Fiji DAIRYNOTE 5.2b Animal Health – Mastitis Prevention and Treatment

Good Practice Guide for Fiji Dairy Farmers

What is mastitis?

Mastitis is an infection of the udder caused by **bacteria** entering the udder through the teat canal.

The highest risk for mastitis in a cow is at calving time because there is a lot of milk in the udder, the teat canal will be open more and she will be lying down more, allowing the bacteria in.
Some mastitis may also be caused by injury to the udder such as falling over in yards, being bunted by other cows or rough handling of the udder by milkers.
It is a major disease in the dairy industry causing major distress on the animal that affects production, milk quality and animal performance such as reproduction.

Steps to prevent mastitis

1. Milking with a machine

- Teat damage from malfunctioning milking machines is a major cause of infection spread (i.e. the vacuum level is too high or cups remain on for too long), so test and service your machine at least every year.
- To remove the milking machine from the teat, first switch off the vacuum, then remove the cluster gently. The cluster should never be pulled off while the vacuum is still on.
- Break and wait:

AND

- Replace all teat cup liners at least once per year and damaged liners as required.
- Have good cleaning practices for your plant that minimise the build-up of bacteria.

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2. Milking by hand

The '**Whole Hand Method'** is recommended, as it reduces damage to the teat and hurt or upset to the cow.

The advantages of the Whole Hand Method are:

- The nipple will not become stretched
- The nipple will not become blistered
- The method stimulates the udder to produce more milk
- You don't need lubricant, so nipples are easier to disinfect after milking
- Mastitis transfer from one cow to another can be avoided

1. **Place a clean stainless steel bucket under the cow free of debris and water.**
2. **Sit or squat in a position that will allow you to move.**

Secure your position so milking is comfortable for both. Sitting on a stool set at the right height is recommended for milker health and safety.

3. **Use your whole hand to extract the milk**

The correct and best method is with the whole hand. The teat is held in the hand and the milk is expressed with the fingers.

With this method no lubricating ointment is required. Remember the best hand milker never pulls or stretches the teat.

4. **Squeeze the base of the teat**

Squeeze the base of the teat, after gently clamping each teat between your extended thumb and finger so the teat is in the palm of your hand as you squeeze down.

5. **Squeeze down to push out the milk**

Squeeze down to push out the milk, maintaining the grip on the base of the teat so it doesn't flow back into the udder. Do not jerk or yank on the teats. This motion is performed by squeezing your fingers from the middle to the pinky to force the milk out. Be gentle but firm. Keep your eye out for mastitis.

6. **Repeat with the other hand**

Most people prefer to alternate (right hand to left hand etc.) the downward squeezing motion as it takes less effort.

7. **Continue until the quarter you are milking looks and feels deflated**

8. **Apply Teat Dip or Teat Spray at the completion of milking**

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3. Teatspray or dip after every milking

- Teat sanitation is absolutely essential after milking, as it kills bacteria on the teat, which reduces new infection levels by about 50%. Note that by disinfecting cows' teats, you are protecting other cows from getting infected – not curing the infected ones.
- The whole teat must be sprayed or dipped with a suitable teat antiseptic solution. This effectively controls mastitis, reducing the new infection rate by about 50%.
- An effective teat spray or dip will also dilute or remove the residual milk film from the teat surface, and control teat lesions, reducing the opportunity for bacterial growth and the incidence of new infections.
- Teat spray or dipping solution should be mixed at the right dilution rates.
- Each cow should get 10-20mls of teat spray or dip per milking.
- Follow the 'Golden Rule' of teat spraying:

Good coverage with a teat sprayer.

Steps to control mastitis

Mastitis should improve once the following steps are complete. They will protect new cows and, as a result, the number of infected cows will slowly fall as the old cows leave the herd. If the mastitis situation does not improve, farmers should ask for veterinary advice.

Find clinical signs of mastitis quickly
Check for clinical signs of mastitis at every milking.

Start treatment immediately
With a prescribed drug from a veterinarian, or if not using antibiotics, strip all milk from the infected quarter at every milking.

Dry off quarters with repeated clinical signs
Quarters with more than two or three clinical infections in reasonably quick succession should be dried off. Note that the other three quarters will increase their production a lot to compensate for the dried-off quarter. The cow may need to be dried off completely to allow her to recover over the dry period.

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Antibiotics to treat mastitis

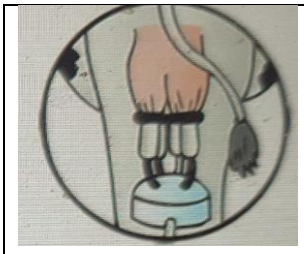
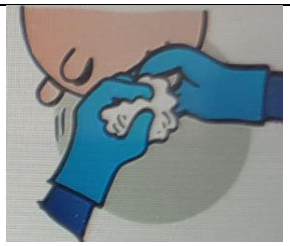
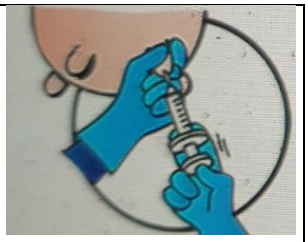
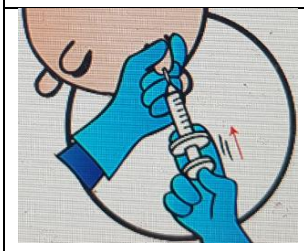
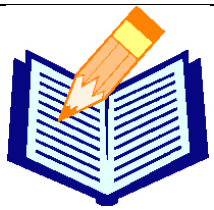
Antibiotics may be prescribed to treat mastitis, but only on veterinary advice. These need to be used and administered carefully. Veterinary advice should always be taken to ensure the right drugs are used.

Follow all instructions on their use particularly observing the:

- amount and time treatments are required
- withholding periods for milk and meat from the supply chain
- expiry dates.

There are big negative consequences if antibiotic milk enters the processing supply, the biggest being the sickness or death of people allergic to antibiotics. Processors also inflict large penalties if antibiotics are detected in milk.

The recommended steps on administering antibiotics are outlined below.

			
Milk	**Hygiene**	**Clean**	**Insert**
Milk the infected quarter right out. This is better done by hand than with the milking machine.	Be hygienic at all times, keeping hands clean and disinfected to avoid more bacteria entering the cow's udder.	Ensure the teat end is cleaned well with an antiseptic cloth or cotton wool with methylated spirits on it.	Insert the syringe into the teat, but only 2-3mm as inserting further risks damage to the teat canal.
			
Squeeze and massage	**Mark**	**Teat spray**	**Record**
Press the syringe plunger to inject the drug slowly and then massage the teat to move drug up into the udder.	Mark the cow clearly so that she can be identified, and her milk does not enter the supply to the processor, or for home consumption.	Teat spray the cow to kill any bacteria still on the teat.	Record the cow number, date of treatment, drug used, quarter treated, date of last treatment, when the cow's milk goes back into the supply after the withholding period.

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Other recommendations:

- For clean milk production and efficient milking, cows should be milked in a dairy. The dairy should be kept dry and clean and protected from flies or other vermin.
- Dogs and other animals should be restricted and not permitted in the milking area.
- Clean all surfaces that contact milk before milking, including the cow's udder, your hands, clusters and any milk-receiving vessels pipes tanks and cans.
- If using water to clean cows' teats, ensure they are dried with a clean dry cloth and only use one cloth per cow.
- Animals showing any signs of disease should be milked last.
- It is good practice to foremilk cows by drawing one or two streams of milk carefully from each teat into a cup or black sheet of plastic material. The first milk drawn is always higher in white blood cells and bacteria and should be discarded. The practice of removing one or two streams of milk is also a quick screening test for abnormal milk.
- Care must be taken that the milk is not leaked onto the floor, as this can be a source of infection for other animals and workers.
- Carry out a Rapid Mastitis Test once per week.
- Consider culling cows that get persistent cases of mastitis.

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