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# Dairy Guidelines

COOPERATIVE EXTENSION SERVICE, V.P.I., BLACKSBURG, VIRGINIA

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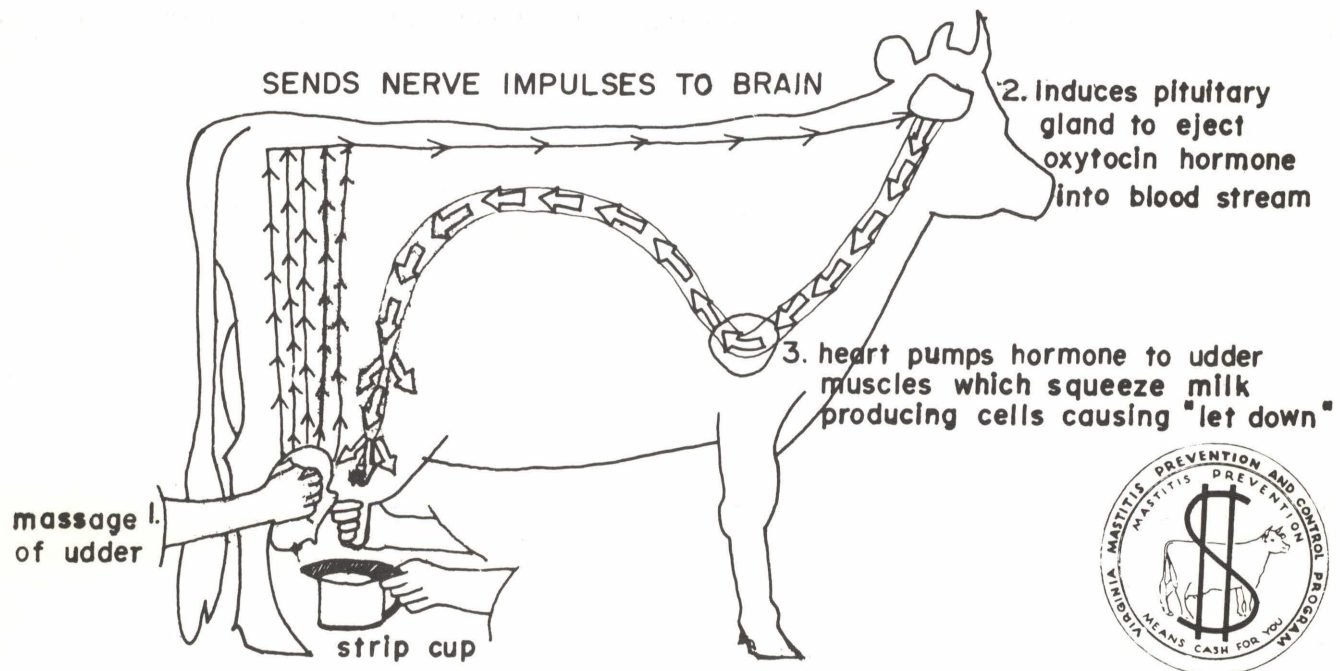
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## Recommended Milking Procedures--What, How, Why

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The procedures outlined on these pages are designed to promote maximum milk production and good udder health. Proper milking will:

1. Stimulate let-down to effect rapid and complete milking.
2. Prevent udder injury.
3. Prevent spread of mastitis organisms.



PROPER STIMULATION FOR "LET-DOWN"--THE FIRST DEFENSE AGAINST MASTITIS

ISSUED IN FURTHERANCE OF COOPERATIVE EXTENSION WORK, ACTS OF MAY 8 AND JUNE 30, 1914, IN COOPERATION WITH THE U. S. DEPARTMENT OF AGRICULTURE. W. E. SKELTON, DIRECTOR OF EXTENSION SERVICE, VIRGINIA POLYTECHNIC INSTITUTE, BLACKSBURG, VIRGINIA 24061.

RECOMMENDED MILKING PROCEDURES FOR EACH COW

DO THIS	HOW
1. Wash cow's udder	Prepare only one cow ahead of each machine. On each cow use separate paper towels dipped in warm water containing sanitizer. Discard used towels in separate pail. Cloth towels and sponges are acceptable only if: one is used for each cow; they are laundered between each milking; cloth towels are dried; sponges are rinsed and soaked in sanitizing solution between milkings! Keep hands clean!
2. Dry the udder	For each cow use a dry paper towel or squeeze excess water from used cloth or sponge.
3. Use strip cup	Gently strip 2 or 3 streams from each teat on black plate part of strip cup. Watch for watery streaks, flakes, and clots. (See recommendations under A., page 4) Never squirt milk on floor in barn where cows will lie.
4. Attach machine	Wait until milk let-down is observed. Attach machine 1 to 2 minutes after starting to wash udder.
5. Check milk flow	Check to see when rapid milk flow ceases. Be prepared to machine strip as soon as this occurs.
6. Machine strip	Exert light downward pressure on teat cups and gently massage udder with the other hand. Usually 15 seconds are enough.
7. Remove machine promptly	Remove each teat cup as individual quarters milk out. Be sure vacuum is released before removing each teat cup.
8. Rinse and sanitize teat cups	Rinse teat cups in clear water, then soak in a sanitizer solution at least 20 seconds. Be sure water can rise in teat cup. This may be done, after cutting off vacuum, by (1) opening a valve; (2) disconnecting milk hose; (3) dipping 2 teat cups at a time; (4) using a spray device. Change water and solution frequently. Teat cups may be left soaking in sanitizer solution while preparing the next cow, letting cows out and in, etc.
9. Dip teats	Use a soft, soapy material such as equal parts soluble pine oil and tincture of green soap, or commercial product. (Sanitizers are helpful.) Spraying teats is not as effective.

## REASONS FOR RECOMMENDATIONS

### WHY

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Preparing several cows at a time lengthens preparation time on each cow. Recommended preparation steps take about one minute per cow. Single service paper towels harbor no bacteria. Because of difficulty and labor with sanitizing of other towels, paper towels are most satisfactory and economical. Washing and massaging with warm water stimulates milk let-down and cleans udder. Drying towels and soaking sponges makes them last longer. Washing and sanitizing hands, towels, and sponges helps prevent bacteria spread and build up.

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This removes excess water from the surface of the udder which may contaminate milk, and further stimulates milk let-down.

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The strip cup is useful in detecting abnormal milk and further stimulates milk let-down. Milk on floors where cows lie spreads germs.

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Machine action on udder before milk let-down injures udder. Pain may prevent let-down. Most cows, when properly stimulated, will have a complete let-down in about 1 minute. Delay beyond 1 or 2 minutes results in leakage, discomfort, and poor use of let-down stimulus. Complete let-down and rapid removal of milk helps prevent mastitis.

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Most cows will milk out in 3 to 5 minutes. Know your cows. Removing machine when cow is milked out will train them to milk out rapidly.

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Slight downward pressure reduces teat cup "crawl." Udder tissues, ducts, and cisterns are constructed somewhat like a sponge and milk is often trapped. Gentle massaging and manipulation of the udder will assist in removing trapped milk.

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Let-down action lasts 7 or 8 minutes. A consistent milking routine to remove milk during this period is necessary.

Teat and udder tissues are easily injured and will become sore and tender if machine continues to work on an empty udder or if cups are jerked off. Injury may lead to mastitis. A sore, tender udder may cause the cow to become a "kicker" and slow milker.

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Organic materials, such as milk, weaken sanitizers. Soaking teat cups in a sanitizer kills most bacteria and lessens chances for spreading infectious germs. The number of bacteria killed increases with longer exposure to the sanitizer. Rearranging routine milking procedures may be necessary.

Frequent changing of rinse water and sanitizing solution prevents bacteria build-up. Some sanitizers lose strength rapidly in the presence of milk and dirt.

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Dipping teats removes milk from teat ends and reduces chances for spread of infectious germs. A soft, soapy dip reduces chapping of teats during winter, seals and sanitizes teat opening, and makes cleaning of teats easier.

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H E M O S T I M P O R T A N T C O N S I D E R A T I O N

## SOME OTHER HELPFUL PRACTICES IN PREVENTING MASTITIS AND ITS SPREAD

### A. When a cow has mastitis follow these steps:

1. Milk cow with a different machine into a special container. Otherwise, milk infected cows last. Wash and sanitize hands thoroughly.
2. Discard abnormal milk.
3. Rinse teat cups in fresh, clean water; discard it after each rinsing.
4. Place teat cups in a sanitizing solution. Make certain that teat cups remain in sanitizing solution 20 seconds or more.
5. Isolate infected cows from the milking herd. Milk infected quarters frequently. Bathing and massaging will assist in removing congestion.
6. Have milk samples taken under supervision of a veterinarian, when it is necessary to determine type of organism causing abnormal milk and to select and apply proper treatment.

### B. While milking:

1. Avoid unusual noises or other causes of excitement.
2. Maintain milking machine in good operating condition with vacuum levels and pulsation rates recommended for the machine.
3. Train heifers and other fresh cows at the start of the lactation. Handle heifers (gently) with the rest of the herd for several days before calving. Move them through the milking area several times.

### C. After milking:

1. Practice regular and thorough cleaning, rinsing, and sanitizing of equipment immediately after use.
2. Discard rough or cracked inflations and other faulty rubber parts. Alternate weekly the use of 2 sets of inflations. Storing in proper solution such as lye during idle week will extend the life of the rubber parts. A short period of dry storage in a dark place before next use helps restore elasticity.

### D. Over-all herd management:

1. Avoid injuries: Remove horns; remove brush, wire briars, or other obstructions from pasture or barnyard. Avoid high sills or curbs. Avoid bruising or scratching udder or teats. Avoid exposure of udder to drafts or cold wet floors during severe weather. Eliminate slippery floors.
2. Handle cows gently.
3. Fence cows away from farm ponds or marshy areas.
4. Eliminate cows with recurring mastitis.
5. Isolate new animals for 30 days. If possible, raise your own replacements.
6. Keep cows from running. Protect them from heel flies or other parasites.
7. Prevent calves and cows from sucking one another.
8. Provide clean, dry, sanitary housing and maternity stalls with adequate space.
9. Adopt a total herd health program in cooperation with your local veterinarian.