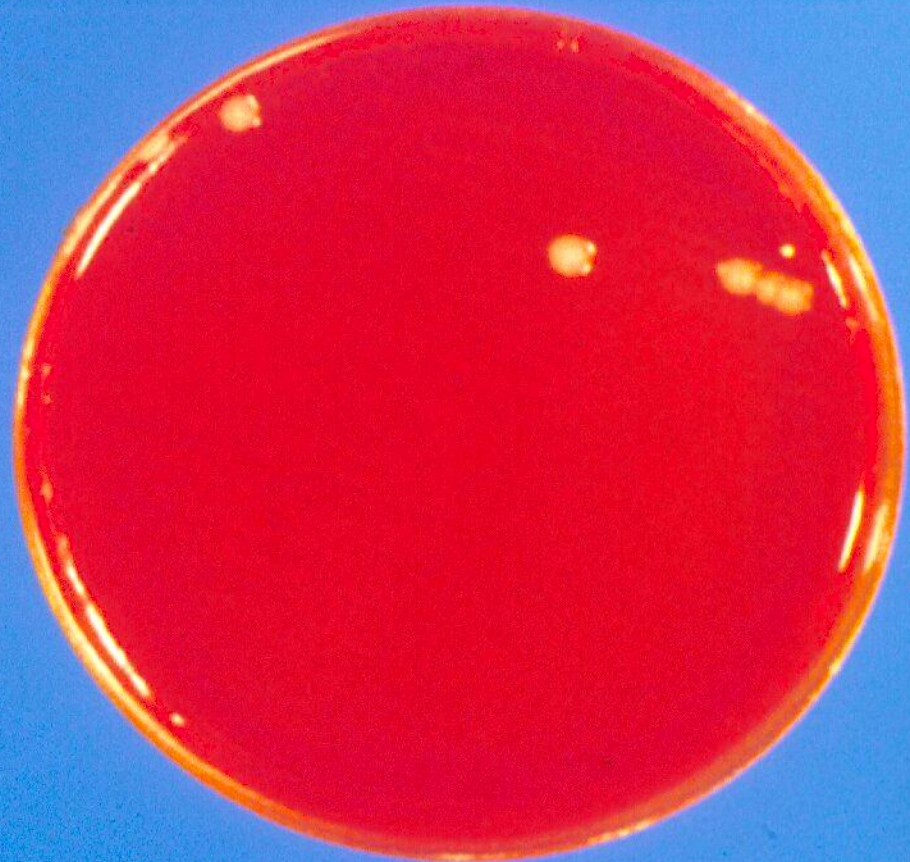
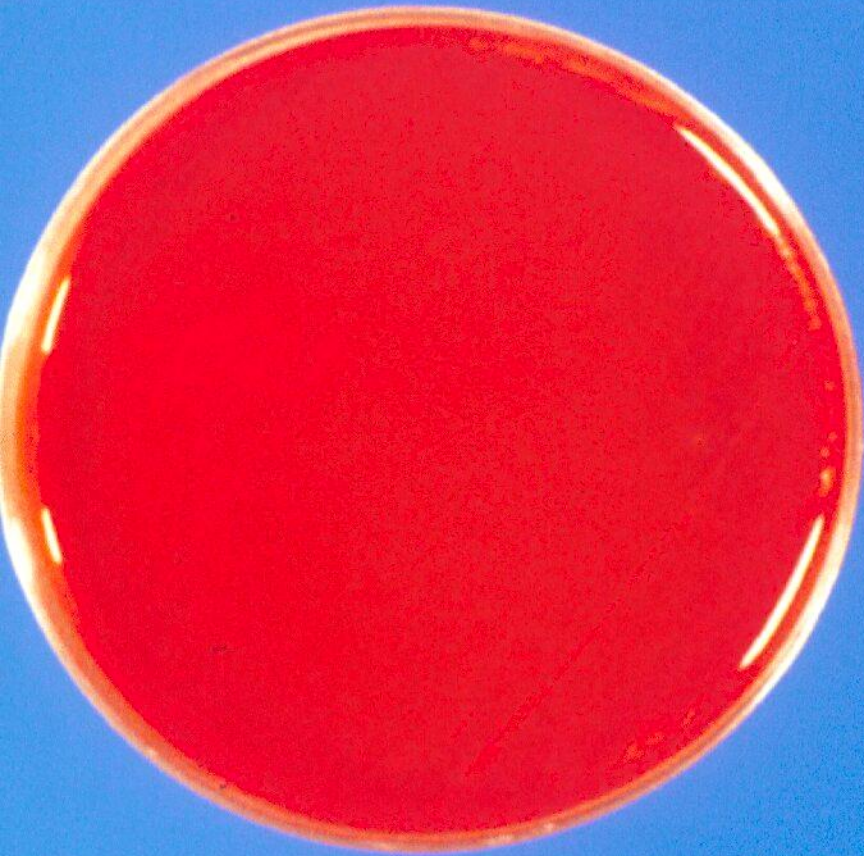
E.coli mastitis

Moderate infection day 2 CFU/cm² =1



E.coli mastitis

Moderate infection day 7 CFU/cm² = 0-1





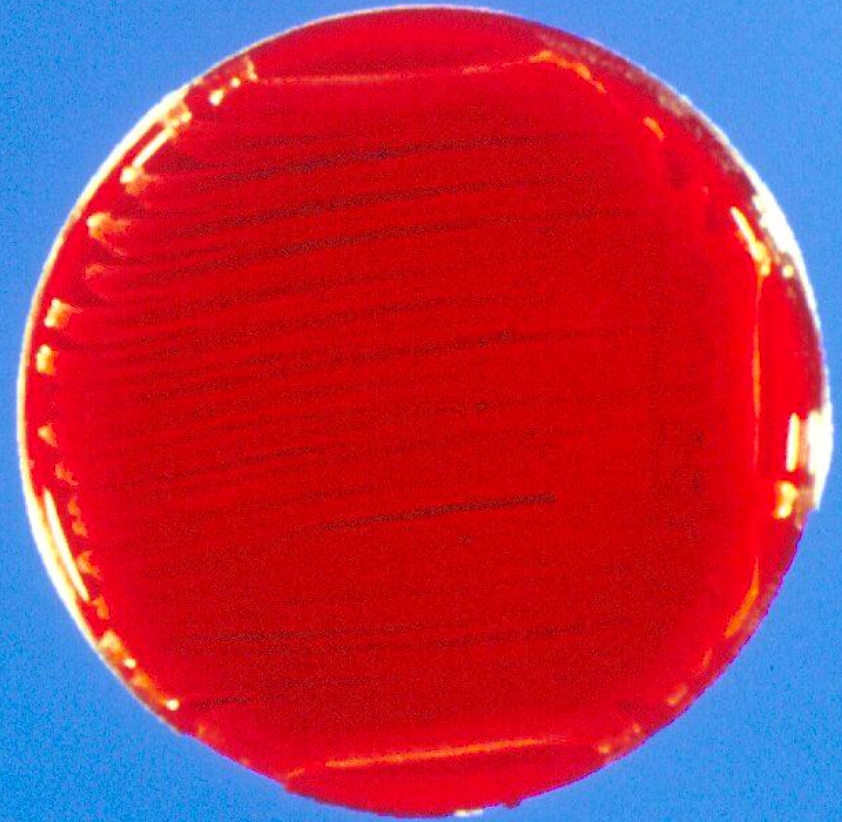
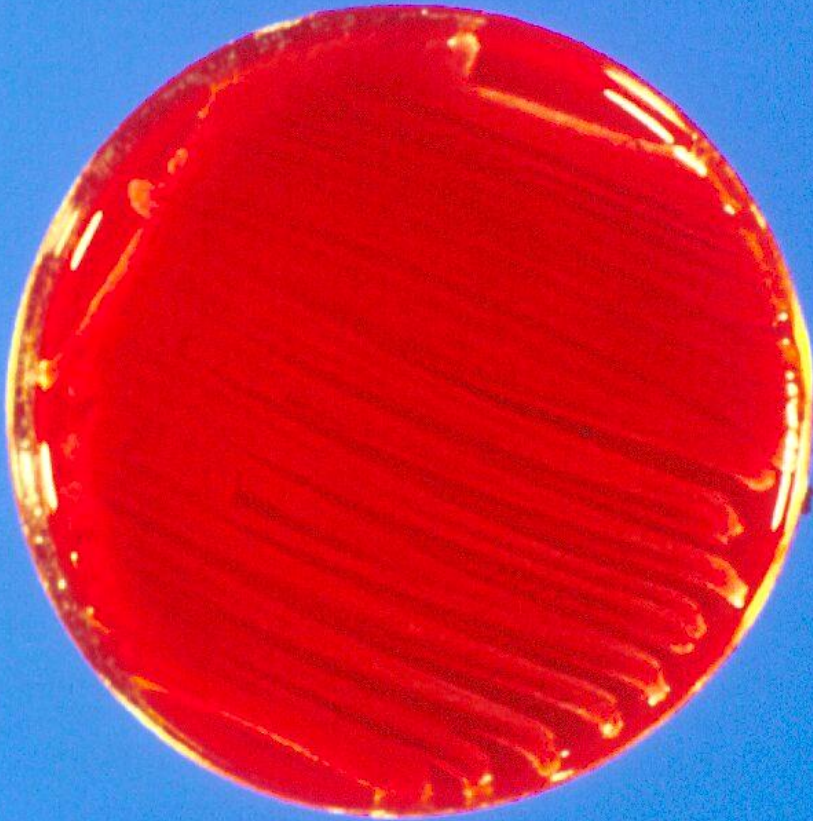
E.coli mastitis

Severe infection day 0 CFU/cm² =300



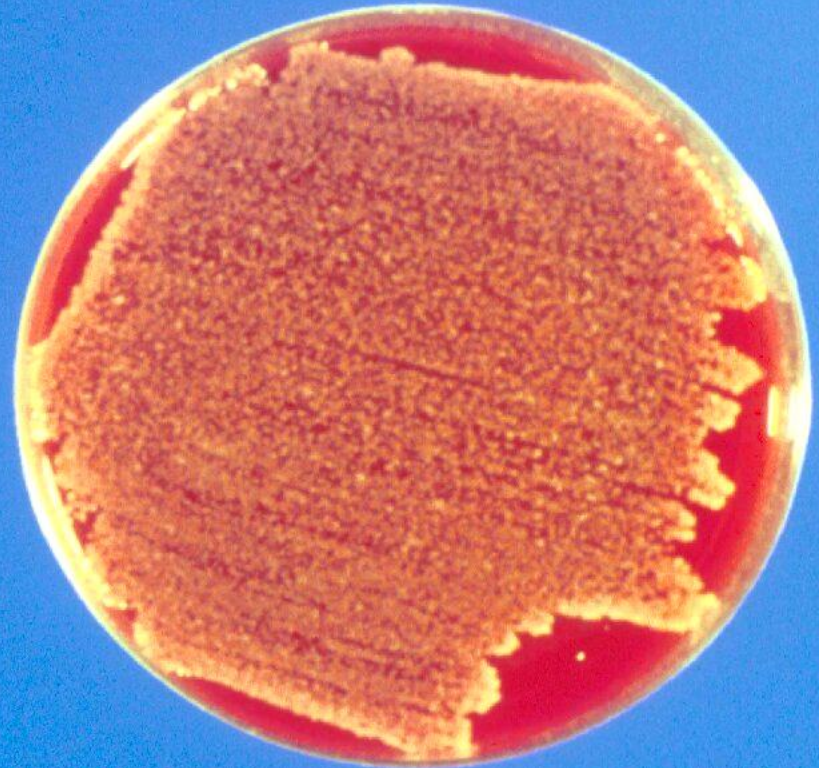
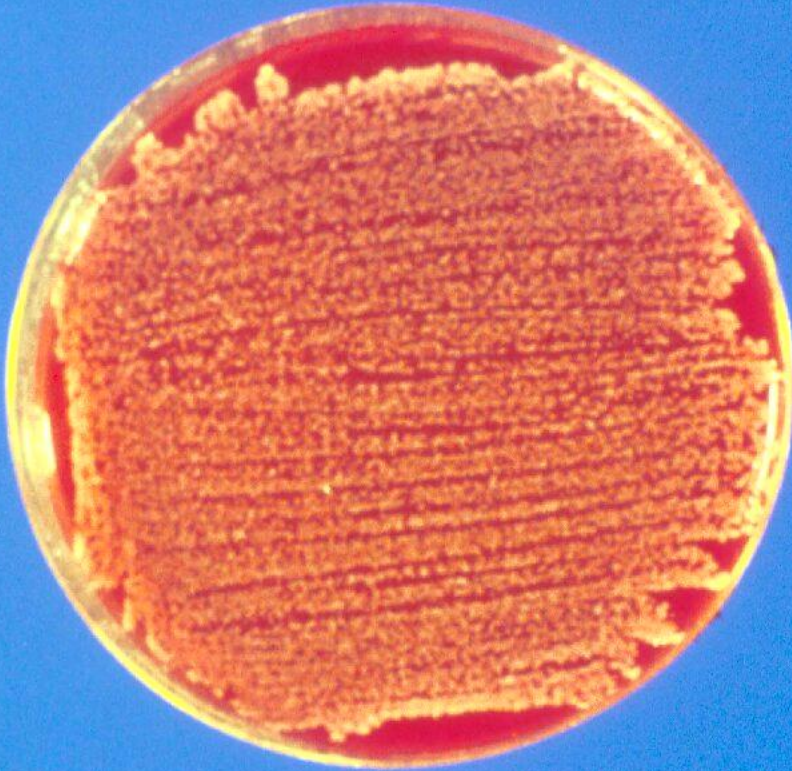
E.coli mastitis

Severe infection day 1 CFU/cm² >200



E.coli mastitis

Severe infection day 2 CFU/cm² =147



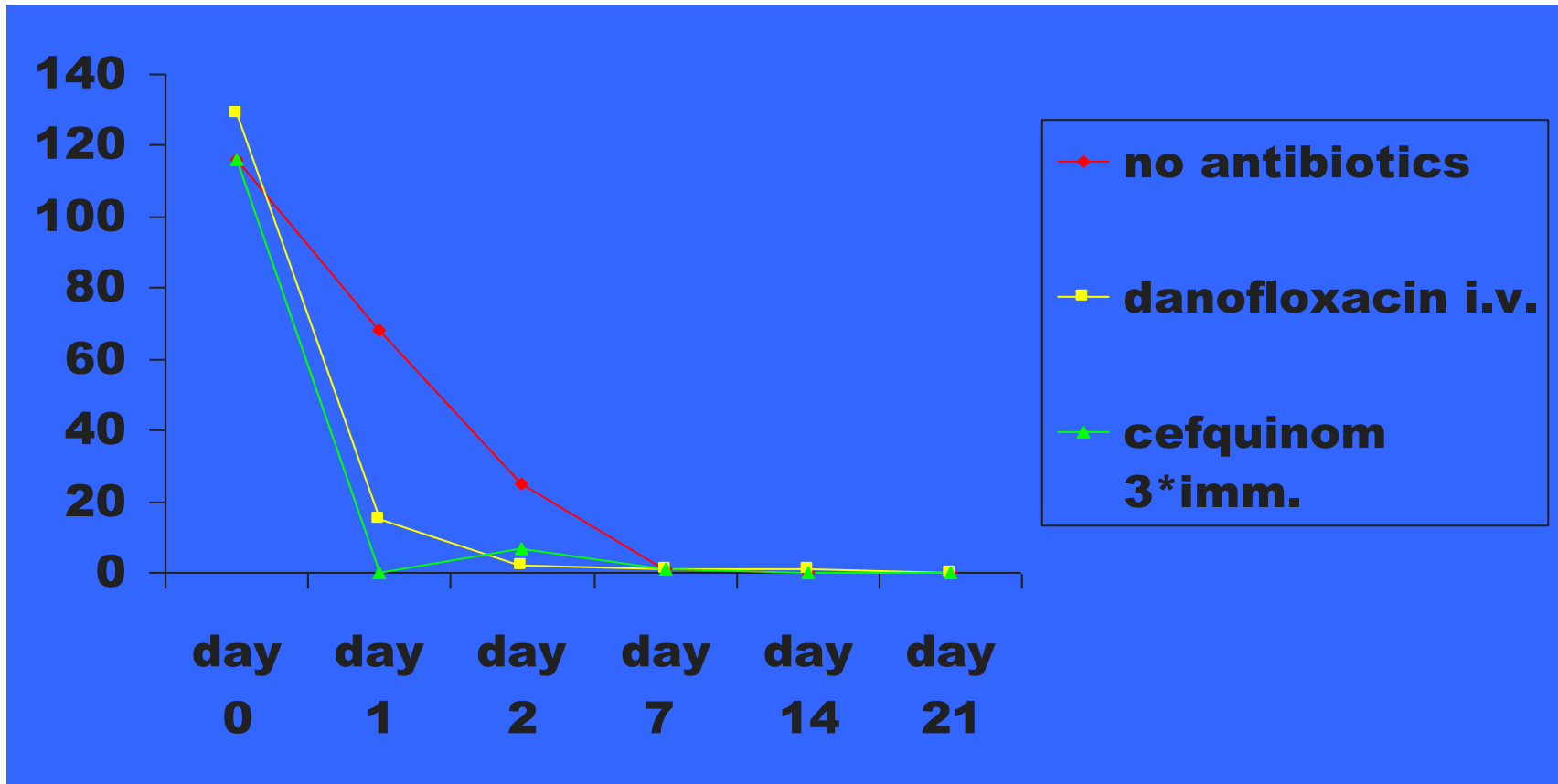
E.coli mastitis

Severe infection day 7 CFU/cm² =2



Moderate Coliform Mastitis

Effect of antibiotic on CFU/cm²





Moderate coliform mastitis

Clinical status on day 21 in cows treated with different antibiotic regimen

Antibiotic	CFU/cm ² in milk day 0	N	Clinically restored	Reduced yield	dry teat Culled	Dead
None	<142	8	8	0	0	0
Danofloxacin	<142	5	5	0	0	0
Cefquinom	<142	2	2	0	0	0



Moderate coliform mastitis

Clinical status on day 21 in cows treated with different antibiotic regimen

Antibiotic	CFU/cm ² in milk day 0	N	Clinically restored	Reduced yield	dry teat Culled	Dead
None	>142	6	2	3	1	0
Danofloxacin	>142	6	6	0	0	0
Cefquinom	>142	1	1	0	0	0

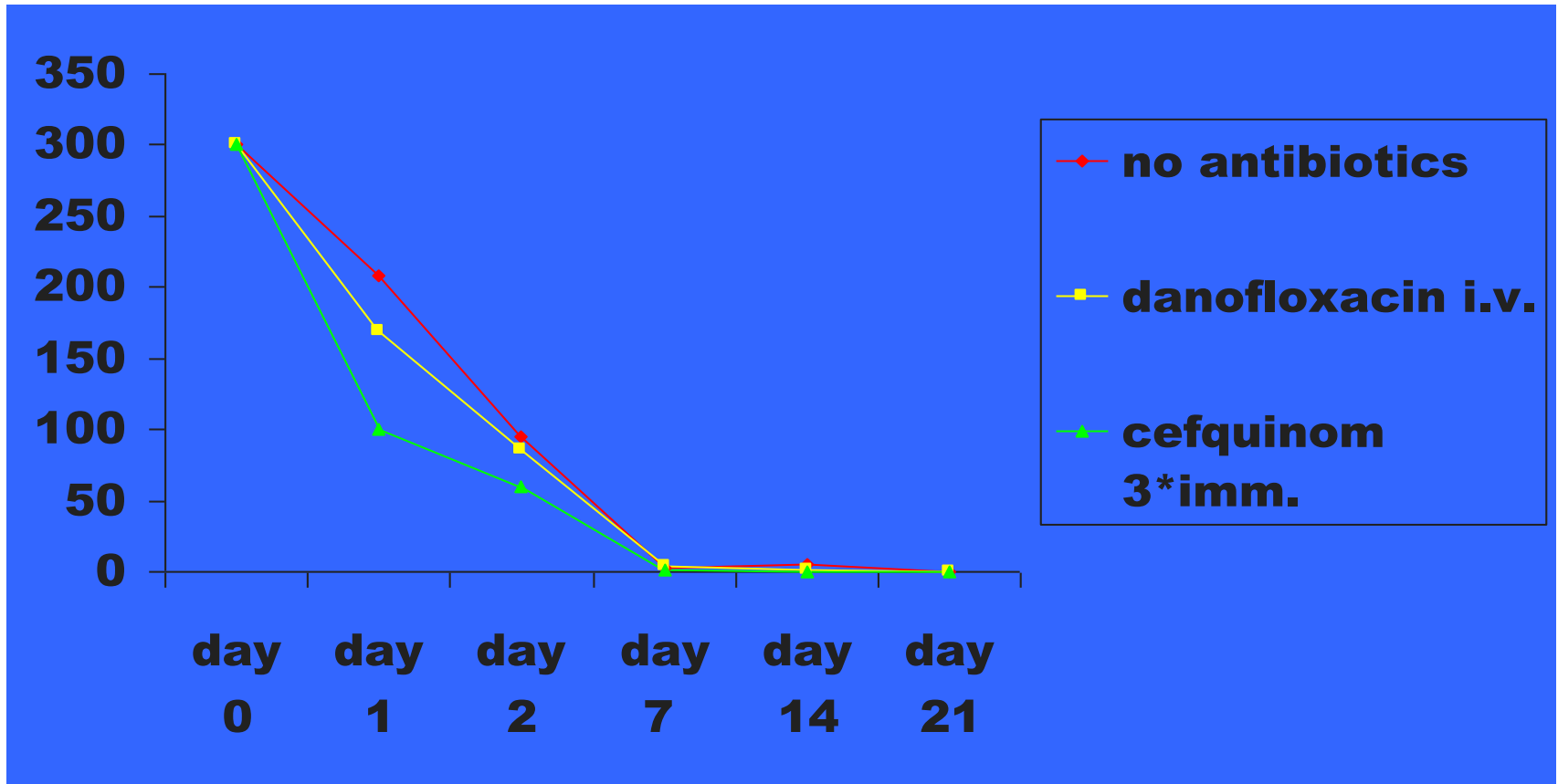
Antibiotic -/+

Cure +/-

Fischer exact test: P=0.02

Severe Coliform Mastitis

Effect of antibiotic on CFU/cm²



Severe coliform mastitis

Clinical status on day 21 in cows treated with different antibiotic regimen

Antibiotic	CFU/cm ² in milk day 0	N	Clinically restored	Reduced yield	dry teat Culled	Dead
None	300	14	5	1	7	1
Danofloxacin	300	8	2	0	6	0
Cefquinom	300	6	3	0	1	2











VIDENCENTRET FOR LANDBRUG

Dyr	E.coli	Klebsiella sp
7995-1 vf	15,21	No Ct
17831-1 vb	18,08	No Ct
16300-1 vf	18,65	No Ct
19494-1 hb	19,86	No Ct
11849-1 hb	19,98	No Ct
18260-1 hf	21,71	29,96
2440-1vb	21,91	No Ct
14303-1 hb	22,34	No Ct
2439-1 vf	22,94	No Ct
36479-1 vb	23,05	No Ct
15030-1 hb	23,25	No Ct
22796-1 vb	23,71	No Ct
202 vb	24,11	No Ct
32788-1 hf	24,15	No Ct
21477-1 vb	24,98	No Ct
21419-1 vb	25,07	No Ct
19279-1 hb	25,44	No Ct
5803-1 hf	26,06	No Ct
38112-1 vb	26,37	No Ct
27977-1 hf	26,6	No Ct
19493-1 vb	26,99	No Ct
28794-1 vb	27,14	No Ct
8095-1 hf	27,55	No Ct
35426-1 vb	28,58	No Ct
101-1 vb	28,82	No Ct
19401-1 vf	29,28	No Ct
32789-1 vb	29,88	No Ct
11850-1 hb	30,71	No Ct
25786-1vb	30,76	No Ct
1289-1 vb	30,76	No Ct
8400-1 vb	32,02	No Ct
35948-1 hf	35,64	No Ct
35425-1 hb	39,11	No Ct
21262-1 vb	39,28	No Ct
3387-- vf	39,99	No Ct

10067-1 hf	No Ct	No Ct
11643-1 vf	No Ct	39,92
13641-1 hb	No Ct	No Ct
14712-1 hf	No Ct	37,94
14718-1 hf	No Ct	No Ct
15029-1 vf	No Ct	No Ct
15529-1 vf	No Ct	22,02
15530-1 hb	No Ct	39,67
16553-1 hb	No Ct	No Ct
17609-1 hb	No Ct	No Ct
18129-1 vf	No Ct	20,92
18259-1 hb	No Ct	No Ct
18660-1 vf	No Ct	No Ct
19186--1 vb	No Ct	No Ct
19492-1 vf	No Ct	29
20543-1 hb	No Ct	No Ct
20716-1 hb	No Ct	No Ct
21478-1 hf	No Ct	No Ct
22969-1 hf	No Ct	No Ct
23482-1 vb	No Ct	No Ct
25884-1 hf	No Ct	No Ct
28237-1 hb	No Ct	No Ct
28238-1 vb	No Ct	No Ct
30577-1 hb	No Ct	No Ct
31699-1 vf	No Ct	No Ct
33-1 vf	No Ct	No Ct
5023-1 vf	No Ct	No Ct
5181-1 vb	No Ct	No Ct
5745-1 hb	No Ct	No Ct
5875-1 vf	No Ct	25,77
5876-1 hb	No Ct	No Ct
8096-1 hb	No Ct	No Ct