



Eradication Guidelines

Streptococcus agalactiae (SRA)

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Before implementation of the eradication program

1) Reduce the risk of new intramammary infections in the herd

- Optimize milking hygiene, milking routines and milking equipment
 - i. Milk with gloves in conventional farms, implement extended routines for hygiene in teat preparation systems in AMS
 - ii. Prepare cows 60 – 90 s before attaching the teat-cups in all systems
 - iii. Select the optimal liner to cows in herd
 - iv. Use take off level 300 ml/min in AMS and 400 ml/min in conventional farms
 - v. Perform a Dynamic Vacuum Test of the system
- Use a teat-dip with high content of iodine and documented effect against SRA
- Implement blanket dry cow therapy for 12-18 months

2) Make a rough cost-benefit analysis of the program

- An Excel sheet is enough accurate for the calculation
- If more than 10% of the cows are infected, a reduction in somatic cell count between 100.000 – 150.000 cells/ml can be expected
- The bulk milk somatic cell count and the total bacterial count will become more stable
- A significant reduction of cases of acute mastitis can be expected
- The cost for extra labor time spent on suggested actions should also be considered

3) Evaluate the chances of success in the herd

- Discuss a consequent strategy within the herd regarding hygiene and biosecurity efforts
- The eradication will fail without a safe and functional segregation
- Is it possible to have healthy, treated and infected lactating cows totally separated?
 - i. In Calving pen
 - ii. During the transition period 3 weeks before and after calving
 - iii. Cubicles or laying areas
 - iv. Feeding and watering areas
 - v. Milking parlors
 - vi. Pasture
 - vii. Drying off and dry period
- Continuous segregation of treated SRA positive cows is recommended

4) Eradication Survey

- Identify the best period to start the eradication program
 - I. The possibilities of culling as many carriers as possible should be considered
 - II. Look into the calving-list for an overview
 - III. Preferably launch the program when many cows are close to drying off or pasture
- Describe start, management efforts, follow ups and goals in time and money

Eradication actions

1) Identification of carriers

- Sample all lactating cows
- Use composite milk samples and PCR analysis or bacteriologic culturing
 - i. PCR is regarded first choice
 - ii. Always use bronopol additive when the analysis is performed with PCR
 - iii. DHI sampling and PCR is time effective and recommended, especially in AMS herds
 - iv. Confirm weak or uncertain DHI PCR results with manual aseptic sampling ASAP
 - v. Quick resampling of negative lactating cows can secure a higher safety level
- Sample all cows after calving for the coming 12 months

2) Handling of carriers

- Isolate culture positive cows and/or cows with a Ct-value < 40 ASAP
- Evaluate isolated cows on SCC data, udder palpation and teat inspection
- Divide the isolated cows after test result, SCC, evaluation and prognosis
 - a) Clinical or subclinical infection with SRA but no signs of chronic mastitis
 - b) Clinical or subclinical infection with SRA with signs of chronic mastitis
- Only cows in group a) should be considered for antibiotic treatment
- Cows in group b) are advised for culling ASAP

3) Antibiotic treatment

- Treat SRA positive cows for 3-4 days with penicillin intramammary in all 4 quarters. Systemic treatment is a possible additional choice. Cows in early lactation with no previous history of mastitis or SRA may have an expected cure rate up to 80 %
- SRA positive cows in late lactation could be dried off and treated with DCT in all four quarters

4) Follow-up

- 2-4 weeks after the withdrawal period for antibiotics the treated cows and the formerly negatively tested cows are tested again with similar methodology
- All treated cows that are still infected are advised for culling ASAP
- Cows selected for DCT should later be tested within their first week of lactation
- Cows with a successful treatment story should continuously be kept separated from those who were classified as healthy at first testing

5) Monitoring of herd after eradication

- Bulk tank samples are tested with PCR for 6 - 12 months as scheduled below
- In herds with more than 100 lactating cows BT samples can be repeatedly false negative
- If a BT sample is found positive a reactivation of the program should be considered

Classification of herds with BT PCR samples

Free All herd sizes ≥ 4 consecutive and evenly distributed bulk tank samples during 6-12 months and Ct > 40

Doubtful All herd sizes 1 bulk tank sample $37 < \text{Ct} \leq 40$

SRA Herd All herd sizes 1 bulk tank sample $\text{Ct} \leq 37$

Abbreviations

AMS - Automatic Milking System
BT – Bulk Tank
DCT – Dry Cow Therapy
SRA – Streptococcus agalactiae

ASAP- As Soon As Possible
Ct – Cycle Threshold value (in PCR)
DHI – Dairy Herd Improvement
PCR- Polymerase Chain Reaction