

# ***Examination of the Fresh Cows***

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## **I. Introduction**

The purpose of this outline is to review a process for examination of fresh cows that accurately and effectively identifies the cows that need close monitoring, a detailed examination and/or treatment. Gaining proficiency in examination of fresh cows takes practice and should have regular input and review by your veterinarian. Farms will differ on in their approach to the fresh cows. While some farms routinely screen all cows, some will select cows for examination. Not all fresh cows need a detailed examination. Once, identified as needing to be examined, a consistent exam process should be followed. Additional testing may be required to identify some post partum conditions. These extra tests may differ from cow to cow or from farm to farm. In a similar way, treatment protocols and health records may also vary between farms.

The purpose of screening the fresh cow and training the person(s) working with fresh cows to find cows that need an exam is to accurately detect, effectively treat and record 8 important conditions that occur commonly in this group of cows. The conditions are:

- Displaced Abomasum (DA)
- Enteritis
- Injury or lameness
- Ketosis
- Mastitis
- Pneumonia
- Milk Fever
- Metritis

It is advisable for veterinarian and the dairy to work together in the fresh pen on a weekly basis but no less than once a month so that protocols, techniques and decisions can be constructively reviewed and health problems can be monitored closely. Enhanced fresh cow health and performance benefits us all.

## **II. Who gets examined?**

It is stressful for special needs cows like fresh, sick or lame cows to be confined or held in lock ups for a long period of time and it is time and labor intensive to examine all fresh cows. We can limit the number of cows that get a full examination to those that have a specific reason or need to be locked up and examined in more detail. Some examples of reasons that serve as the basis for a detailed examination are listed below:

- Calving difficulty

- Twin birth
- Retained placenta (RP)
- Cows that didn't lock up or were slow moving into the milking facility
- A cow that is weak, has muscle tremors or abnormal posture
- A cow that is lame or walking abnormally
- A milk weight deviation is detected or the udder is not full at milking time
- The udder or a quarter is abnormal – swollen, discolored, asymmetrical, hot or cold
- Abnormal appetite
- Diarrhea
- Fever was noted previous day
- Foul smelling uterine discharge
- Poor rumen fill or abnormal abdominal distension
- Previous exam yielded a reason to recheck the cow

Many cows will be placed on a list to be examined the day before or prior to beginning that day's work. Cows will also be added to the list based on observations made that day. A systematic process for observing cows that need to be added to the list will assure that cows that need attention are not missed.

- **From a walk-through in front of the cows, any of the following observations should be recorded and may result in that cow being added to the examination list**
  - Cows that have not disturbed feed just after lock up. Appetite is assessed again by doing a final walk in front of the cows just before releasing the lock-ups. Any cow that didn't clean up feed to the same level as the rest of cows should be noted for exam the next day.
  - Cows whose noses aren't licked clean
  - Cows with abnormal nasal discharge (white, yellow, green, or bloody)
  - Cows that cough more than once or twice
  - Cows with an abnormal discharge from the eye, a cloudy eye or sunken eyes
- **From a walk-through behind the cows, any of the following observations should be recorded and may result in that cow being added to the examination list**
  - Diarrhea or manure that is too loose to form a pile
  - Any cow with foul smelling vaginal discharge
  - A cow with an abnormal abdomen – one that is small, tucked up or large and distended
  - Udder fill – prior to milking, an udder that is not full of milk; after milking an udder that remains full or swollen; udder color - abnormal redness or a blue discoloration; abnormal edema or quarter swelling; suspensory ligament damage

Recording the cow's identification from behind the cow can be challenging. Many dairies have ID tags on a neck strap. Others put ID, calving date, and pen move data on a back tag that can be glued to the rump. Still others have useful information chalked on to the rump.

### **III. The equipment**

A list of equipment that may be needed to conduct the detailed examination of cows is shown below but will vary from dairy to dairy depending on the level of training and the routine procedures that are performed. Adopting an efficient system to access the equipment and record cow information will result in better exams.

- Pen/pencil and daily recording sheet – a clipboard or pad with solid back is useful
- Apron or tote that contains:
  - Thermometer
  - Specimen cups for milk, urine or feces
  - Sharpie to mark specimen cups or blood tubes
  - Urine or milk test strips for ketones
  - CMT paddle and solution if milk is checked here
  - Teat dip if stripping is done in the examining pen
  - Stethoscope (for some farms)
  - Marking chalk/pens/tags
  - Milking gloves – shoulder length sleeves may also be used on some dairies
  - Obstetrical lube
  - Alcohol pads
  - Towels/wipes

### **IV. Cow Examination**

For the cows examined in detail, the following information is obtained and recorded:

- Rectal temperature  
Interpretation: Usually dairies consider a fever to be a rectal temperature  $\geq 39.4^{\circ}\text{C}$  ( $103^{\circ}\text{F}$ ). When the ambient temperature exceeds  $29.4^{\circ}\text{C}$  ( $85\text{ F}$ ) or there is high temperature humidity index, the normal body temperature of the cow goes up and the definition of fever has to be adjusted upward. On a warm day, record the temperature in 2 to 4 normal cows to determine what is appropriate for that day. A  $0.8$  to  $1.1^{\circ}\text{C}$  ( $1.5$  to  $2^{\circ}\text{F}$ ) rise above other normal cows can be considered a fever. To assure accuracy, the thermometer should be calibrated and the clean probe be of sufficient length to touch the rectal lining.
- Rumen activity – normal or abnormal  
This assessment is based on finding a contraction strong enough to move a fist that has been placed firmly in the left flank (triangular area called the paralumbar fossa just behind the last rib). Allow 30 seconds to feel the contraction. The rumen assessment can be done after the thermometer has been placed in the rectum and while the examiner is waiting for the final reading. An abnormal rumen has no contraction or produces only a weak contraction. Finding an empty or gas space in the flank is also abnormal.

- Manure consistency and appearance  
Abnormal consistency (too loose to form a pile), color (tarry black or bloody) or smell should be noted
- Discharge from the vulva is noted as normal or abnormal  
Discharge is normal in fresh cows, even if it is bloody or brown in color. The presence of a foul odor is marked as abnormal.
- Abnormalities of the udder or a quarter are noted – for example, an udder that is not full (if exam occurs before milking) or a hard, abnormally full udder (if exam occurs after milking); any quarter with abnormal size, color or fullness should be examined. A more detailed milk examination may take place in the parlor and all udder abnormalities are noted on the cow's record.
- From the walk through in front of the cows, abnormal cough, nasal discharge or eye should be recorded and additional stethoscope examination is best performed by the veterinarian

#### **V. What conditions can be identified after the detailed examination?**

- Milk fever (MF) : Cow within the first 3 days in milk is down, trembling, or wobbly, and has no fever or calving injury to explain the signs
- Metritis (MET): Cow has a fever and foul-smelling uterine discharge, is 5 to 10 days in milk, and usually has a decrease in appetite and milk production
- Mastitis (MAST): Cow has abnormal milk (mild), abnormal milk and quarter (moderate) or abnormal milk, quarter and is sick (severe) – fever, abnormal rumen and dehydration (skin tent on the neck stays up for more than 5 seconds)
- Pneumonia (PNEU): Cow has at least 2 of the following abnormal signs – fever, abnormal nasal discharge, cough
- Enteritis (ENT): Cow has a fever and watery diarrhea without another diagnosis that explains the abnormal manure
- Injury or lameness: Cows known to have a difficult calving, calving injury or fall have difficulty primarily with rear legs, may not lock up, may not be able to get up if the bad leg is down, have rear legs that want to “spread-eagle” or rear fetlocks that tend to “knuckle” forward

#### **VI. What cows needs additional tests?**

- To find a cow with ketosis, a urine or milk ketone test is positive. Breath odor is not a reliable test for ketosis. Cows marked as off-feed, low milk, and have an abnormal rumen without another diagnosis should have ketones checked.
- A displaced abomasum (DA) diagnosis requires a stethoscope examination by the veterinarian or a person trained by the veterinarian to find a characteristic ping. The size, location and consistency with which the ping is found are factored into making this diagnosis. Cows marked as off-feed, low milk weight, and have abnormal rumen activity should “pinged” for a DA, especially when another condition has not been identified.

- Cows with abnormal milk, an abnormal quarter or udder should have a CMT test performed and milk collected for culture or other testing as directed by the veterinarian. The milk sample that has been taken appropriately can be frozen for future culture if the mastitis doesn't respond to treatment.
- Cows with fever, severe diarrhea and no metritis, mastitis or other reason to explain the diarrhea should have manure collected for culture or other tests that have been suggested by the veterinarian. The tests may not always be run but having the appropriate specimen collected before treatment is extremely important!
- Some cows may not have enough vaginal discharge present to determine whether it is normal. Other cows may not have produced manure to determine whether it is a normal amount, color or consistency. A rectal examination can be performed to "GENTLY massage" out uterine discharge for observation and smell or to collect manure for visualization or culture.
- Mark the cows that need additional tests  
Each dairy will use a marking system that works best for them. Depending on whether the cow needs additional testing while confined in a stanchion, tie stall, in lock-ups or in the parlor, the mark may be placed on the rump, leg or udder. As described above the additional tests may be one or more of the following:
  - Rectal exam
    - To obtain manure for exam (consistency and color) or culture
    - To express uterine contents to determine color and odor
  - Ping
  - Urine ketones – dipstick
  - Milk ketones - dipstick
  - CMT exam
  - Skin tent test for dehydration - Cows with mastitis, metritis, enteritis or severe pneumonia may be dehydrated and need fluids added to her treatment plan. Dehydration is present if the neck skin (pinched, pulled up and twisted) fails to return to normal within 5 seconds
  - Fecal culture
  - Milk culture
  - Blood test – especially for cows that are down, cows treated for milk fever or ketosis, a blood test taken before treatment may help should the cow be unresponsive to her treatment protocol.

## **VII. Record diagnoses in a permanent/computerized record**

- Not all cows will have a diagnosis. A cow with a fever and no other abnormal signs does not have a diagnosis. She should be placed on list to be re-examined the following day.
- Cows with a diagnosis should enter into the appropriate treatment protocol and put on the list for re-examination – while being treated and/or when the treatment protocol has been completed and before being moved into another cow group.
- Once established, any of the 8 diagnoses discussed above should be entered into the permanent, computerized record.

## **Summary**

This outline describes in detail the examination of fresh cows. Rather than examine every cow, an effort that is time consuming for the dairy and potentially stressful for the normal cows that have to stay locked up during the entire process, we select cows that, because they are down in milk, aren't eating normally, didn't lock up, had a difficult birth or may have a retained placenta, provided a good reason for close evaluation. With the appropriate equipment and a place to record cow information, we walked in front of and behind the cows looking for additional problem cows or to make observations about the cows on our examination list. Recording a temperature, making notations of abnormal discharge from the vulva, diarrhea, abnormal udder, abdominal size and activity, we identified the cows with milk fever, metritis, mastitis, and enteritis. With additional observations or testing, cows with pneumonia or ketosis can be found. Further training or examination by a veterinarian will find the cow with a displaced abomasum.

The goal is to establish a process that identifies the fresh cows that need to be monitored and treated. Gaining proficiency in examination of fresh cows takes practice and should have regular input and review by your veterinarian. Enhanced fresh cow health and performance benefits us all.