

HEAT DETECTION

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



Heat Detection (Level 2)

You will learn about (learning objectives):

- How to detect a cow on heat
 - Basic introduction to Heat (Estrus) in cows
 - Farm herd fertility, including Cow fertility card
 - Recognizing all the important heat signs in cow

Heat Detection (Level 2)

Heat (Estrus) in cattle

Background

- Heat (estrus) is the period of sexual excitement when the cow/heifer is receptive to a male
- Furthermore, cows only produce milk after calving. It is therefore very important for farmers to detect heat in cows.
- Heat detection requires that cows be observed more frequently. Therefore, more time should be spent observing cows for heat signs



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Farm Herd Fertility

- Cows need to be well fed and healthy to be productive and have good reproductive performance (sound fertility) in the herd.
- Healthy cows come in heat 20-40 days after calving. Farmers need to be trained on heat detection, keep good administration of heat and fertility records to estimate when a cow might come in heat again.



Note: Not every cow becomes pregnant after insemination and not every cow comes in heat every three weeks. In case of abortion and/or Early Embryonic Deaths (EED), heats will be irregular. Hence more time spent observing cows is an investment.

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Tip/Good to Know: Smooth calving process and calving environment have a lot of influence on future fertility



Smooth Calving process

- feeding before calving
- Give time for cow to calve
- Assist only when necessary. Do not pull the calf

Calving environment

- Ensure calving area is kept clean and comfortable
- Have water available and a disinfectant

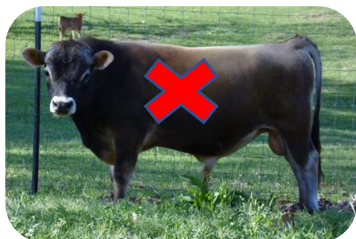
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- Furthermore, good administration of heat and fertility records will help the farmer estimate the time when a cow is expected to come on heat again and to decide when to inseminate her



For instance:

- A farmer can take note of important dates like the Calving Date e.g. March 11 for a given cow
- It is recommended to give the cow a waiting period of 60 days after calving; before she's served again. i.e.



March 11- May 10= 60 days

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Maintaining cow/herd fertility

- Normally after calving, keep asking yourself two questions to have reproductively sound cows/herd (cow fertility):

1. Will the cow come in heat again?

Possible answers: *May be Yes or May be Not*



YES!



NO!



2. If yes, When will the cow come on heat?

Keep observing the cow for signs of heat.



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Signs of Heat

- Let's have a little task:

Take a moment and prepare a list with 10 heat signs you know. Try to give a score for each heat sign you have listed, the scores should be between 0 and 100 indicating the reliability/importance.

Let's see whether your (learner's) scores for each heat sign is the same as the agreed score.

	Sign of heat	Learner's Score	Agreed Score
Standing heat			
1.			
General Pre-heat			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Post-heat			
9.			
10.			

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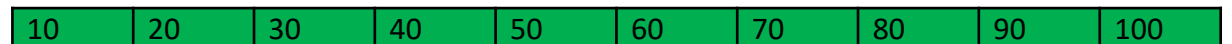
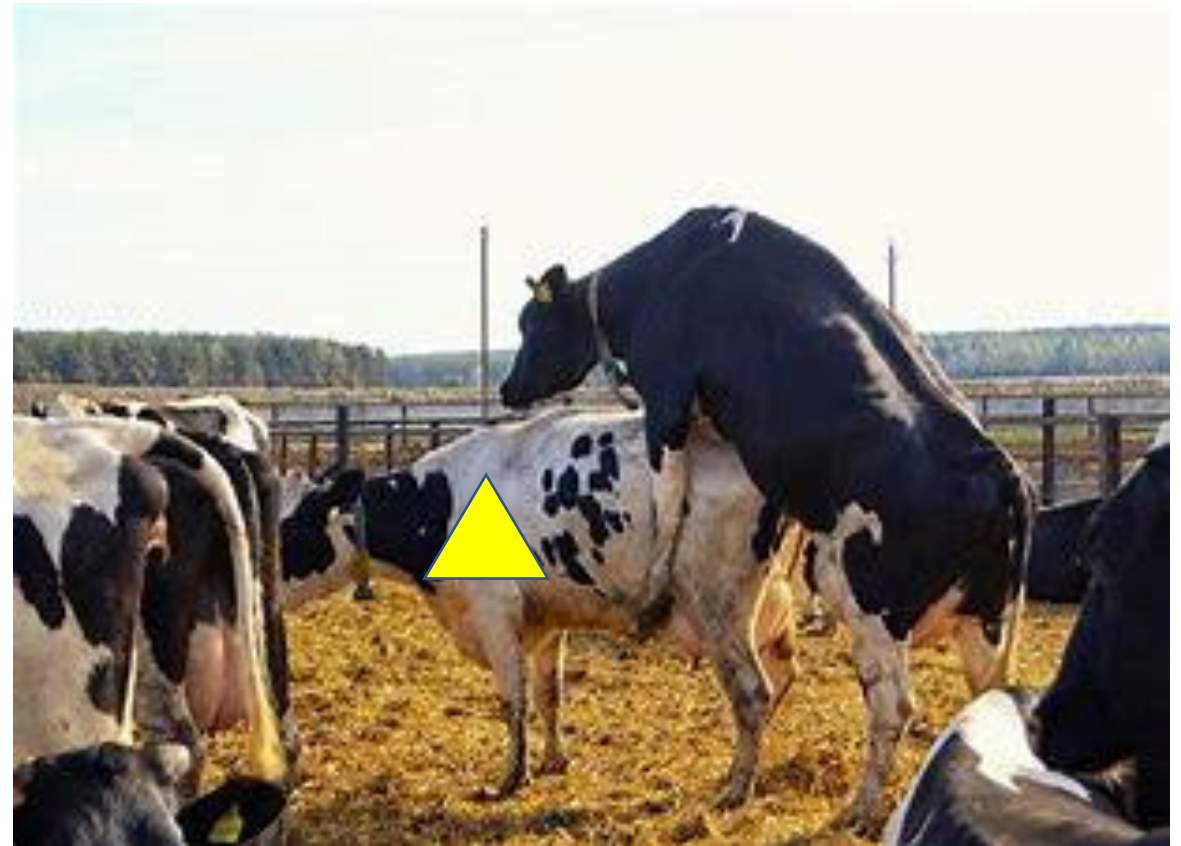
Standing Heat

- This is when the cow stands still while being mounted by other cows (100 points!! – the perfect time to bring her for bull service or immediately call the AI technician case of AI)
- Not every cow shows standing heat events, and if they show, it is mostly in the evening and night hours. Since you may not see her on standing heat, it is important to be aware of all the other (pre) heat signs.



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- In modern dairy breeds, standing heat will last only a few hours (2-8 hours) with very few standing events (8-10 times). Every standing event will last maybe 8-10 seconds; translating to a maximum of $10 \times 10 = 100$ seconds every three weeks to notice a cow in standing heat.



100 points, is what we need !!!!

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Other Signs of heat

1. Pre-signs of upcoming heat (Before Heat)

- Chin Resting is a 20% heat sign

When cows/heifers show this, then close observation is needed. Very soon some more signs may show up. In case of chin resting, there's almost 90% certainty the cattle will show real heat.



Note: Chin resting is very innocent but very important "pre" heat signal



20 points: More observation is needed

Yellow triangle denotes cattle to give attention

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- Sniffing/Licking

This is a typical bull behavior shown by cows/heifers who are close to heat. It is a 30% heat sign. Also note that the “victim” and “partnering” cows are suspected to be close to heat.



Note: Sniffing/licking is mostly shown or seen when majority of herd is resting



30 points: Keep an eye on this cow

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Clear,
stringy
discharge

- Clear, slimy, stringy discharge

The clear discharge is a sign that the cow's uterus is in good condition and in principle ready for the next pregnancy.

In case of visible discharge, this is 30 points on a scale from 0-100. At this point we would love to see some more signs before insemination can take place.

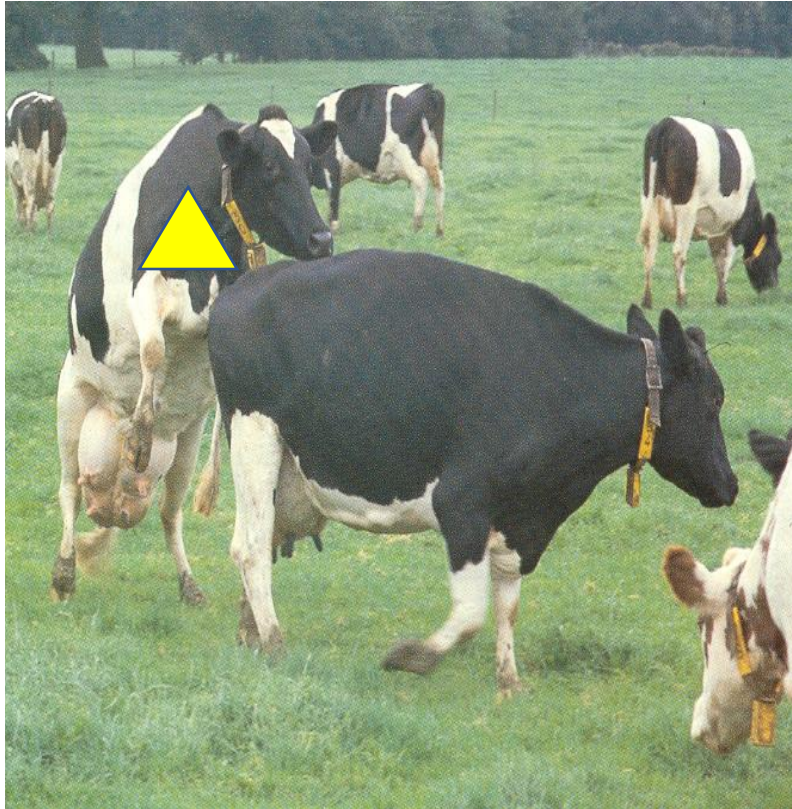


Note: It is very important that the discharge is clear and clean



Also 30 points: Keep an eye on this cow

Heat Detection (Level 2)



- Mounting or attempt to mount other cows

This is 40% heat sign that cows/heifers want attract other cows. Usually, it is a matter of time the cow will be mounted by other cows and turn into standing heat

Also the “victim” needs to be observed closely the coming hours as they could possibly exhibit/be in heat.

Mounting is too early for mating incase you are to use a bull.



40 points: Stay patient, soon there will be more heat signs



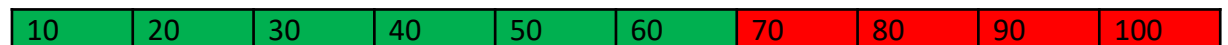
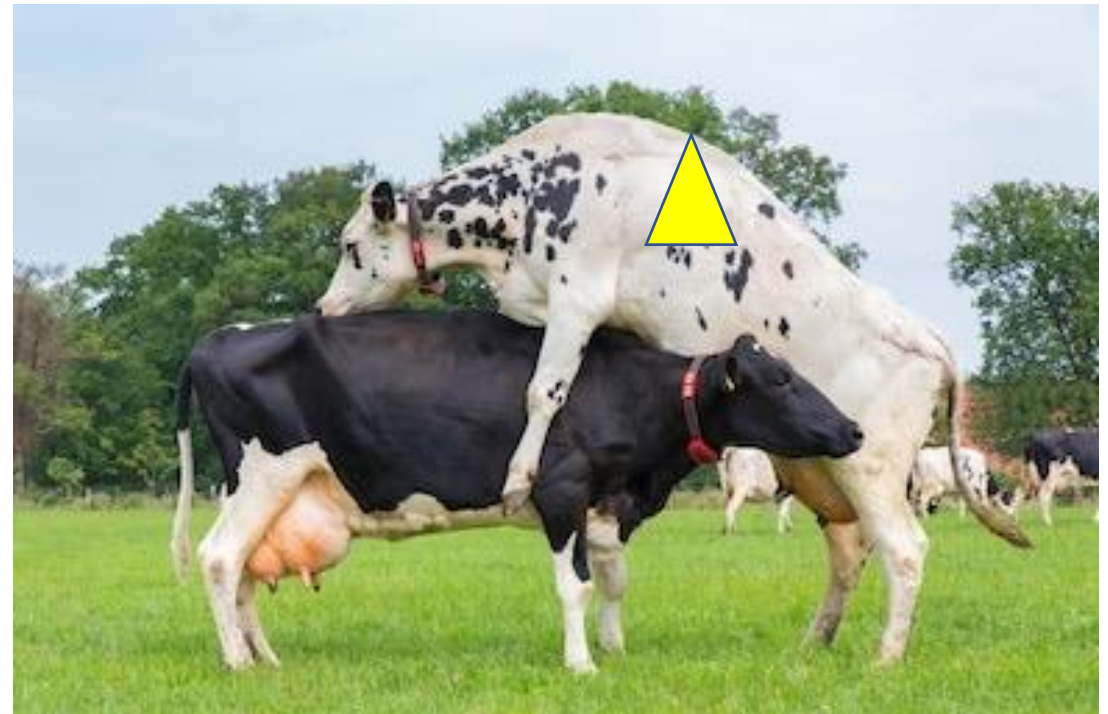
Note: This sign warns that it is going to be serious. i.e. the cattle will show heat sign that can't be missed.

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- Mounting other cows on head side

Besides standing heat, this another most reliable heat sign. The cow who is mounting for sure is in heat and must have shown some other signs already (earlier – that were undetected).

Cows with this behavior usually are the low ranked cows who don't get enough attention from other cows in the herd



60 points; no doubt that there is upcoming/more signals

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List of Other Heat signs continues...

- Apart from Standing Heat event (primary heat sign), there is a long list of other (important) heat signs
- Looking at the list of (pre) heat signs, it is important to know that every sign will help you to detect a cow on heat
- Not every sign is shown by every cow, be prepared that there are cows that only will show you the standing heat event and nothing else/no other heat sign.

Heat signs that are important to recognize;

Restlessness	5 %.
Drop in milk production	5%
Swollen vulva	5 %
Phleming	10%
Bellowing	10%
Mounted but not standing.	10 %.
Fresh saliva on cow's back	15%.
Chin resting.	20 %.
Back bending (touching clitoris)	30%
Continuous Clear Discharge (Few Days)	30 %
Sniffing several other cow's vagina	30 %.
Mounting farmer (when standing in front of cow)	30%
Mounting or attempt other cows.	40 %
Mounting head side other cows.	60 %
Standing Heat.	100 %.



Note: If a cow scores more than 50% in a period of 24 hours, you can be almost sure that she is on heat.

Heat Detection (Level 2)

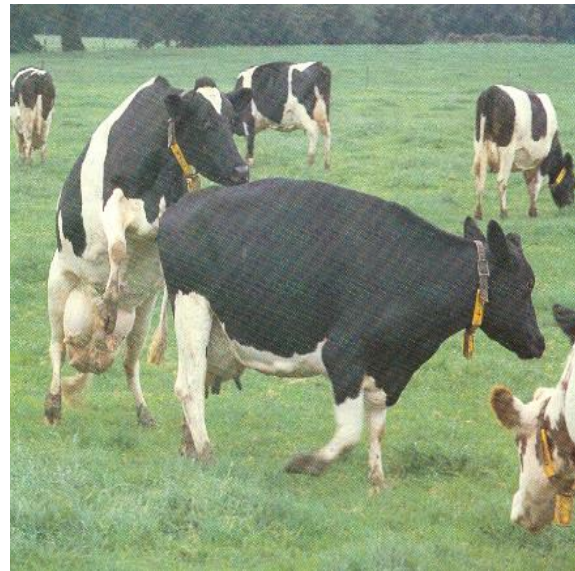
When to inseminate

As soon as cow has scored 100 points because of several heat signs or showing standing heat (100%), then she is ready for service.



(30 points)

+



(40 points)

+



(30 points)



Total = 100 points (ready for insemination)



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In case of Natural service (use of bull)...

- Cows naturally allow the bull to mate while standing still. She should be relaxed and voluntarily allows the bull to mount. Do not necessary to tie her. This often leads to stress



Note: Never force the cow to stand still to be mounted!

- Controlled mating: One jump is usually enough. If second jump is necessary, then make sure that there is enough time between the two jumps, preferably 30 minutes.



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3. Post Heat (After heat)

- Bleeding is a very positive sign. It means that your cow has been in strong heat or gone through a strong heat sign but not observed; and the uterus was clean and well restored. Some people still think it is a negative sign, which is not true.



Heat Detection (Level 2)

- Keep observing your cow over the next coming weeks after the heat signs
 - Observe her for any visible signs of heat
 - Check also if she is resting and eating



-END-