

Theme 5: Fertility and Breeding

FERTILITY MANAGEMENT AND COWS WITH ABNORMAL DISCHARGE (Level 2)

Topic	Training & information Content
5.1	Dairy Cattle Breeds and Breeding
5.2	Breeding program for a dairy farm (medium & large)
5.3	Conformation, Type classification and judging
5.4	Cow handling
5.5	Milk production recording
5.6	Heat Detection
5.7	Artificial Insemination
5.8	Pregnancy Diagnosis
5.9	Fertility Management
5.10	Cows with abnormal discharge
5.11	Fertility disease recording
5.12	Calving recording
5.13	Use of Key Performance Indicators



1. You will learn about (learning objectives):

- Placenta – expulsion and retention
- Vaginal discharge
- Optimizing fertility
- Fertility management



2. Introduction

- The most profitable cow is one who gives birth to a healthy calf every year.



In Heat

< 30 days



Insemination

< 60 days

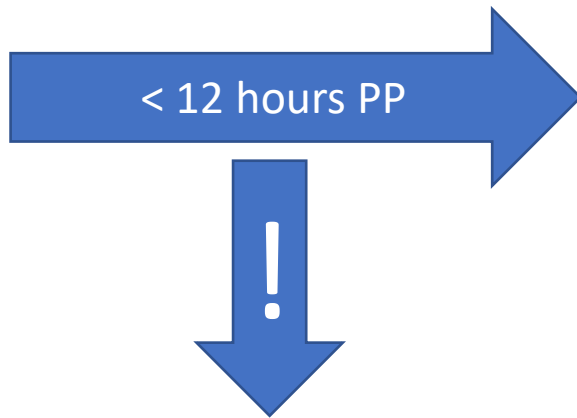


A fertile cow could show heat signs early enough after calving and be inseminated early (<60 days)

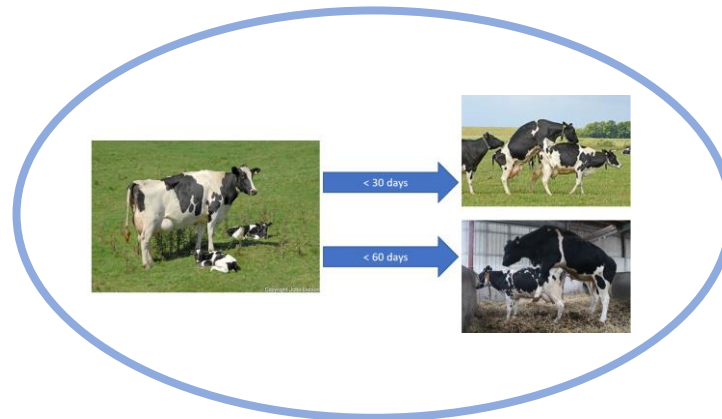
3. Expulsion of placenta



The most important condition for a fertile cow is that the placenta is ejected within 12 hours PP (post partum)



If the placenta doesn't come off within 12 hours, some serious fertility problems may occur in the coming days/weeks.



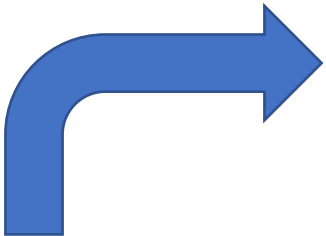
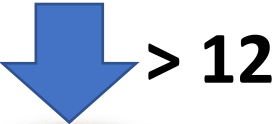
fertile cow

4. Retained placenta

- In case of retained placenta (> 12 hours), treatments are needed to avoid further problems.



Twin Births, poor BCS, Dystocia are all risky situations!



> 12



> 12



4.1 Retained placenta Cont'd...



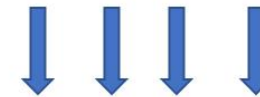
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Tem	38.5	38.7	38.6	38.8	38.6	39.0	39.3	39.1	39.6	39.3	39.0	38.8	38.7	38.7



In case of retained placenta;

- Take temperature post partum (PP) the first 14 days.
- When temp rises above 39.5° C, start treating immediately IV.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Tem	38.5	38.7	38.6	38.8	38.6	39.0	39.3	39.1	39.6	39.9	40.6	40.1	39.6	39.2



- The longer you wait, the more time it will take for the cow to recover. **TIME IS MONEY!**

4.2 Retained placenta Cont'd...

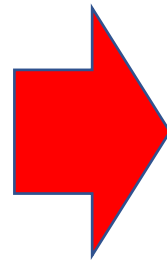
In case of retained placenta, avoid manual pulling. It may cause internal bleedings and permanent damage of uterus wall.



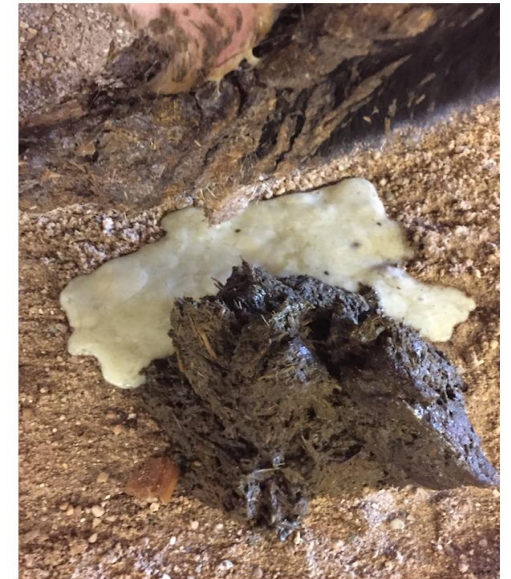
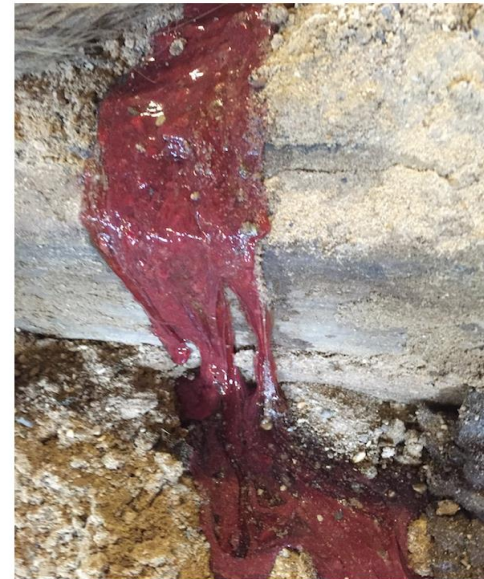
Knotting of the placenta is allowed, this means that the "natural" weight causes expulsion.

5. Vaginal discharge

Examples of vaginal discharge from a cow with metritis



Cow infected with metritis



Few days after calving



Few weeks after calving

6. Cleaning the uterus

- In case of doubt i.e. 'if not sure about the status of the cleaning process of the uterus,' then it is time to do rectal palpation.



6.1 Cleaning the uterus Cont'd...

- Below is a pictorial of how a healthy “self cleaning” uterus should feel/look like, if different, then it is time for treatment to prevent future problems.



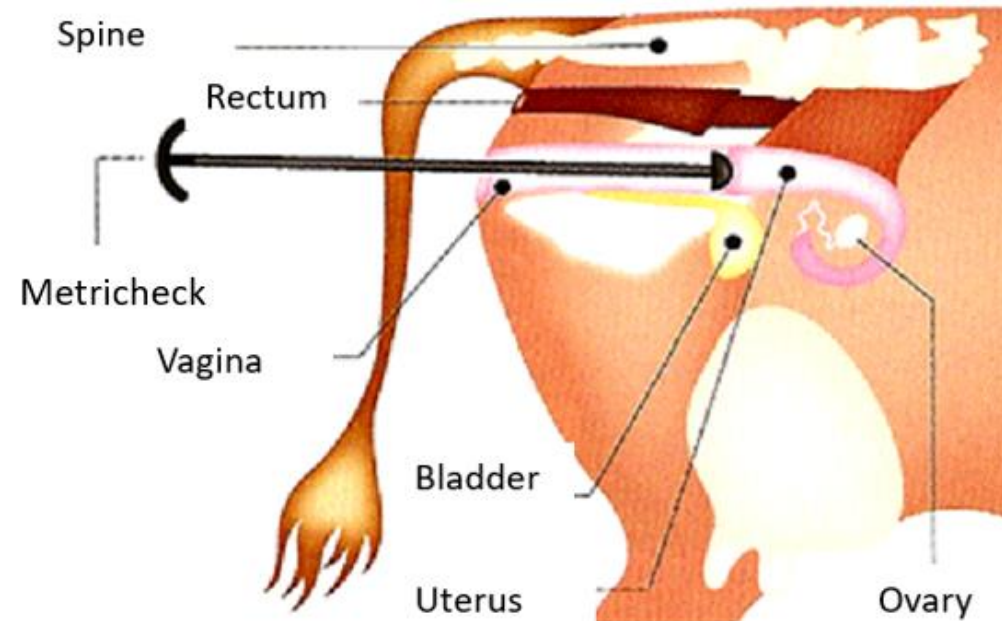
Healthy 'self cleaning' uterus

7. Diagnosing vaginal discharge: Use of Metricheck

- A Metricheck can help to diagnose the presence of unwanted (not always visible) discharge in a cow's vagina.



A Metricheck



A Metricheck in use

7.1 Withdrawal of the Metricheck

- Withdrawal of the Metricheck device at an upward 45-degree angle will push it to the cervix.

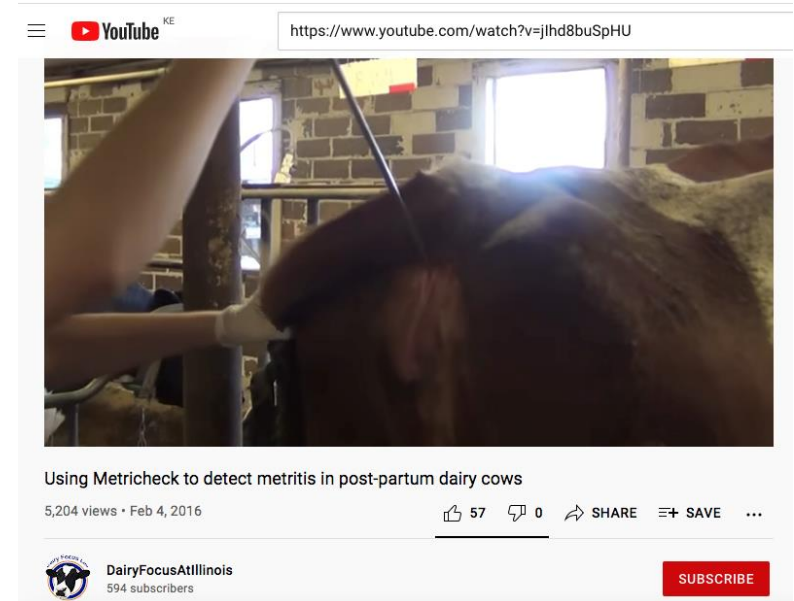
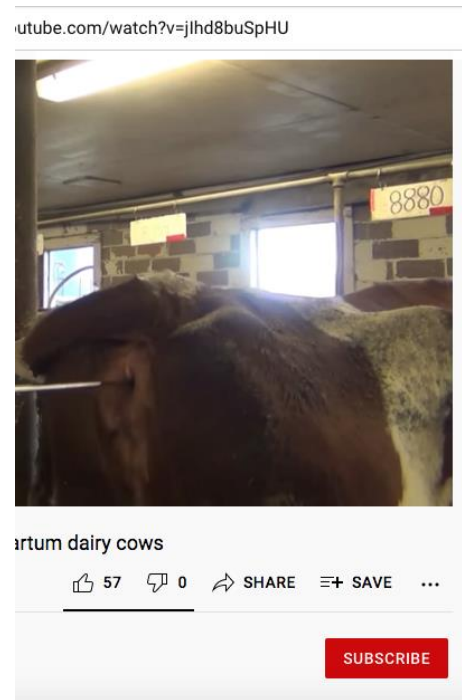
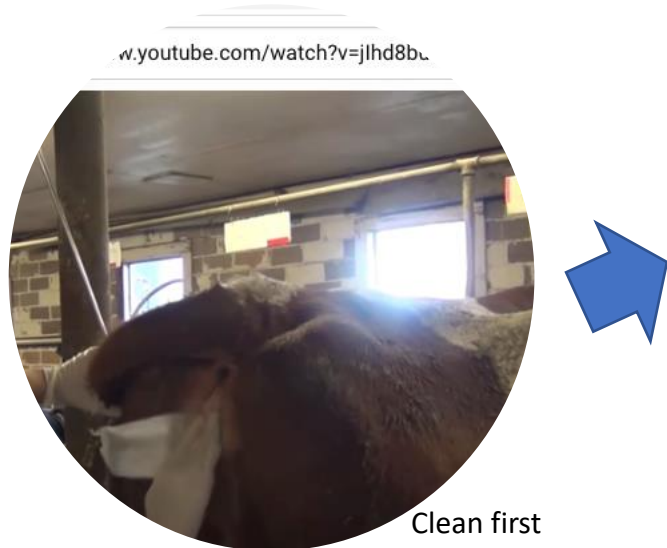


Withdrawal of a
Metricheck at
45-degree angle

7.2 How to use the Metricheck device

Watch video

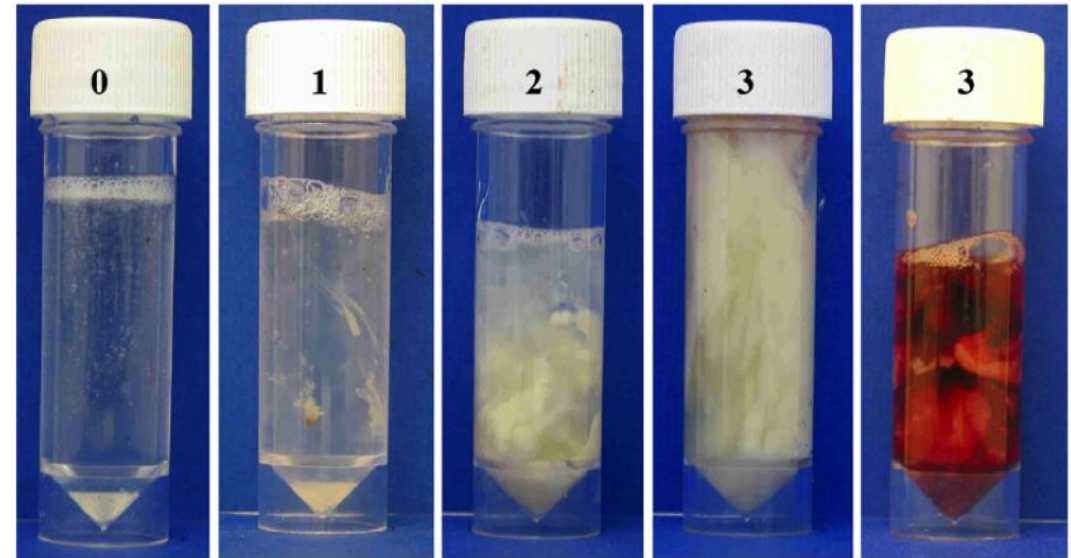
<https://www.youtube.com/watch?v=jlhd8buSpHU>



Withdraw the Metricheck device at 45-degree angle

8. Vaginal discharge scoring

- Using this score system, the mucus can be described as:
 - Score 0 = clear or translucent mucus;
 - Score 1 = mucus containing flecks of white or off-white pus;
 - Score 2 = discharge containing $\leq 50\%$ white or off-white mucopurulent material;
 - Score 3 = discharge containing $\geq 50\%$ purulent material, usually white or sanguineous.



Vaginal discharge scoring for Metricheck (Sheldon et al, 2005)

9. Vaginal discharge: Normal vs Abnormal



NORMAL

The reddish/pinkish discharge becomes visible during the days after normal calving.

After 10-12 days the discharge must turn into clear.



ABNORMAL

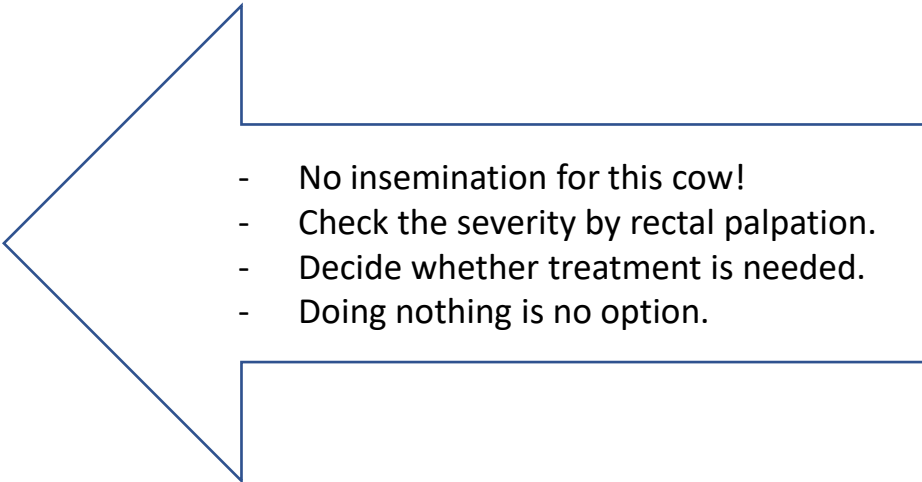
When white discharge is seen, it (always) must be categorized as abnormal.

Rectal palpation (massage) will help to make it more visible and determine its severity.

10. Optimizing fertility



- To optimize fertility status, it is important to observe cows every day.
- When you observe discharge that doesn't fit to the cow's lactation status it is time to act.

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- No insemination for this cow!
 - Check the severity by rectal palpation.
 - Decide whether treatment is needed.
 - Doing nothing is no option.

10.1 Optimizing fertility Cont'd...



- Every healthy cow who has been heat should show a bloody discharge 1-2 days after being in heat/being inseminated.
- Bloody discharge is a sign that the cows uterus is clean, and the cow has been in good heat.

- 1-2 days after the cow was in (strong) heat!
- In virgin heifers this is more visible.
- No need to get worried.
- Has no negative impact on fertility.

11. Vaginal discharge and what the colours mean

- All types of vaginal discharge has a meaning normal/abnormal.

What does it mean, the things we observe ?

- Red discharge; ***normal*** between 1-5 days after calving;
- Pink discharge; ***normal*** between 5 –10 days after calving.
- Red /brownish discharge ***abnormal under all circumstances.***
 - Cow is sick, fever !!, caused by an inflammation inside treatment is necessary.
 - Cow is not sick, no fever, flushing, treatment is advisable.
- White discharge ***abnormal under all circumstances,*** it will indicate endometritis, or any other inflammation inside.
- White /clear discharge, cow ***might*** be in heat but the uterus is ***not clean yet.***
 - Flushing might be necessary.
- Clear discharge, cow is, or will come in heat.
- Grey/thick discharge, in a few days time cow will come in heat (if no insemination date is available).
- Grey/thick discharge, cow is pregnant (if insemination date is known).
- Bloody discharge, cow has been in heat 1-2 days ago.

13. Fertility management

- The definition of Fertility Management is not just one single objective.
- To assist farmers improving the fertility status of their herd, a lot of questions have to be answered.
- It is always a big challenge to find out where and what the problem is, and what has to change so that there is improvement.
- It is also crucial to have enough data/observations to assist farmers.



14. Take home messages

Advise to the farmer

1. An animal nutrition specialist must take a look at the availability of minerals and vitamins in the daily ration.
2. Staff members need to be trained on heat detection and recognition of the different types of discharge.
3. More regular vet visits to determine the status of each cow.



Fertility, the ultimate goal within a realistic time.