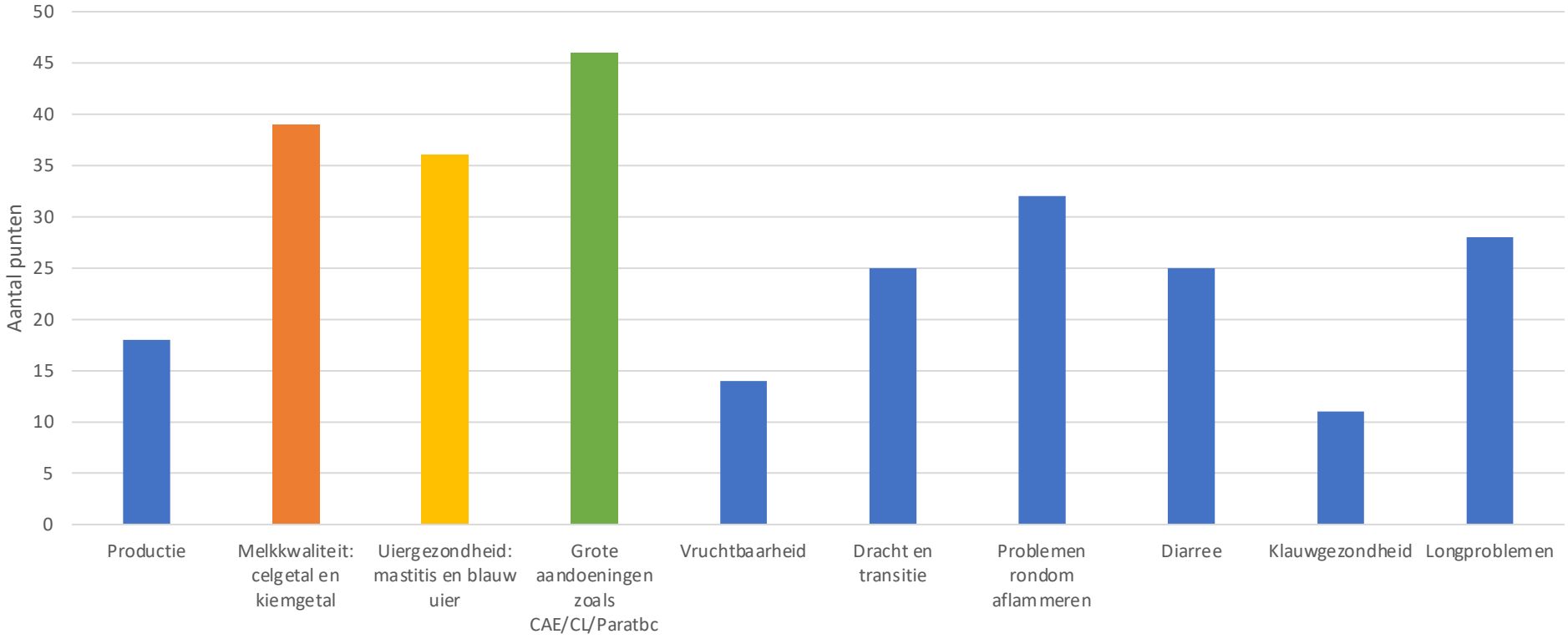
Uiergezondheid

Zomer 25

Loes Bastiaansen en Shaula Bouwman

Inhoud

- Enquete ‘22



Goede uiergezondheid:

< 2% klinische mastitis
< 5% onkantheid ontwikkeling
celgetal < 750.000

Inhoud

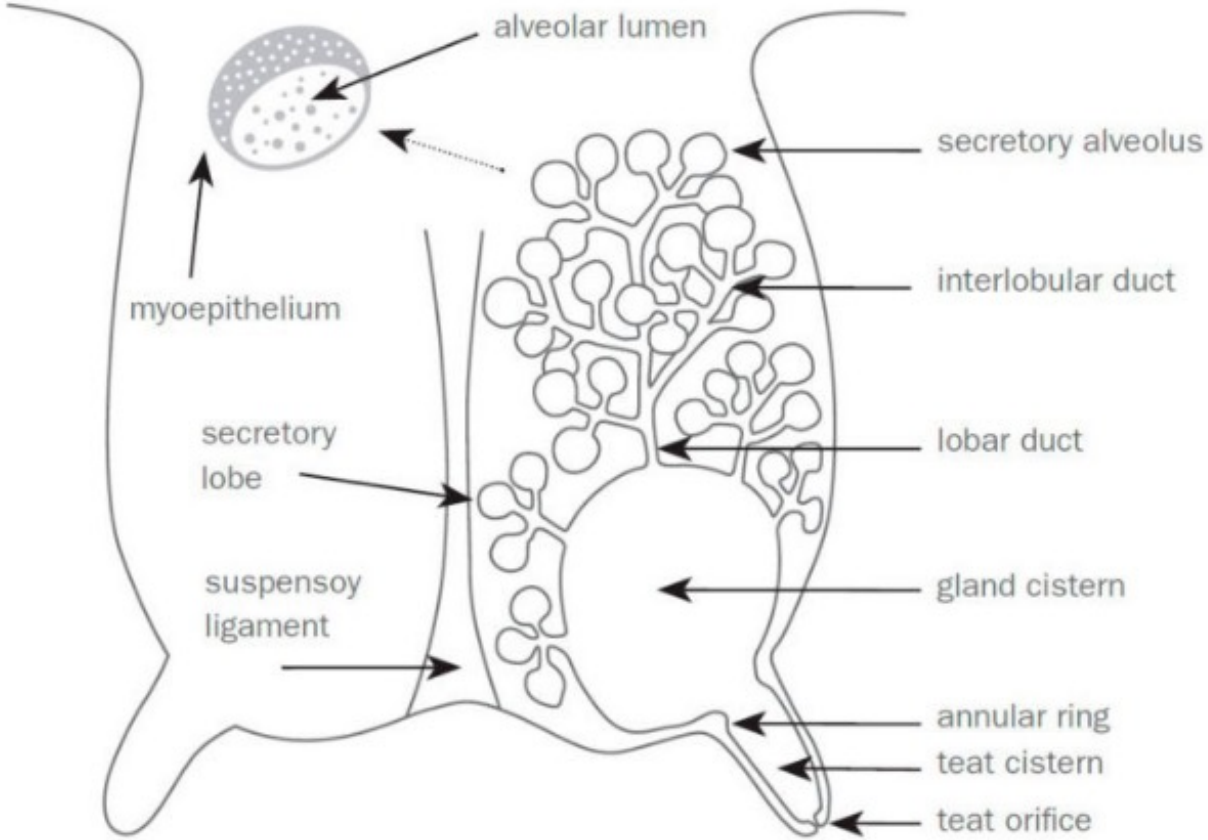
- Anatomie
- Weerstand

- Celgetal
- Kiemgetal

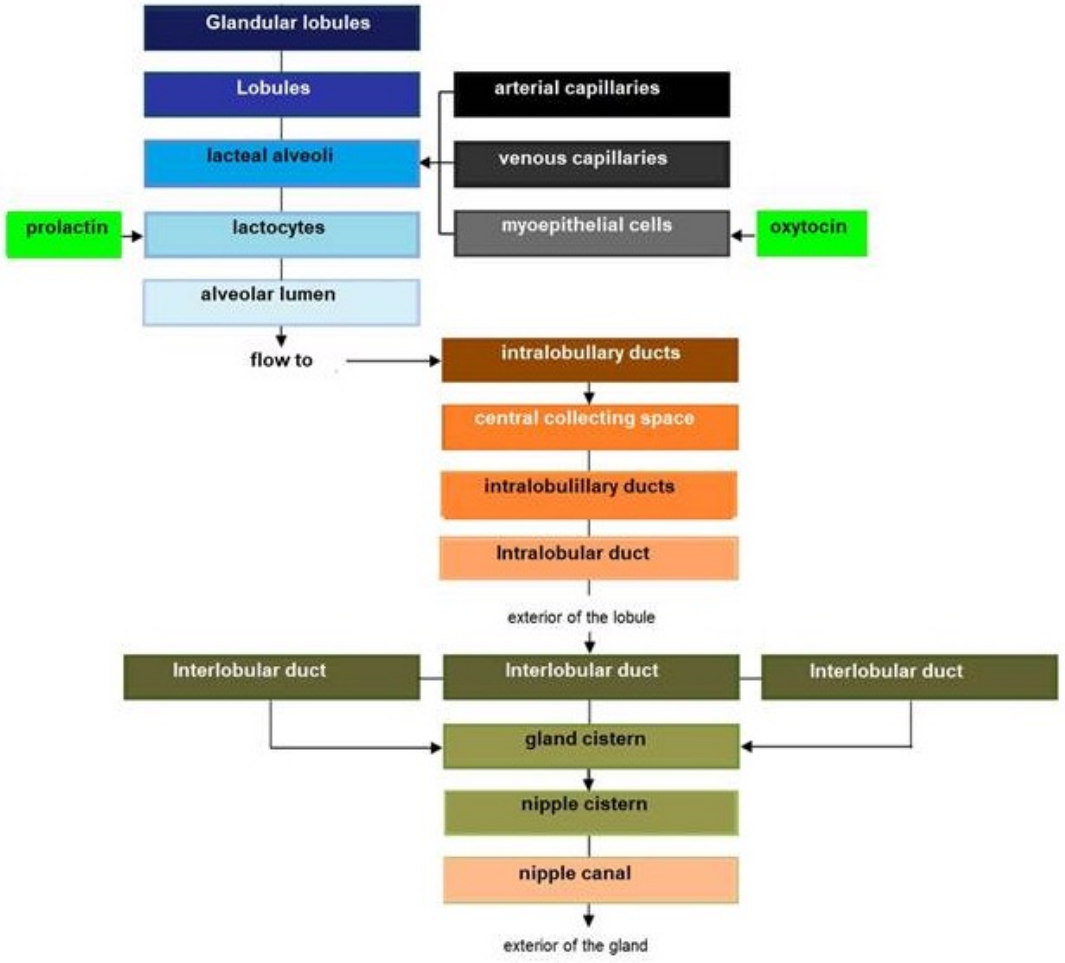
- Mastitis
- Mastitisverwekkers

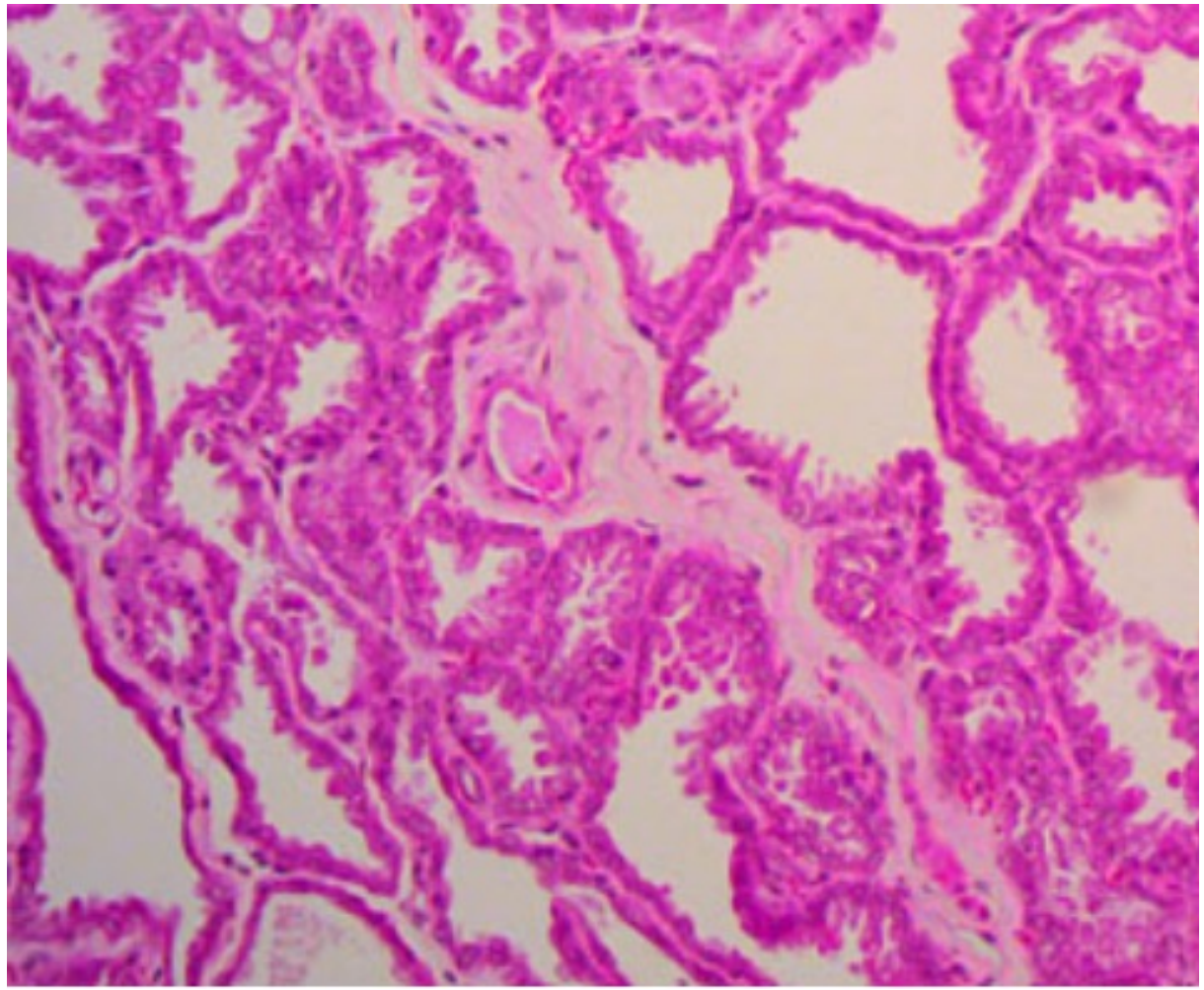
- Behandelen
- Preventie

Anatomie

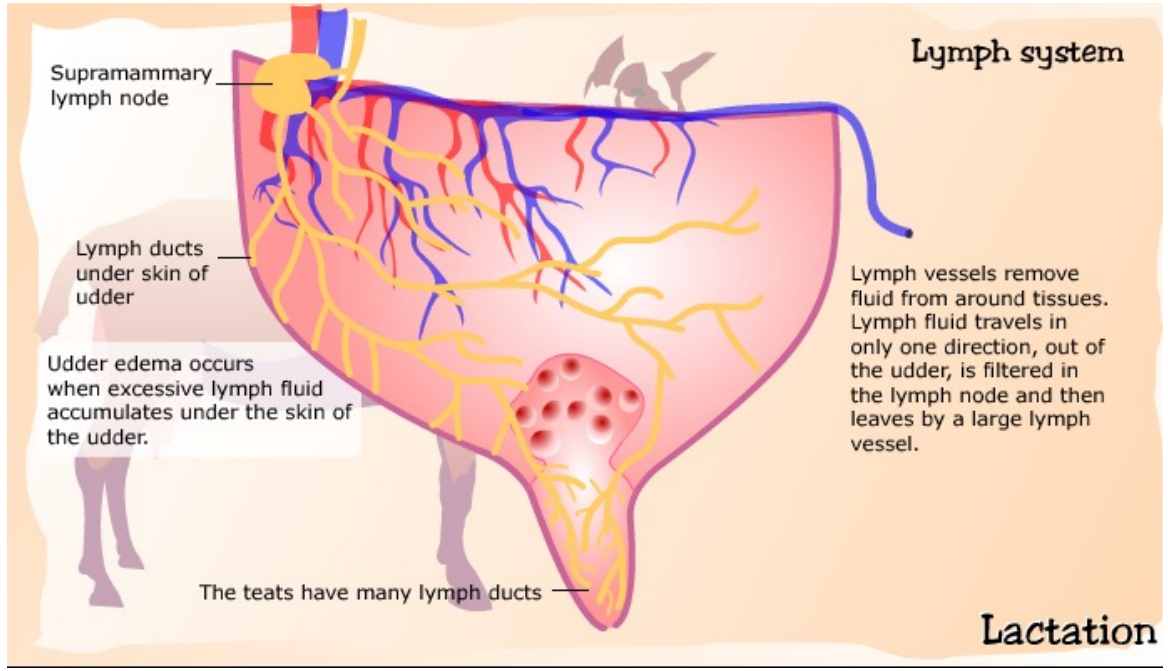

alveolar lumen
secretory alveolus
interlobular duct
myoepithelium
secretory
lobe
lobar duct
suspensoy
ligament
gland cistern
annular ring
teat cistern
teat orifice

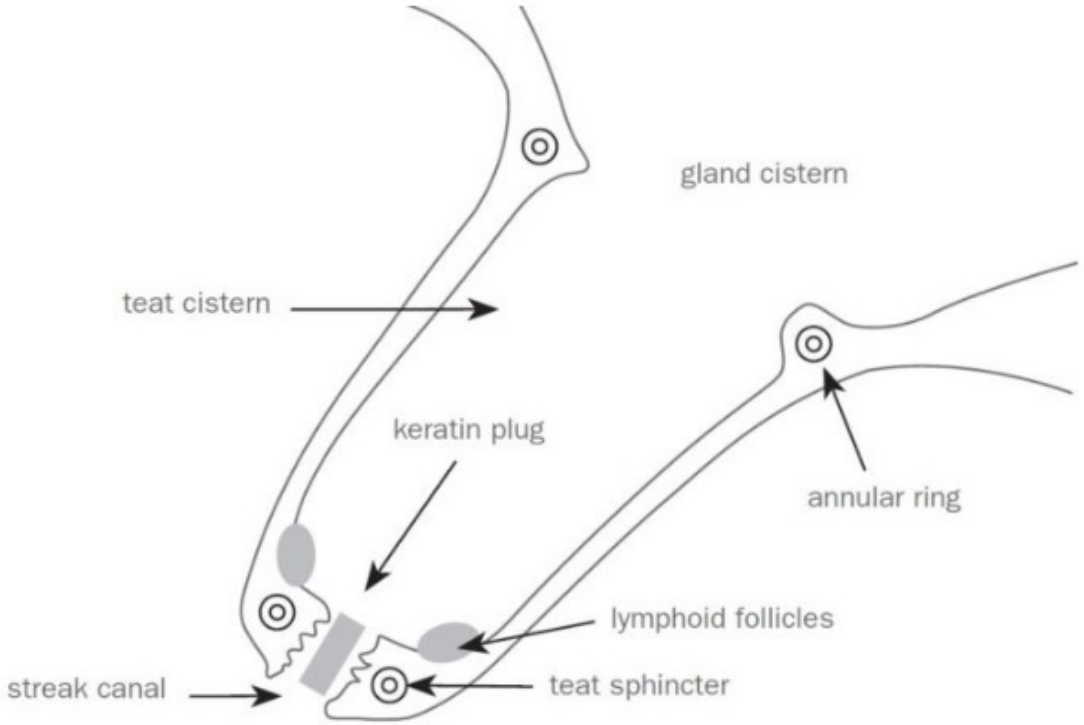
Anatomie


Glandular lobules
Lobules
lacteal alveoli
prolactin
lactocytes
alveolar lumen
flow to
arterial capillaries
venous capillaries
myoepithelial cells
oxytocin
intralobullary ducts
central collecting space
intralobulillary ducts
Intralobular duct
exterior of the lobule
Interlobular duct
Interlobular duct
Interlobular duct
gland cistern
nipple cistern
nipple canal
exterior of the gland

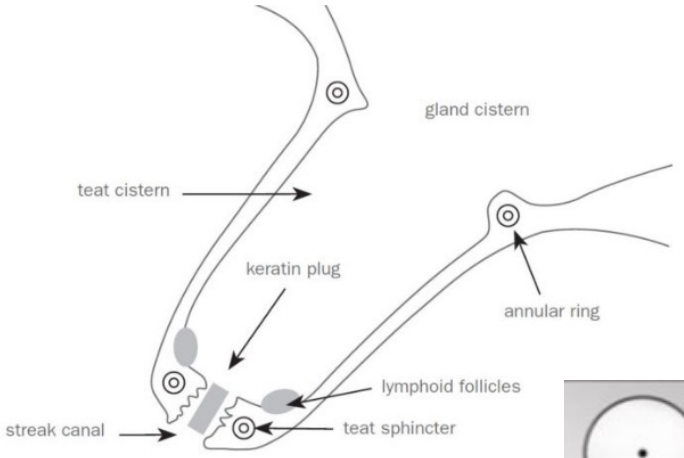


Afweer

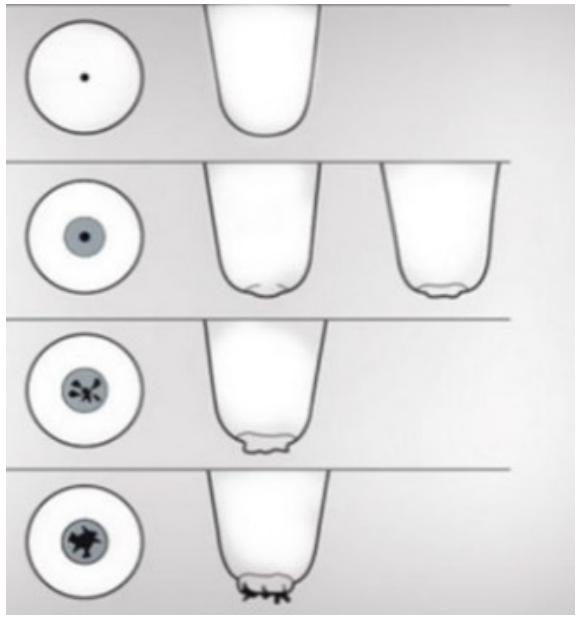

Lymph system
Supramammary lymph node
Lymph ducts under skin of udder
Udder edema occurs when excessive lymph fluid accumulates under the skin of the udder.
The teats have many lymph ducts
Lymph vessels remove fluid from around tissues. Lymph fluid travels in only one direction, out of the udder, is filtered in the lymph node and then leaves by a large lymph vessel.
Lactation

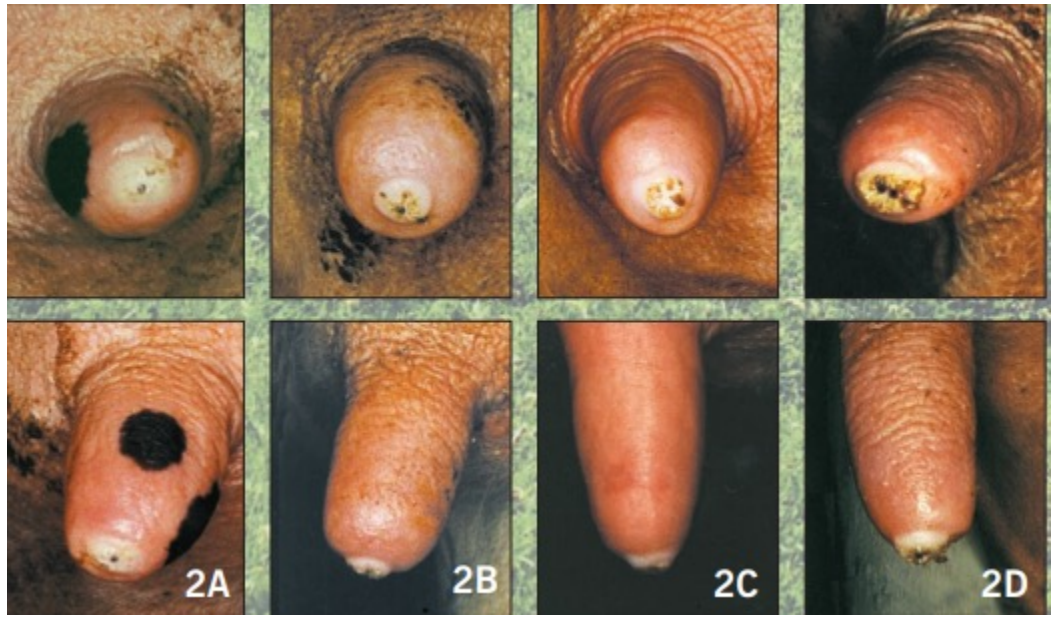

gland cistern
teat cistern
keratin plug
annular ring
lymphoid follicles
streak canal
teat sphincter

Afweer


gland cistern
teat cistern
keratin plug
annular ring
lymphoid follicles
streak canal
teat sphincter

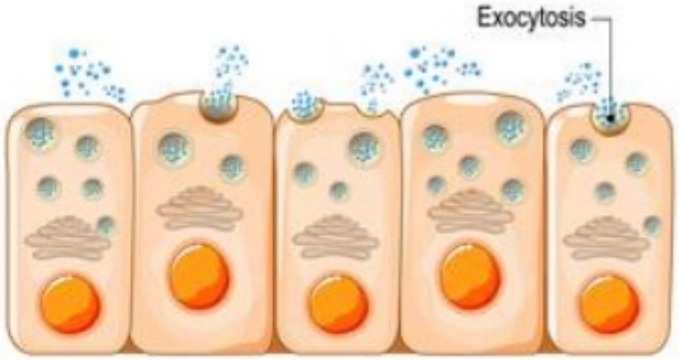
N
1A
1B
1C



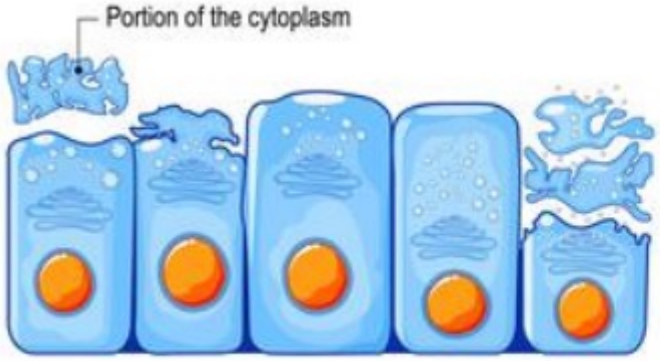

2A
2B
2C
2D

Celgetal

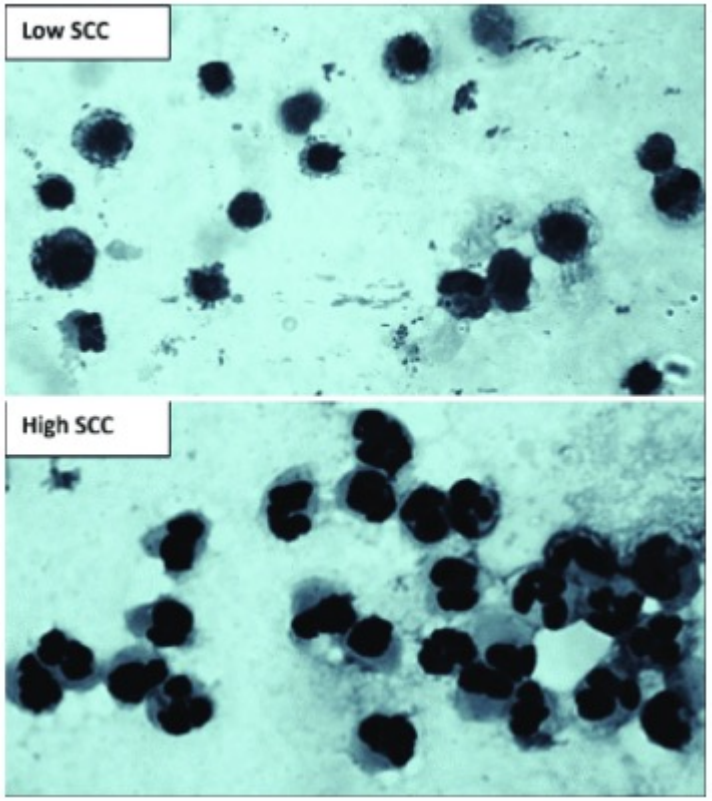
- Koe vs Geit

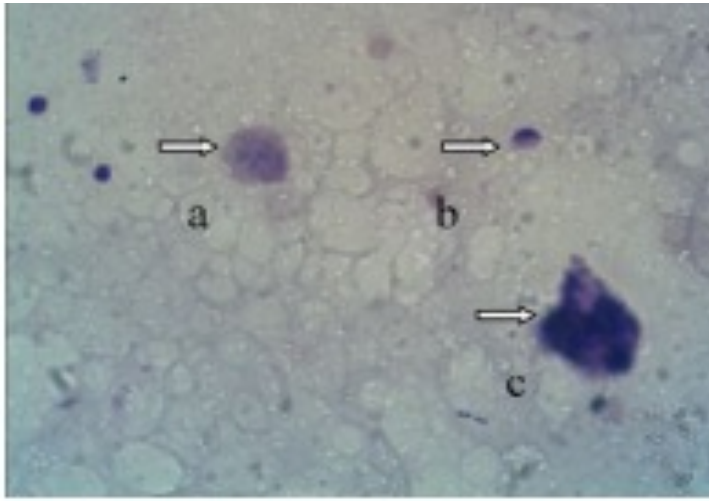


Merocrine gland



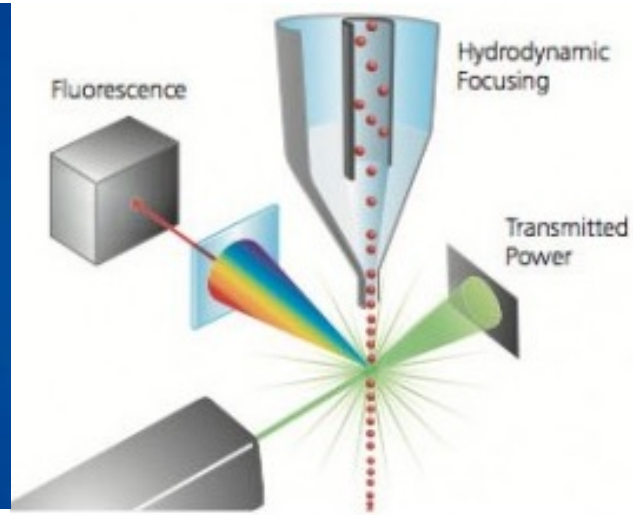
Apocrine gland

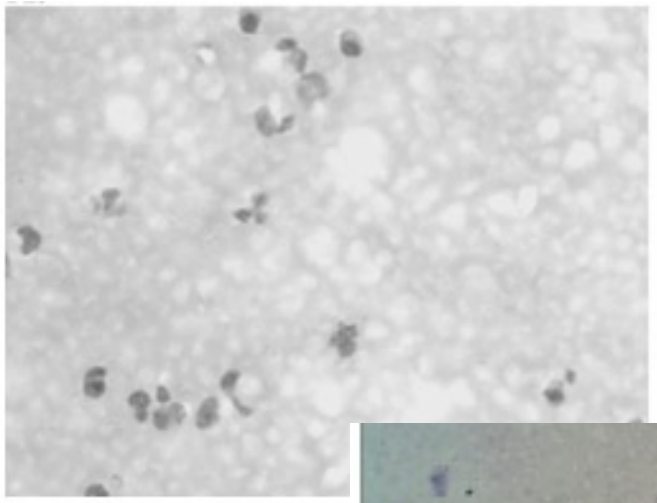


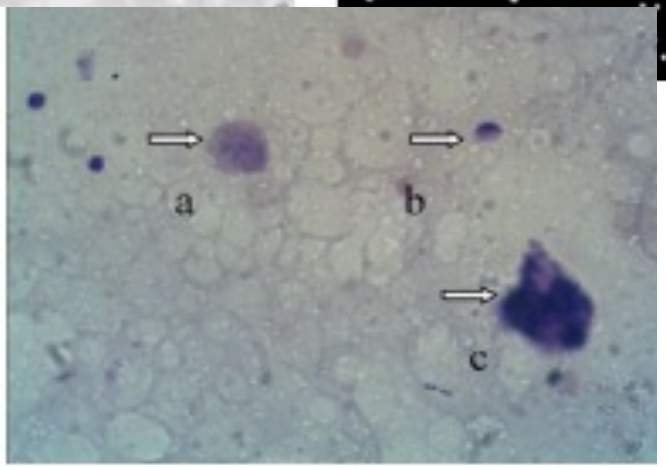


Celgetal meten

- Fossomatic



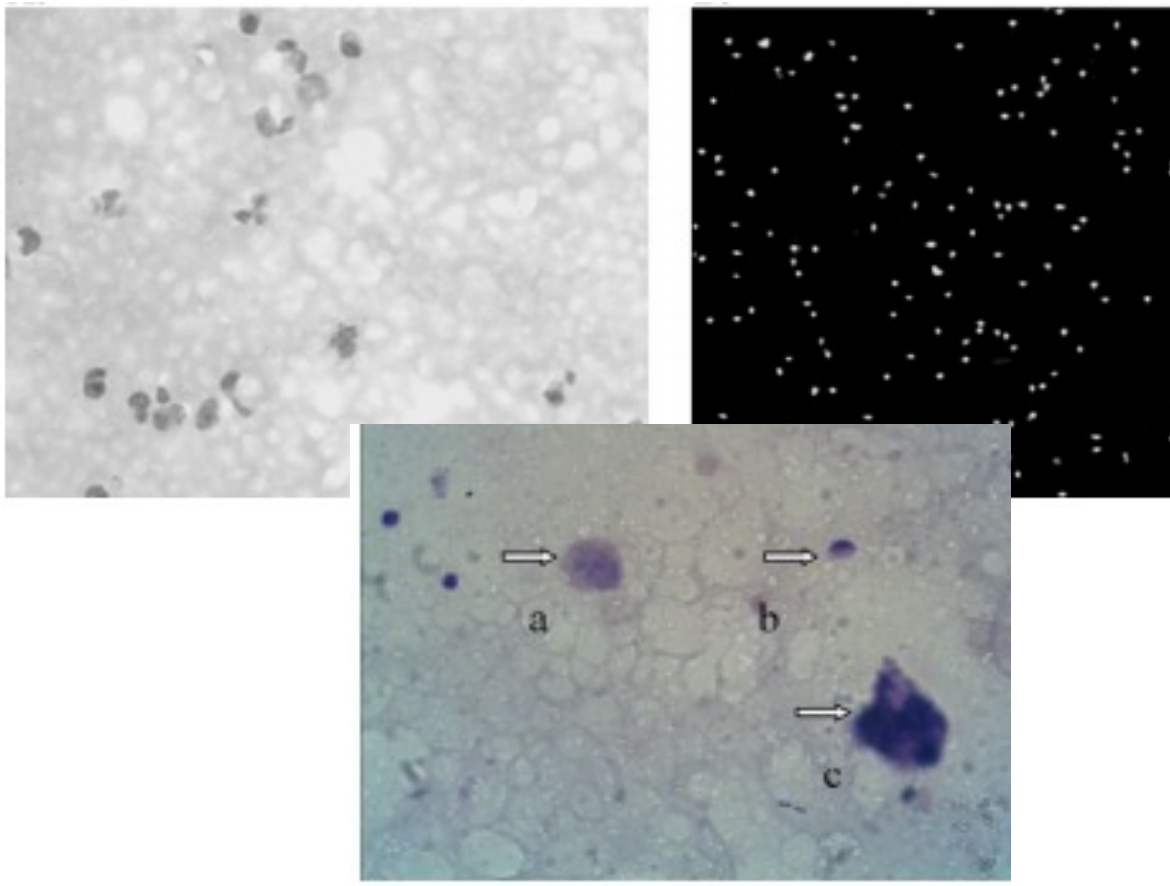




Celgetal

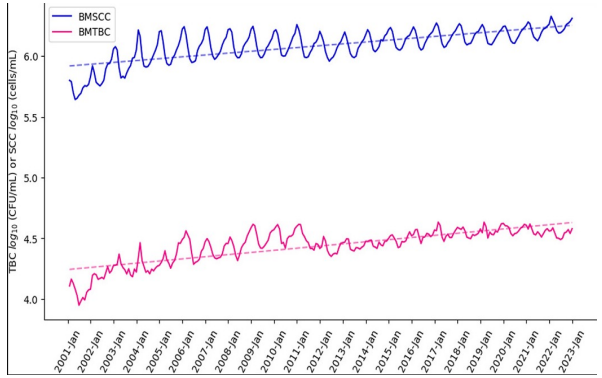
- Individueel
  - Goed: 300 x10^3
  - Aanwijzing mastitis?
    - Structureel > 1,75 x10^6

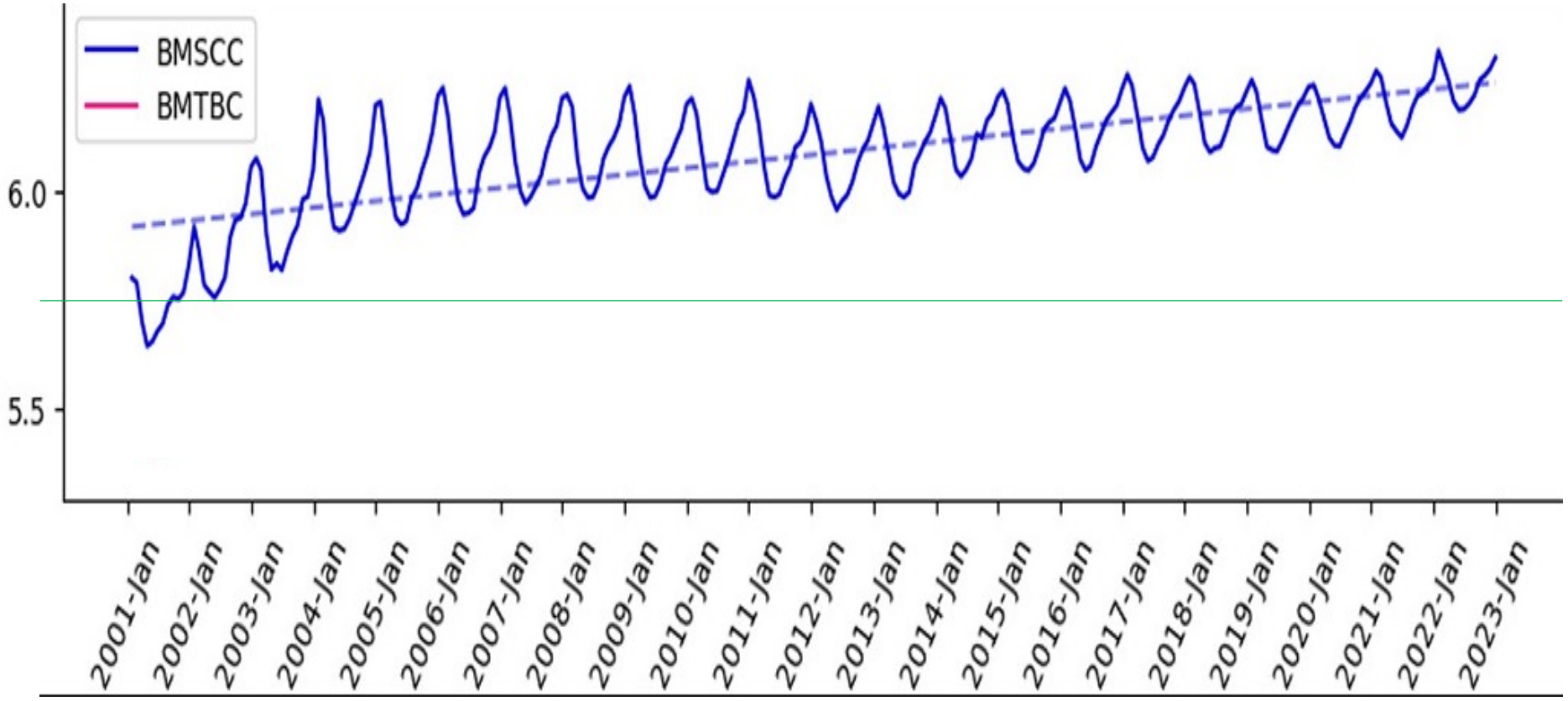
	Vals positief op mastitis	vals positief op mastitis
1,0 x10^6	28%	43%
1,5 x10^6	20%	59%



Celgetal

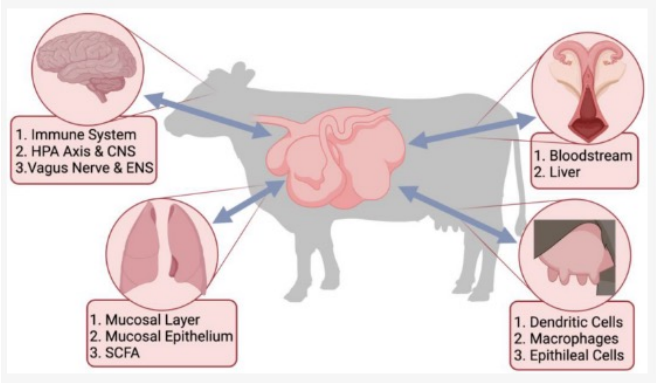
- Koppel
  - Acceptabel in koppel 750 x10^3

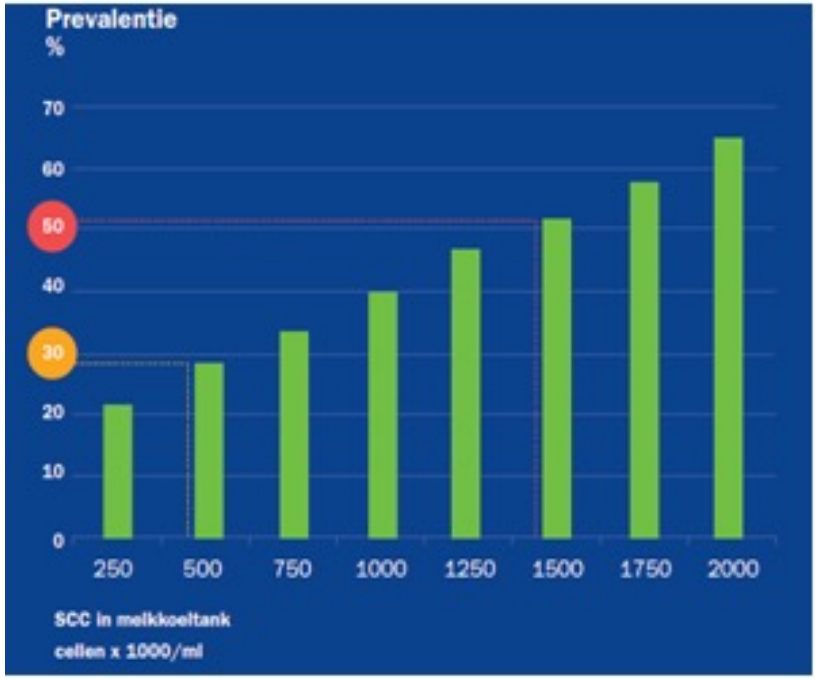




Celgetal

- Beïnvloed door:
  - Mastitis
  - Lactatie stadium
  - Melkfrequentie
  - Pariteit
  - Stress
    - Rits
    - Vaccinatie
    - etc
  - Voeding
  - Erfelijkheid
  - CAE





Celgetal

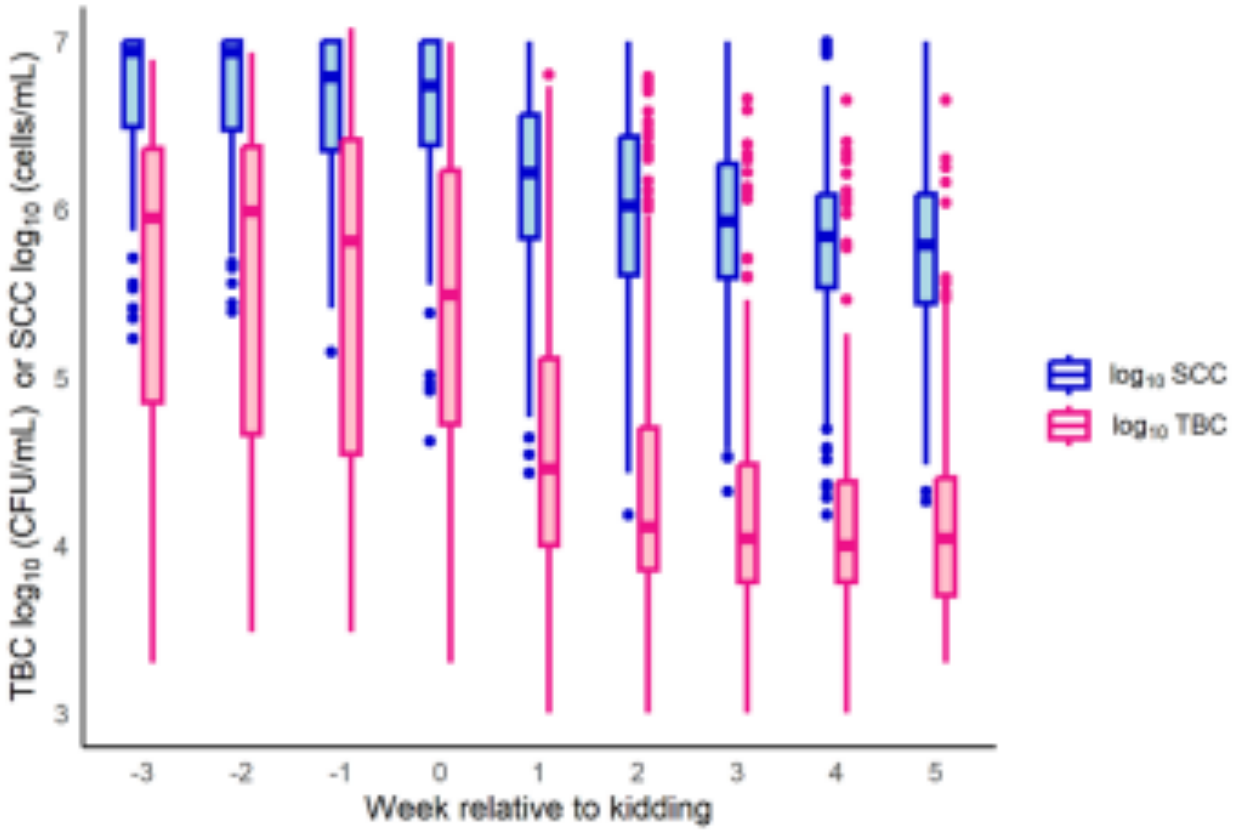
Capravet GROUP

Table 1. Farm characteristics of 4 Dutch dairy goat farms participating in a longitudinal study in 2020 about individual TBC and SCC in goat milk around kidding

Item	Farm			
	A	B	C	D
Herd size (no. of female goats)	877	922	3,000	1,681
Milk yield (kg/goat per yr)	1,170	1,180	1,400	1,025
BMSCC × 10^3 (cells/mL)	1,556	2,264	1,508	1,844
Median				
Minimum	1,089	1,704	1,313	1,490
Maximum	1,971	3,703	1,883	2,555
Milking parlor	Side by side	Side by side	Rotary	Rotary
CAEV[1] certified-free status	Yes	Yes	Yes	No
CL[2] certified-free status	Yes	Yes	Yes	Yes
Pre-milking teat end cleaning or disinfection	No	No	No	No
Teat end disinfection after milking	No	No	No	No
Staphylococcal vaccination	No	Yes	No	No
Kidding period (in 2020)	March 23–April 5	January 26–February 26	February 4–February 21	January 25–March 6
Enrolled goats (n)	38	37	37	35
Goats with dry period ≥1 wk (%)	77	38	43	11

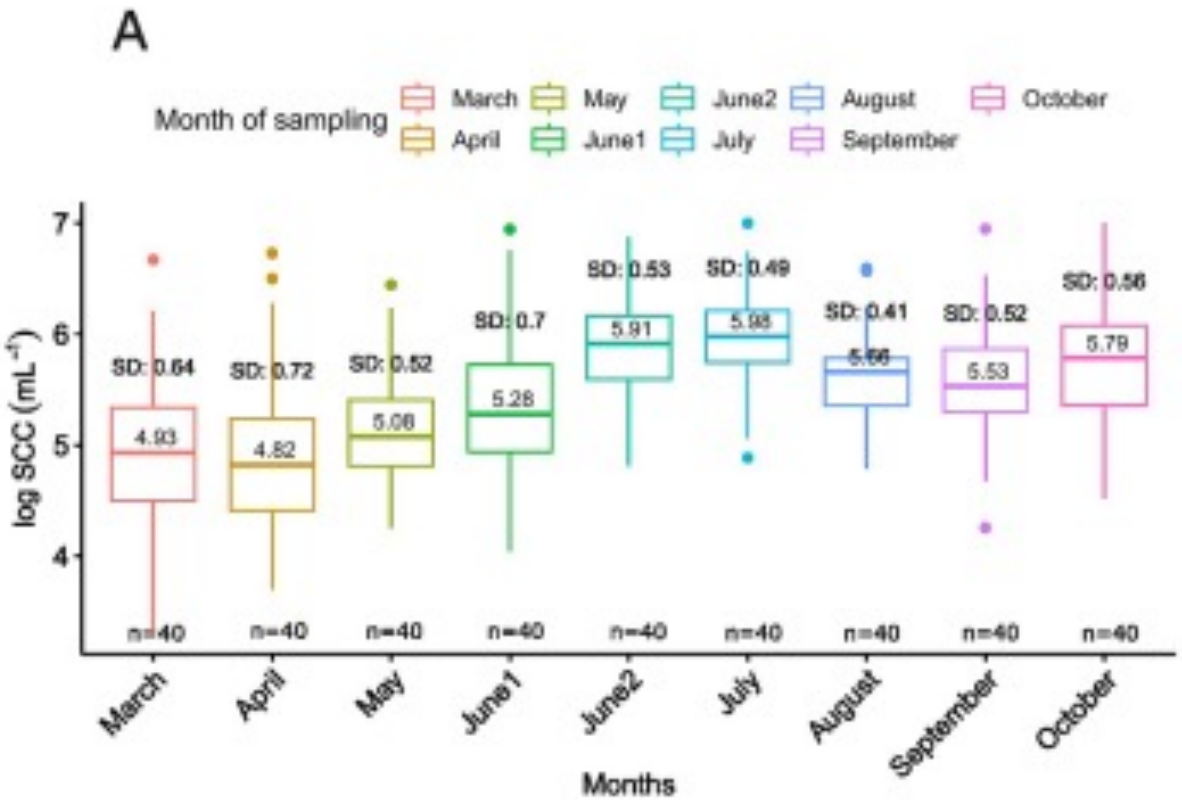
Celgetal

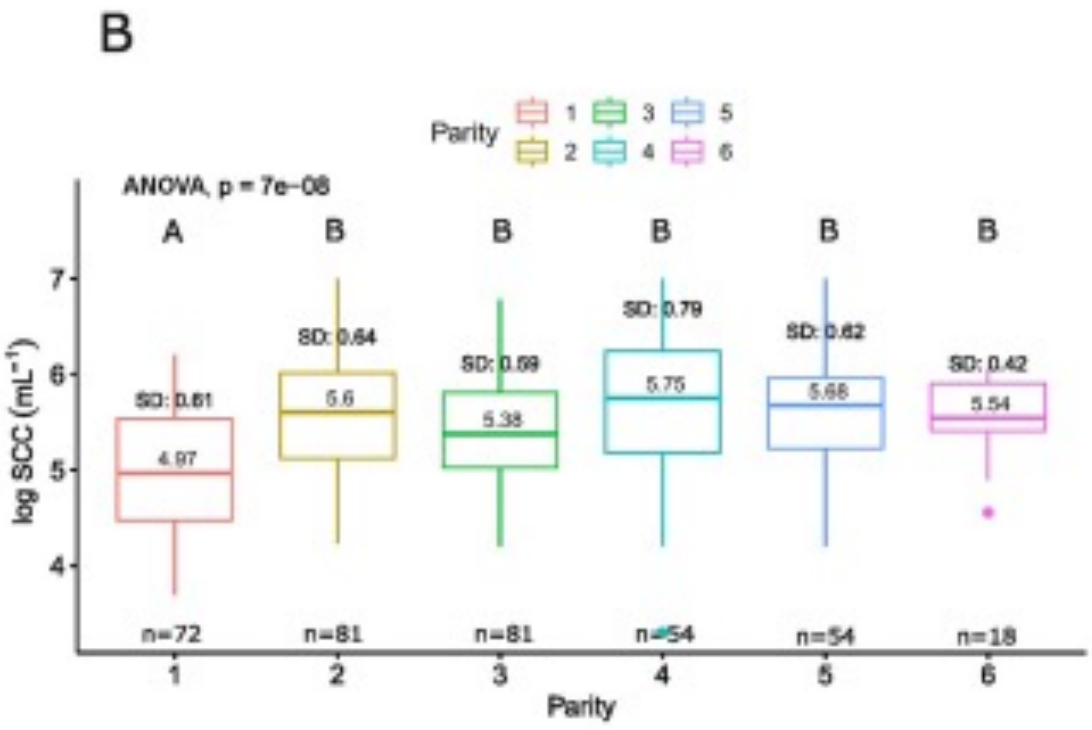
- Rondom het aflammeren



Celgetal

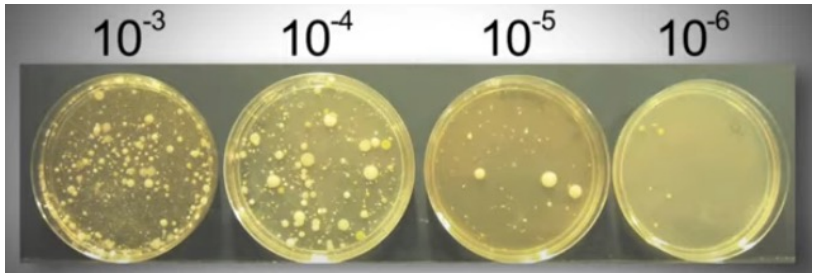
Capravet GROUP





Kiemgetal

- Het aantal kolonievormende eenheden per ml
  - < 100 x10^3 KVE/ml
- Houdbaarheid en verwerking
  - Dode bacteriën
- Bactoscan
  - SCC < 4 x10^6 maat betrouwbaarheid
  - Nieuwe ijking…



Kiemgetal

Capravet GROUP

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	A	B	C	D
Herd size (no. of female goats)	877	922	3,000	1,681
Milk yield (kg/goat per yr)	1,170	1,180	1,400	1,025
BMTBC × 10^3 (cfu/mL)	40	49	57	78
Median				
Minimum	18	20	26	27
Maximum	193	536	156	174
Milking parlor	Side by side	Side by side	Rotary	Rotary
Mainly Saanen (S) breed; also crossings with Nubian (N), Toggenburger (T), and Alpine (A) breeds	S, N, T, A	S, N, T, A	S, A	S, N, T
CAEV[1] certified-free status	Yes	Yes	Yes	No
CL[2] certified-free status	Yes	Yes	Yes	Yes
Pre-milking teat end cleaning or disinfection	No	No	No	No
Teat end disinfection after milking	No	No	No	No
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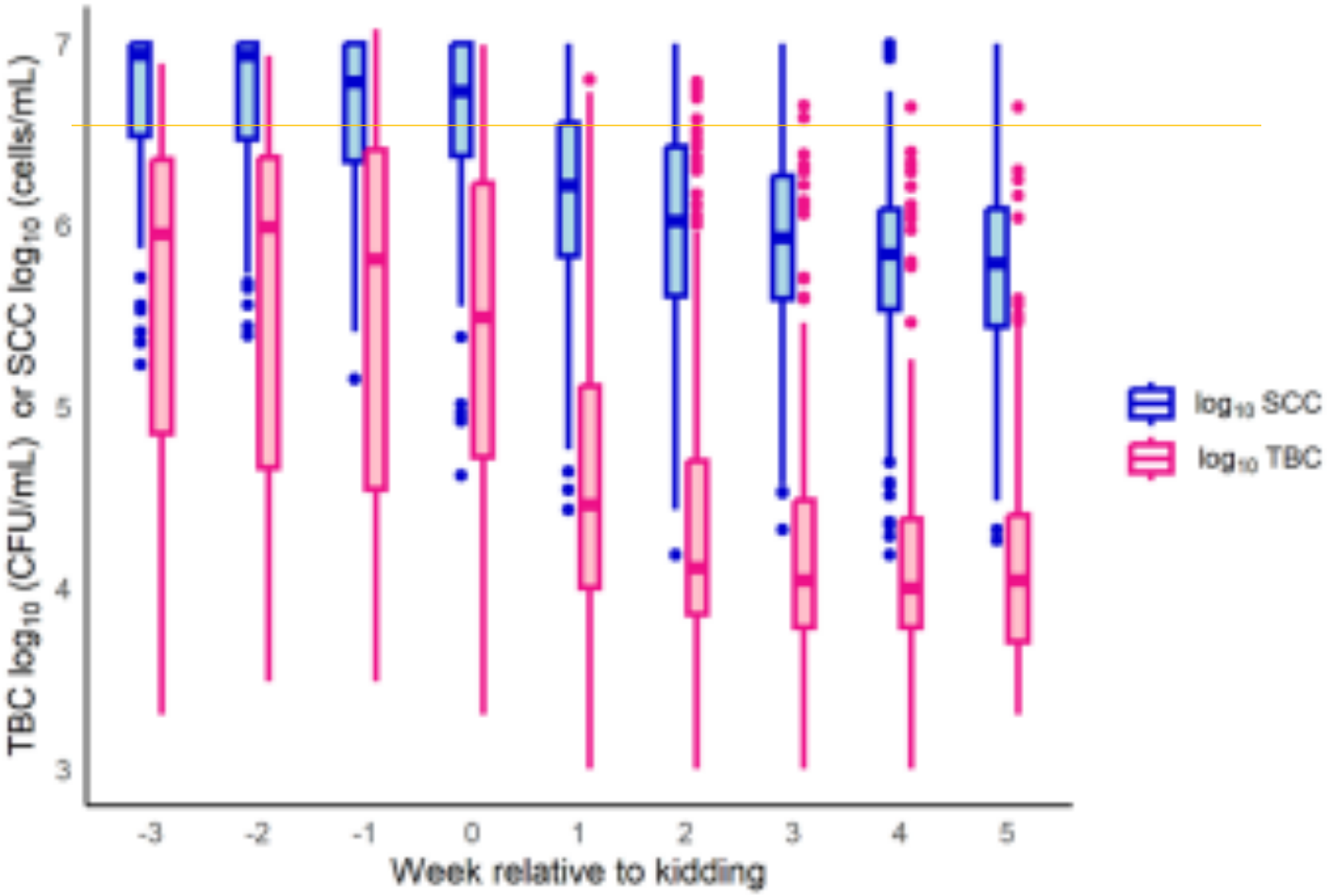
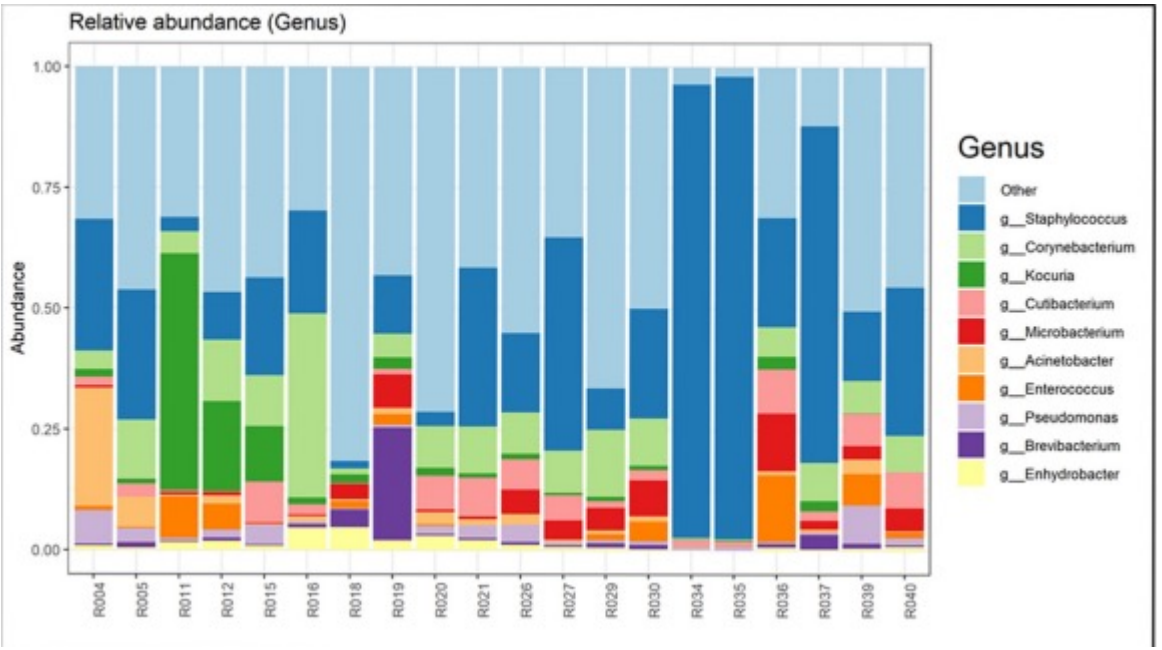
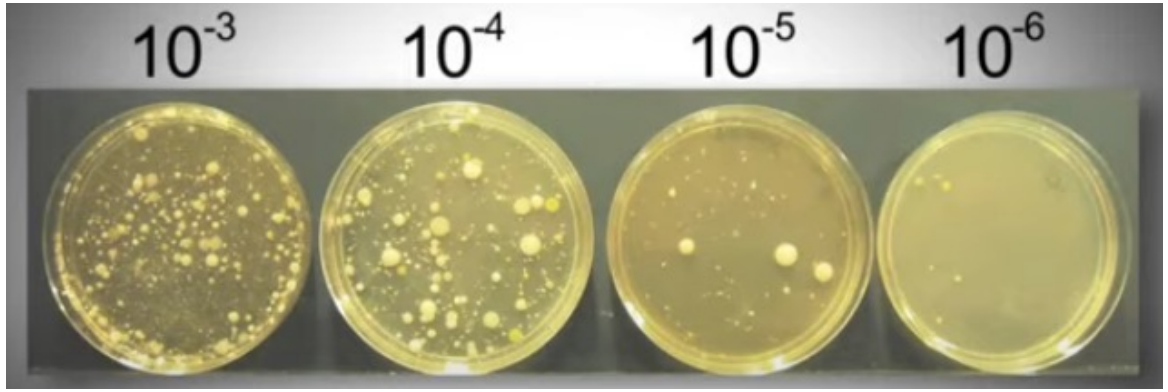
Kiemgetal


TBC log10 (CFU/mL) or SCC log10 (cells/mL)
7
6
5
4
3
-3
-2
-1
0
1
2
3
4
5
Week relative to kidding
log10 SCC
log10 TBC

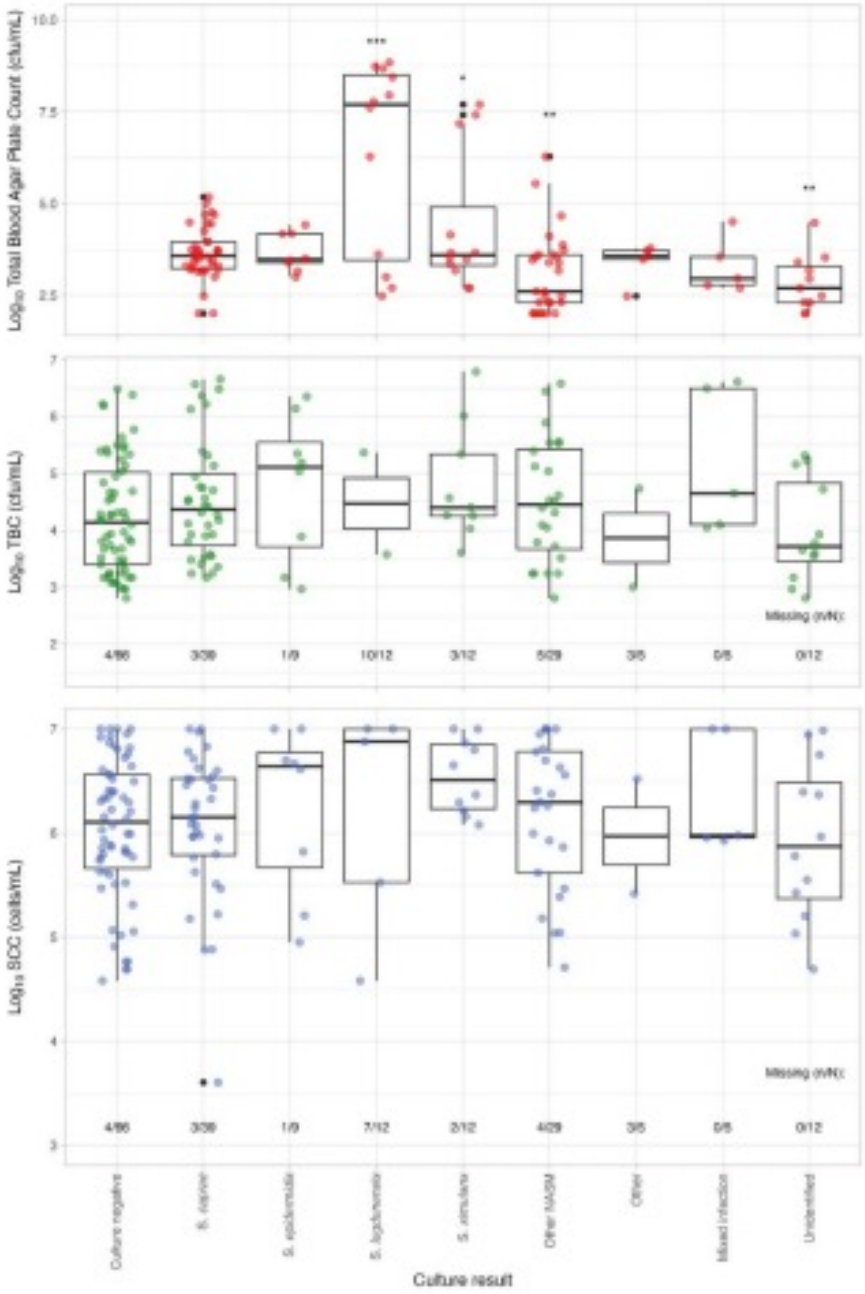
Kiemgetal

- Bestaat grofweg uit 3 groepen:
  - Omgevingsbacteriën
  - Bacteriën uit de melkmachine
  - Mastitisverwekkers





Kiemgetal


Log10 Total Blood Agar Plate Count (cfu/mL)
Log10 TBC (cfu/mL)
Log10 SCC (cells/mL)
Missing (n/N):
Culture result

Kiemgetal

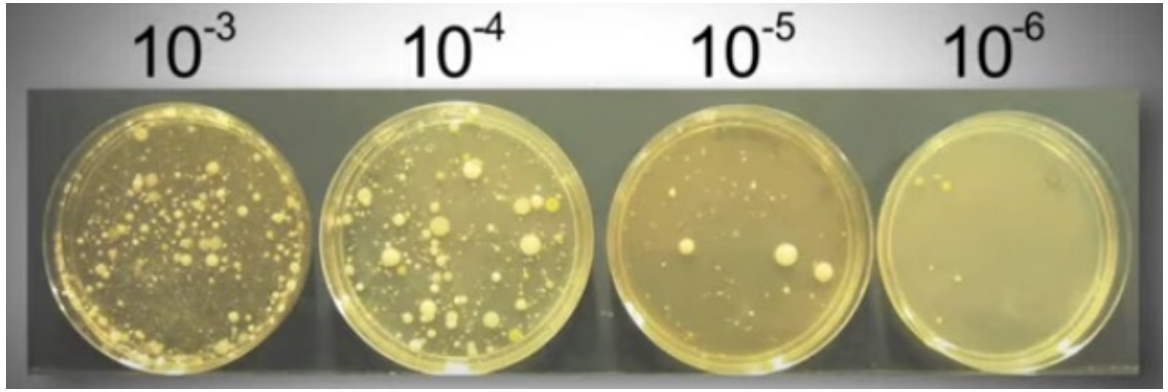
- Koppel 1000 geiten: 50 x10^3 KVE/ml, 3,5 liter/dag

- Viezerik 1
  - 100.000.000 KVE/ml, 1,5 liter/dag

  → 93.000 KVE/ml

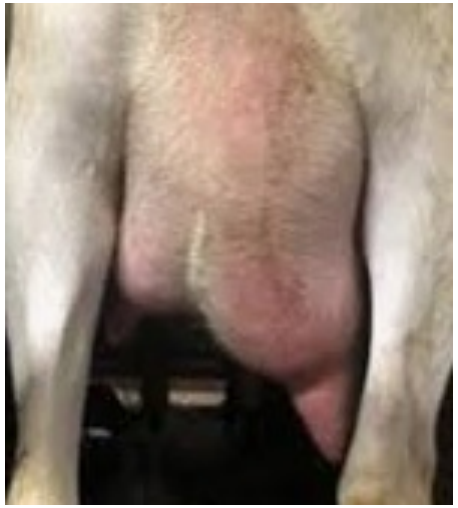
- Viezerik 2
  - 300.000.000 KVE/ml, 1 liter/dag

  → 135.000 KVE/ml



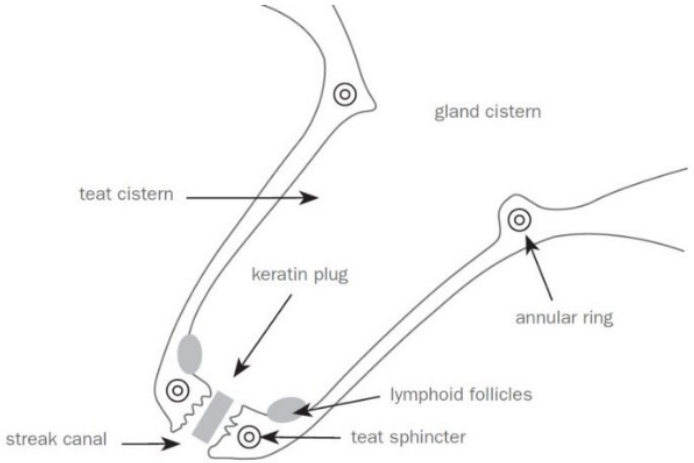
Mastitis

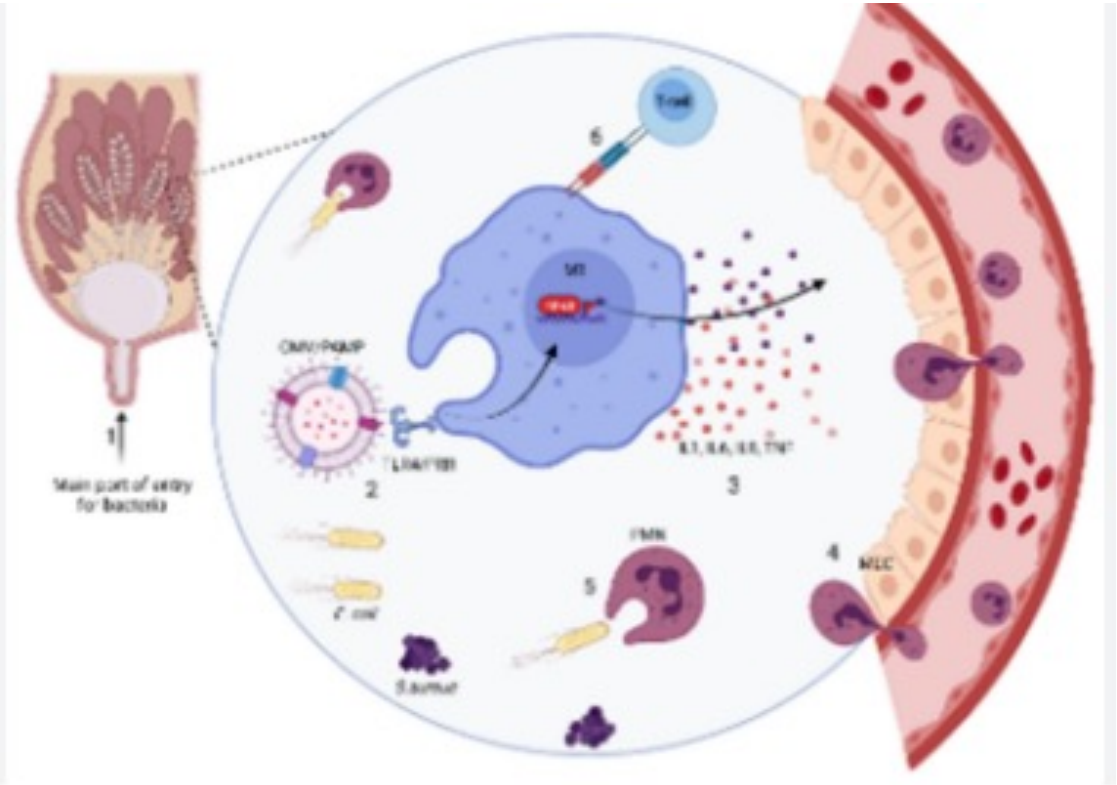
	Klinisch	Subklinisch
Zieke geit, koorts	+ / +-	-
Afwijkend uier	+ / ++-	+-- / -
Afwijkende melk Verhoogd celgetal	+ / +- +	+- / - +
Productiedaling	+ / +-	+-



Mastitis

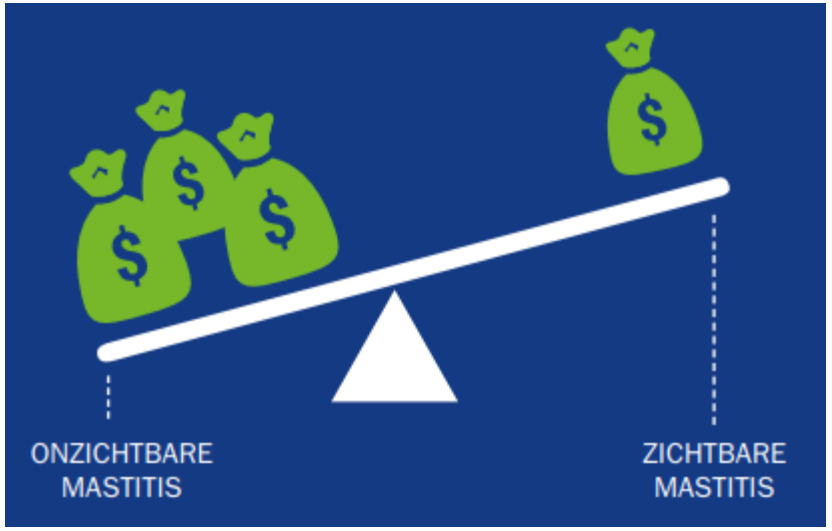
- Multifactorieel:
  - Geit:
    - Weerstand
    - Erfelijkheid
  - Bacterie
    - Agressie
    - Effectiviteit
  - Omgeving
    - Infectiedruk





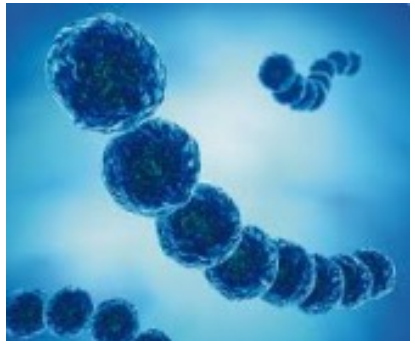
Kosten mastitis

- Klinsche mastitis
  - Uitval, euthanasie, afvoer
- Melkderving
- Korting

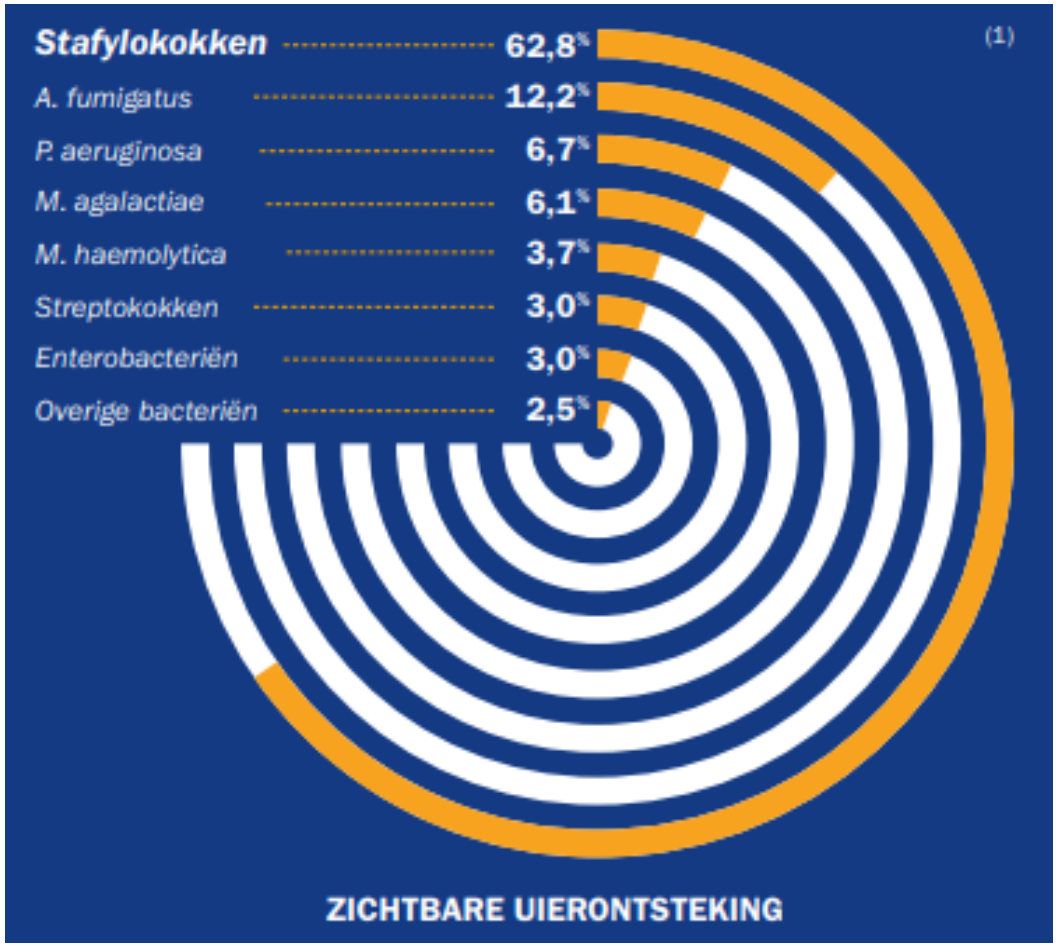


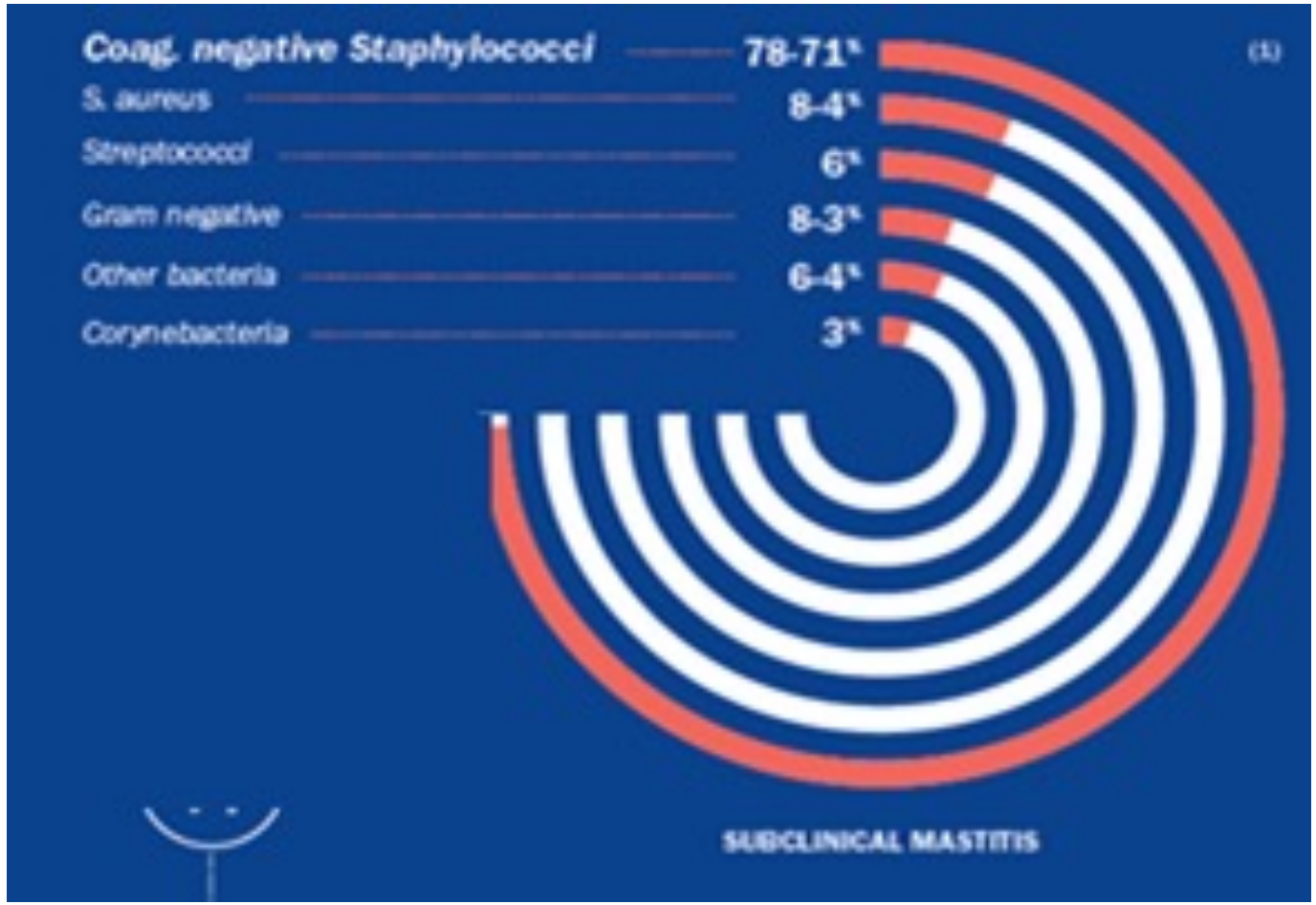
Mastitisverwekkers

- Staphylococcen
  - S.Aureus
  - NAS vnl CNS
- Streptococcen
- Coliformen
- Mycoplasma
  - Enzoötische mastitis: gelukkig niet in NL



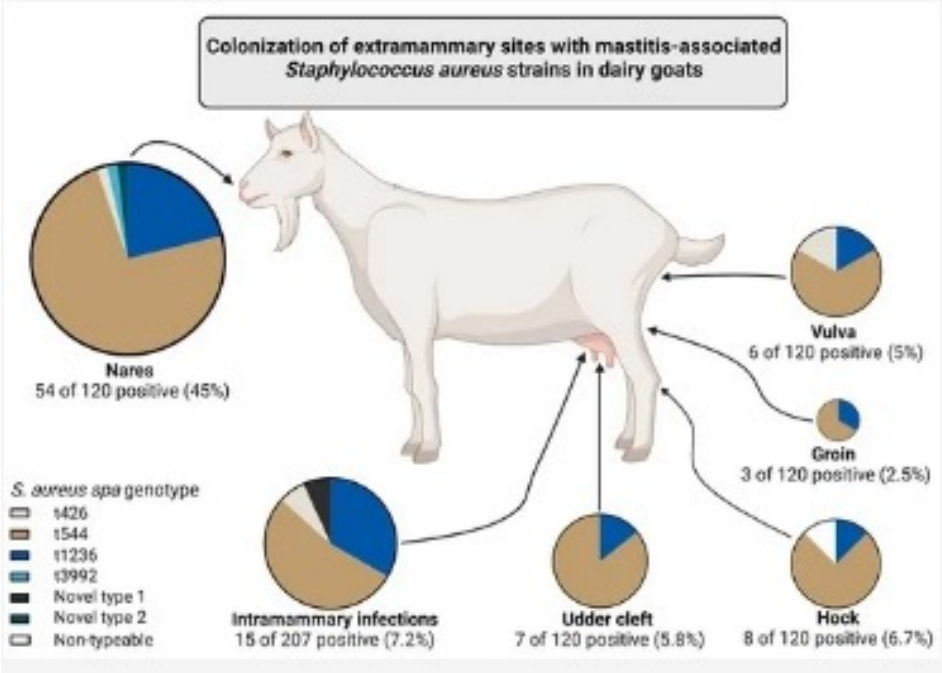
Mastitis verwekkers





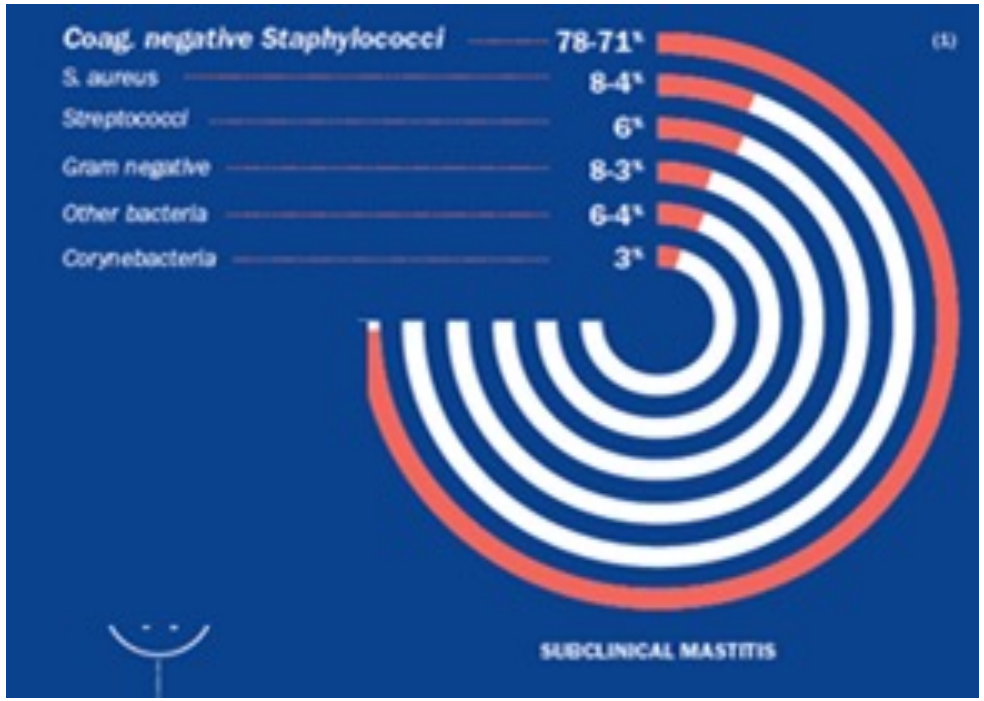
Mastitisverwekkers: S. Aureus

- Geitgebonden
  - Overdracht mn tijdens het melken
- Subklinisch tot blauw uier
- Zeer hoog celgetal
- Aantonen:
  - Intermitterende excretie
- Behandeling moeilijk



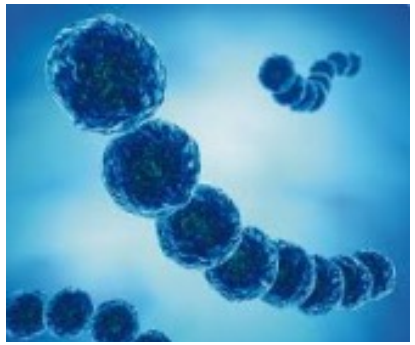
Mastitisverwekkers: NAS - CNS

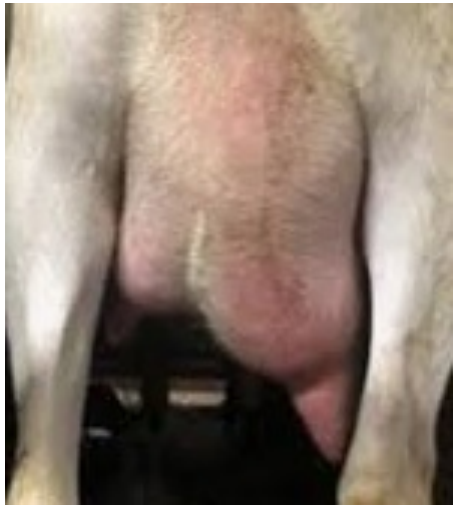
- Vaak omgevingsgebonden
  - Overdracht mn tijdens het melken
- Meestal subklinisch
- Tot zeer hoog celgetal
- Aantonen
  - Doortesten voor relevantie is belangrijk
- Behandeling moeilijk



Mastitisverwekkers: Streptococcen

- Wisselend geit en omgevings gebonden
  - Overdracht mn tijdens het melken
- Mn mild en subklinisch
  - Onkantheid en abcessen
- Verhoogd celgetal
- Aantonen
- Behandeling
  - Voorkomen



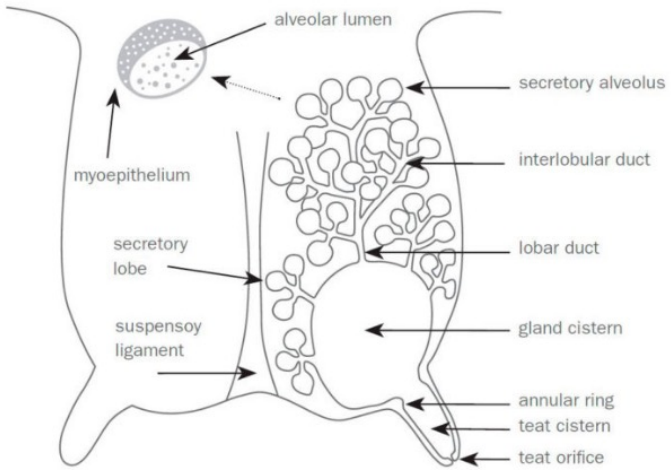


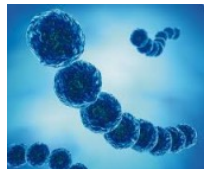
Mastitisverwekkers: Coliformen

- Omgevingskiem
- Ook klinisch
- Verhoogd celgetal
- Aantonen
- Behandeling lastig

Behandelen

- Leegmelken
- Spuiten vs lokaal
- Vaak tegenvallers:
  - Resistentie
  - Biofilm of abces vorming
- Droogzetten





Voorkomen

- Geitgebonden
  - Gezonde geit
    - Gezond maagdarmstelsel
  - Juiste anatomie
  - Goede slotgaten
  - Voorkom uiertrauma uit en inwendig

Voorkomen

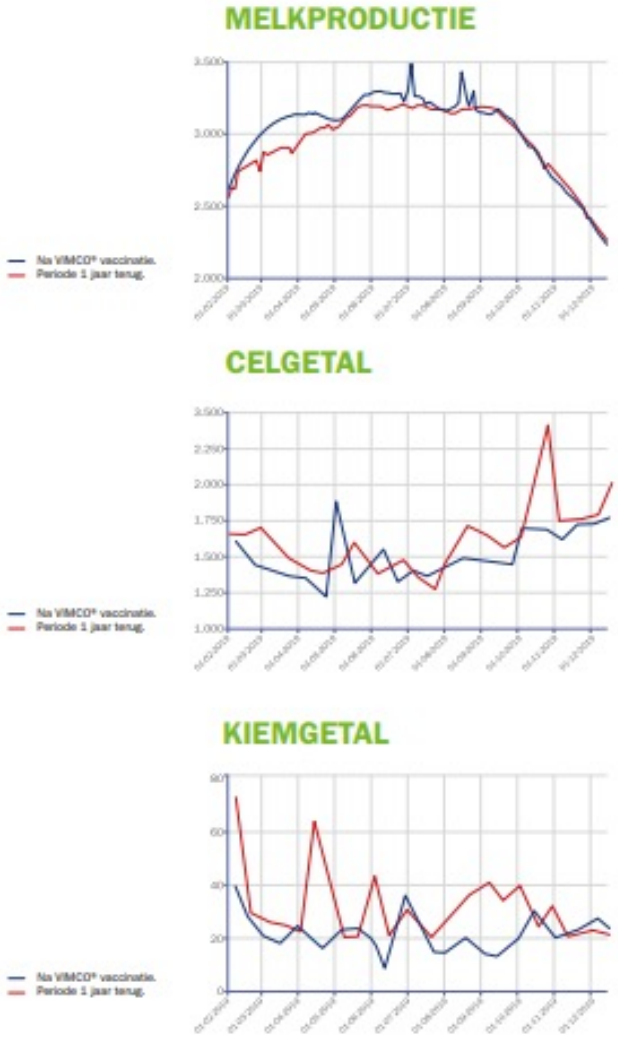
- Management
  - Hygiëne
  - Goed functionerende melkstal

Vaccinatie

- Vimco
  - S.Aureus

- Minder blauw uier
- Lager celgetal
- Minder klinische mastitis
- Minder onkantheid

- Minerale olie vaccin



Goede uiergezondheid:

< 2% klinische mastitis
< 5% onkantheid ontwikkeling
celgetal < 750.000

Plan van aanpak verhoogd cel- of kiemgetal

1. Controleer de melkstal:
   droge en natte melkmeting
2. Verbeter de hygiëne:
   in de pot en melkstal
3. Spoor daders op
4. Neem melkmonsters
5. Maak een plan van aanpak ahv de gevonden bacteriën

Vragen

Voldeed het aan uw verwachting?