



Background

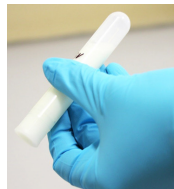
The development and spread of antimicrobial resistance has become a major issue for public health. In dairy production, most antimicrobials are applied for the treatment of udder inflammation (68%). A significant reduction of antimicrobial usage in dairy production can be achieved either directly by optimization of antimicrobial usage for clinical mastitis and dry cow treatment or indirectly by general udder health improvement.

How does the strategy work?

If mastitis is suspected, MastDecide can be used as a decision support tool for selective mastitis treatment:

1. Sampling

Collect a sterile quarter foremilk sample according to the instructions



2. Implementation/Execution

- Add 0,1ml milk to each of the 2 MastDecide test tubes
- Place the test tubes in the preheated incubator for 12 hours (37°C)



3. Evaluation

- Evaluate the color of the two test media



No pathogen detected

No additional measure



Gram-negative or coliform

No additional measure



Gram-positive

Local antibiotic treatment

Positive features

- Can be carried out directly on the dairy farm
- Result within 12 hours
- Enables pathogen-specific therapy selection
- Saves up to 60% antibiotics
- Reduces antibiotic use, costs and milk losses
- Avoids unnecessary treatments with antibiotics
- Is beneficial for animal health and public welfare

Be careful, especially on these points

- Sterile sampling - not always easy to handle and takes time
- Correct temperature of the incubator is very important

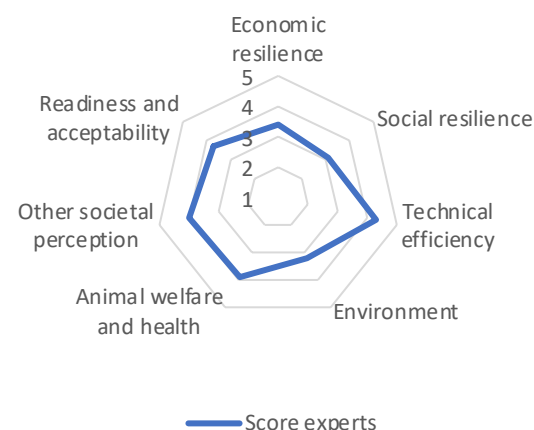
Specific advice

Do not only treat based on the result of the MastDecide test. Occasionally send samples to the lab for testing to better assess the farm situation. Usually, the same bacteria or germs occur again and again on the farm.

Equipment involved? Investment?

- **Costs per package MastDecide:**
101.15€ for 10 tests
- **Additional materials needed:**
 - Incubator 37°C for 94.01€
 - Reaction vessel stand for 26.78€
 - Disposable gloves

Assessment of method



Quote of the farmer:

“Fast and correct measurement preventing needless use of antibiotics. Helps the farmer to make a decision. Would be more innovative if it were integrated into milking robot technology in the future.”

