LETTING DOWN OF MILK.

The secretion of milk is a continuous process so that most of the milk secured at any milking is present in the udder when milking starts. Most of it is still held in the alveoli although the milk cistern and the ducts leading to the cistern may also be filled which causes the cow to let down the milk. (Each alveolus is so small that it will hold only a fraction of a drop. Thus milk held in the alveoli cannot be removed until the proper stimulus has been applied). Letting down of milk is an entirely involuntary act on the part of the cow but is caused by the pituitary gland situated at the base of the brain. (Endocrine/ductless glands produce the hormones. The pituitary gland is located at the base of the brain and is the size of a peanut. Pituitary gland is divided into posterior and anterior lobes. Oxytocin is produced from the posterior pituitary gland and oxytocin is also known as pituitrine).

When proper stimulus is applied which may be done by washing the teats and udder with warm water, nerve messages are carried to the brain, which cause the hormone to be ejected into the blood stream. It is then carried to udder where it causes the muscles surrounding the alveoli and small ducts to contract, thereby releasing the milk, which flows down through the ducts into the cistern. This is known as the let down of milk.

Condition reflex (External stimuli)

- Appearance of calf
- Sound of milking pail
- Placing of concentrate feed in the manger
- Appearance of milker.

It is necessary that the milking takes place quickly after the let down occurs as the pituitary gland secretes the hormone only for a few minutes and its effect is soon lost. (Oxytocin is released only for a short period and lives for a very short period in the udder. Therefore, the cow should be milked as fast as possible. If delayed, the milk yield will go down. Only about 45 seconds elapse from the time a stimulus is applied, milk let down action occurs).

Sometimes, because of some excitement or fright the cow fails to let down her milk even though she has been properly stimulated. It is often said that the cow “holds up” her milk. The action is entirely involuntary and is caused by another hormone called adrenaline produced by the adrenal gland, which causes the blood vessels to contract, thus slowing down the action of oxytocin. Loud noise, barking of dogs, painful sores and even strangers around the shed may cause cows to hold up their milk.

Unkind treatment such as kicking or beating the cow is almost sure to
cause a cow to hold up her milk. Irregularity of feeding or of milking may also be a cause. This is entirely involuntary on the part of the cow, and when it does occur it is useless to continue milking until the cow has calmed down. Cows handled gently and regularly will seldom hold up their milk.

The stimulation to let down the milk may be given in a great number of ways, although the washing the udder and teats with warm water is the one, which one should use to condition the cows. Such things as suckling of the calf, or even the sight of a calf, the manipulation of teats and udder or even the rattling of milk pails may cause the cow to let down her milk.

**MILKING:**

It is one of the most important jobs on the dairy farm. It is important because the amount of milk that a cow will give will depend to a certain extent on how she is milked. A cow may be fed and treated as she should be but unless she is milked properly she will not produce her maximum and there will be decreased milk yield resulting in loss to the farmer.

Milking also requires more time than any other one job in the production of milk. Studies have shown that 48% - 68% of the time spent in carrying the milking herd and handling the milk is required for the milking operation. Milking is a regular job. It may be a very pleasant job if the milking area and facilities are adequate and convenient. The process of milking is similar to harvesting the crop. The calf has been grown to a cow. The crops have been produced. The cow is fed to get calf. The cow is milked and returns for all these operations depend on amount of milk, which she produces, and quality of it too.

Milking is most important single job to be done on dairy farm. It is art and a science. Some individuals are excellent milkers, others are very poor. (You must be a servant to be a master). This is true with machine milking as well as with hand milking.

The research work did later on revolutionize the process of milking and various jobs, which are part of it.

The physiology of discharge of milk is a delicate process and requires the close co-operation of the man, the cow and their respect to each other. A cow will not milk out completely if she is afraid of the milker.

On many farms the milking chore is rather attached to the end of each day’s work and is not a definite part of day’s work. Although the milking job may represent on many farms only a small part of a man’s work, it should be a definite and regular part and should be performed at an allotted time. The milking hour should be respective and not encroaching upon by other jobs. Under such circumstances, milking is not disliked and may even be preferred than other tasks. In large dairies, milking may be the main duty for a certain workers but whether in small or large herds,
persons responsible for milking should do regularly.

**QUALITIES OF GOOD MILKER.**

A good milker is one who likes cows and who is gentle with them. In hand milking, the hands should be dry; the practice of wetting them before or during milking is unsanitary. The method of milking should imitate that of the calf as closely as possible. The operation consists of a upward movement followed by a downward pull accompanied by pressure. The whole hand should be used and not merely one or two fingers. Unless teats are small, the milking should be accomplished by closing the whole and first at the top of the teat to check the back flow of milk and then on the rest of the teat.

A good machine milker must know the operation details of the machine and be able to keep it in the best operating condition. He should be able to recognize abnormal conditions of the teats and udder by sight and feeling. He should be able to move about the cows gently and quietly to avoid making her nervous and afraid. A good milker is skilled workman—rapid, efficient, gentle and clean. Such milkers will get more and cleaner milk from a cow than will a slow, inefficient and careless milker.