

# 1- Locomotion

In temperate condition, sheep moving together as a **flock** 

Sometimes, they move some distance from each other. Often, they **form subgroups** within the main flock and continue to exist as a concerned group following a regular pattern of movement around the grazing land.



# During grazing, the distance that traveled by sheep is affected by

- \*\*\* Environment surrounds the flock.
- \*\*\* Genetic differences affecting the behaviour of different breeds.

sheep travel about 8-16 km/day and this distance can be increased if the duration of grazing time increased.



# 2- Ingestive behaviour

### a- Grazing behaviour

Grazing in sheep is <u>not continuous</u> but has specific stages during the 24 hours daily cycle as follows: -

\*\*\* Stage of very high Ingestive intake.

\*\*\* Stage in which grazing is punctuated by rest and

idling.



\*\*\* The longest and also the most intensive periods of grazing occur in the early morning and from late afternoon to dusk.

\*\*\* The number of grazing periods per 24 hours is 4-8 times on average and the total grazing time is about 10 hours.



### Grazing intake

- \*\*\* The average grazing intake of an individual sheep may differ from that of the main flock and the amount ingested also affected by the presence of lambs.
- \*\*\* sheep prefer certain plants and grasses to others and usually prefers young palatable succulent plants.



- \*\*\* Sheep rejects plants contaminated with the odour of sheep urine and faeces.
- \*\*\* reject plants according to its chemical composition, taste and palatability.



### The grazing behaviour of the flock is affected by

- \*\*\* Fertility of the soil. As use or non-use of fertilizers.
- \*\*\* The geographical situation of the grazing land.
- \*\*\* The nature of the climate



### Pattern of grazing

\*\*\* Sheep have a cleft in its upper lip, which permits a very close grazing.

\*\*\* The lips, incisors and the dental pad are the principle prehensile

\*\*\* The tongue does not protrude during grazing as in cattle.



\*\*\* Leaves and stems are severed by the lower incisors against the dental pads

\*\*\* Lambs start picking at herbage at 2 days old.

They suck a blade of grass and then lit it again.

\*\*\* At the age of 2 weeks, the lamb begins to eat the

grass blades.



# **b- Feeding behaviour**

The feeding and drinking behaviours are affected by

- 1) The ambient temperature.
- 2) Quality of the grain.
- 3) The breed itself.



\*\*\* The temperature drops, food intake considerably increases but if it becomes very cold, the animal's appetite inhibited and the intake decline.

\*\*\* Sheep are known to have developed senses of smell, taste and visual recognition of food but their intake is almost unaffected when they are made to eat without the aid of vision.

\*\*\* sheep are able to select what items of food
they eat and there by correct any nutritional
deficiencies or excesses. So, they can correct their
nutritional balance by consuming plants and

grains.



\*\*\* Sheep are able to adapt themselves to a particular species of grass or plant if there are no other nutrients to be found and so, the dislike food plant apparently becomes palatable.

On average, sheep consume food equivalent to 2.5% of

their body weight per day.





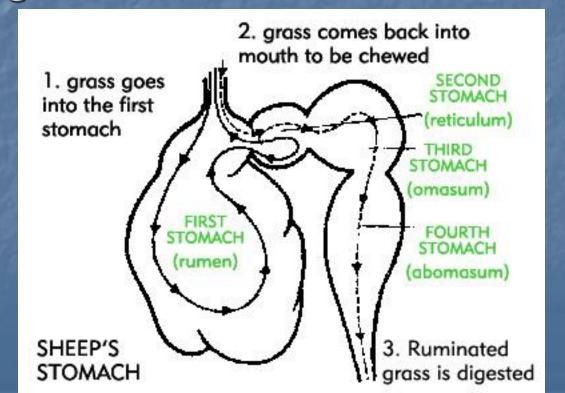
- \*\*Sheep often forms specific paths to the water sources
- \*\*\* The amount of water consumed varies according to:
- 1) Breed of sheep.
- 2) Quality of pasture.
- 3) Weather condition.
- 4) Seasonal changes, which influence the amount of water, consumed.

Adult sheep intake of water ranges from 3-5 liters.



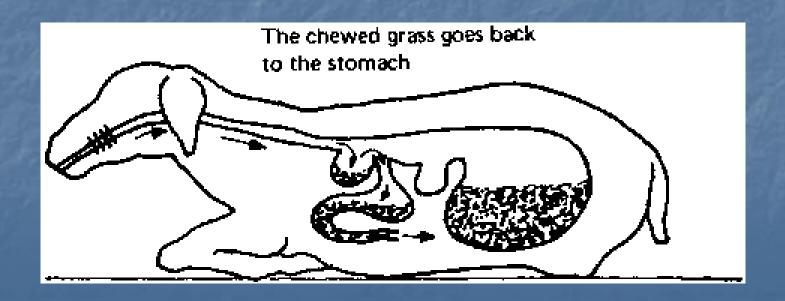
## **D- Rumination behaviour**

- \*\* Rumination in sheep occurs at regular intervals throughout the night and the day although
- \*\* a higher frequency of rumination early in the morning and fairly regular rumination in mid afternoon.



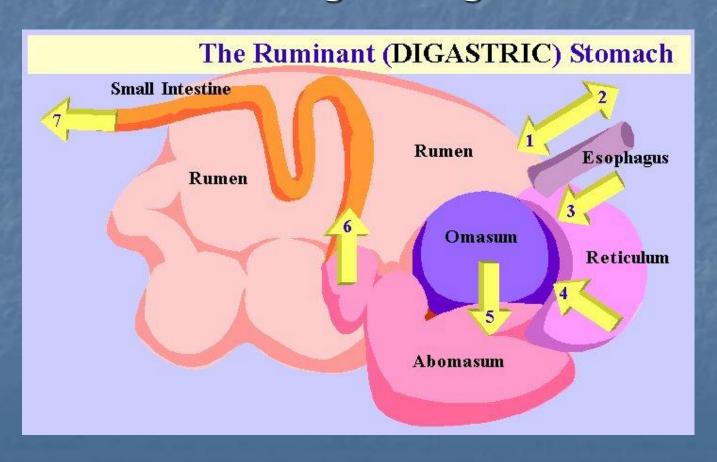
\*\* The number of rumination periods is about 15 times per 24 hours and the total time of rumination may be from 8-10 hours per24 hours.

\*\* The length of each period may differ vastly from 1 minute to 2 hours.



### rumination is markedly increased in

- \*\* Consumption of chopped hay than long hay.
- \*\* When sheep fed small quantities of food at regular intervals instead of receiving one large feed.





One of the most noticeable behavioural aspects of sheep in relation to newborn is the strong maternal relationship, which often develops.

\*\* A dam always vigorously rejects any attempts by

other lambs



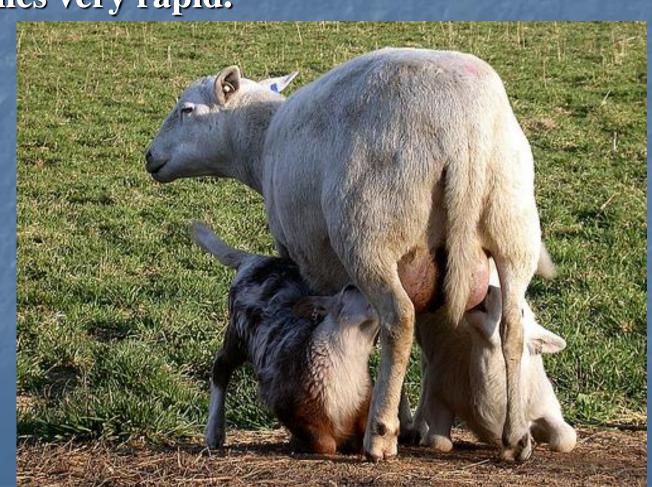
\*\* Most newborn lambs are able to stand within the first half-hour following its birth and nearly all are able to stand within the first 2 hours.

\*\* The lamb's first attempts to suck usually Unsuccessful.



It often seeks out the teat by nosing between the forelegs of the dam or any nearby objects, which the lamb may feel, has maternal properties. If at this point the newborn fails to find the teat or prevented from doing so by the behaviour of the mother during removal of the placenta or due to too large udder, its drive to suck may become inhibited.

Once the newborn reach the udder, it facilitates the milk letdown by pushing the teat upward into the udder by its mouth and so progress in lactating the teat again and sucking becomes very rapid.



In the first week after birth, the lambs make many occasions for sucking during the 24 hours period and such occasions may reach to 60-70 and the duration of sucking at this time is usually from 1-3 minutes.

Later on, the dam seldom allows the young to suck for

periods over 20 seconds.



The dam facilitates sucking by lifting its hind leg on the side at which the newborn is attempting to suck.

The newborn at sucking shows a vigorous "wagging" of its tail. This mechanism entices the dam to smell the anal region and so recognize her young and so prevent the approach of another even if it is similar in appearance to her own.

Single lambs do not usually favor one teat over another. In case of twins, each lamb develops a preference for one particular teat, but this may change if the other twin objects. If one of the twins is removed after a period, the remaining lamb begins to suck from the other teat too.



# 3- Eliminative behaviour

There is no recognizable pattern of defecation in sheep. Urination often occurs when animals are disturbed.

Number of urination nearly ranges from 9-19 per day while defecation number ranges from 6-8 per day.





Sheep usually spend about half of their time in a relatively inactive state.

Sheep have their periods of inactivity scatteed throughout the 24 hours but mainly during the night.

They sleep about 40 minutes as recorded by the activity of

the electroencephalograph.



Sheep rests in a relaxed position in which most parts of the body are maintained in an unsupported position.

Sleeping sheep ignore any extroceptive stimuli as odor of the offered feed, sound of a clock or sight of a camera

flash.





# 1- Social hierarchy

An important feature of sheep behaviour is their marked Allelomimetic activity and well-developed practice of social co-existence.

\*\*In a comparative study of two separate flocks of sheep kept on the same grazing pasture for several days and nights, it was found that there are no differences in the start or finish of the major grazing periods. Likewise, it was noticeable that no single animal was the instigator of any grazing or resting period. Sheep usually tends to form groups, which remain in a particular area as bed down on the hills and move to the hiller areas during winter. But during summer, they seek out the shade of bushes and trees and area close to water.

### 2- Vocalization

Vocalization plays an important part in the maintenance of communication between members of the flock.

- \*\*\* Rams emit a hoarse "baaing" sound when they approach ewes.
- \*\*\* If a mother is separated from her young, she will "baa" \*\*\* the young do the same until they are brought together. Adults the

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\*\*\* same if they disengaged from others with increased vocalization in attempts to locate the main flock.

Vocalization is intense initially, but it declines after about 4 hours of continuous separation



### 3- Agonistic behaviour

Fighting or agonistic behaviour between the rams increased during breeding season. Rams engage in running towards one another and butting.

They may buffer each other with their shoulders and emit snorting sounds and paw the earth with their forefeet.

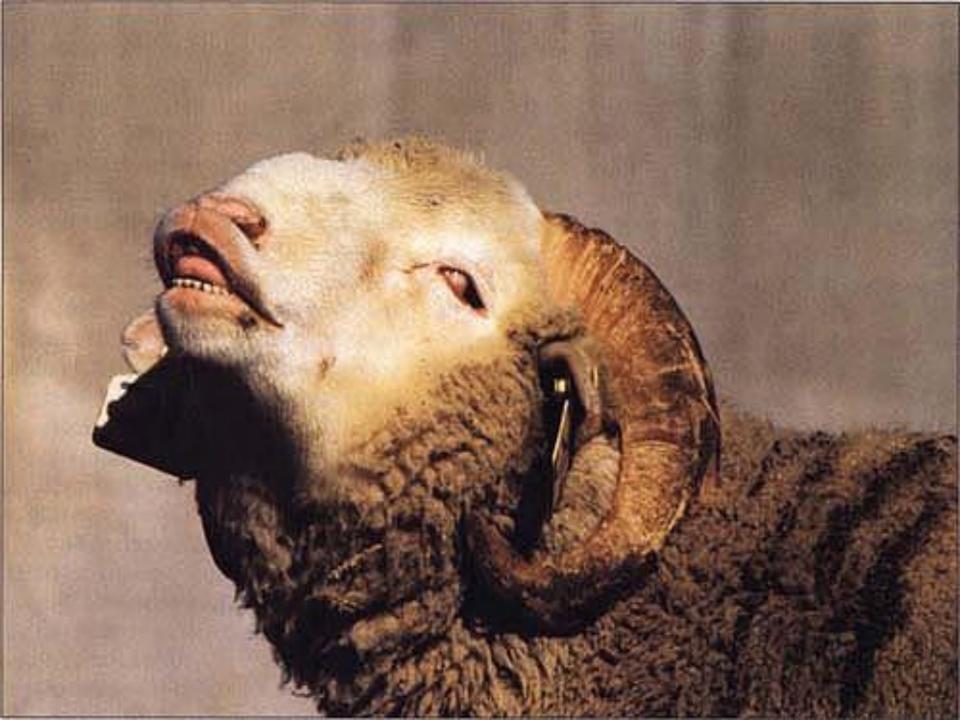


# 6- Sexual behaviour

### 1- Male sexual behaviour

Rams sniff the urine of the female in oestrus and then extends his neck forward with lips up-curled (flehmen), moves his tongue in and out of the mouth, noising her external genitalia and rubbing her side, biting her wool and striking out with a fore limb.





### If the female is receptive

The ram mounts her and when the sensitive tip of the glans penis touches the warm mucous membrane of the vulva, the penis is thrust deeply into the vagina (reflex action) with ejaculation occurs simultaneously. After successful copulation, the ram appears depressed with head lowered and no

further sexual interest



### If the female is not receptive

The female not stand when the ram attempts to mount and he continue to follow her and making repeated attempts to copulate.



### 2- Female sexual behaviour

### a- breeding season

Wild sheep has a breeding season of short duration.

Improved sheep are ploy oestrus.

#### b- Pattern of oestrus

Heat in sheep is extremely difficult to detect if there is no ram with ewes.

When ram is present, the ewes coming into oestrus usually seeks out his company, fanning the tail vigorously and standing still to receive the male. When two or more ewes are in oestrus simultaneously, they crowd each other in attempts to gain the attention of the ram.

Behavioural manifestation of the first oestrus are week and incomplete and ewes are not attracted to male and not allow copulation. At second oestrus, the female is attracted after the sexual approach by the ram.

If the sexes have been separated, ewes in oestrus frequently urinate when the ram is introduced.

## 7- Maternal and neonatal behaviour

### A- Maternal behaviour

### 1- Pre-parturient stage

The pre-parturient period extends from late gestation to the beginning of the first stage of labour.

\*\*\*The most common behavioural indication of impending parturition is the restlessness of the ewe

with continuous alter in her position.



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\*\*\* The ewe usually remains at this site; licking the ground or pawing so that hallows are sometimes scraped out.

Some ewes show a premature onset of maternal behaviour in the form of intense interest in the fetal fluid or newborn lambs of other ewes, which may leads to "lamb stealing".

- \*\*\* The final birth site can be determined by where the ewe spills her fetal fluid.
- \*\*\* The ewe usually remains at this site; licking the ground or pawing so that hallows are sometimes scraped out.
- Some ewes show a premature onset of maternal behaviour in the form of intense interest in the fetal fluid or newborn lambs of

other ewes, which may leads to "lamb stealing".



### 2- Lambing "birth" stage: -

Behaviour of sheep given birth is somewhat variable and depends largely on the speed and ease of the process.

The general pattern is initial restlessness broken by periods of lying down with abdominal straining which is slight initially and later becomes very marked and sometimes accompanied by loud cries and intense rapid lip licking.

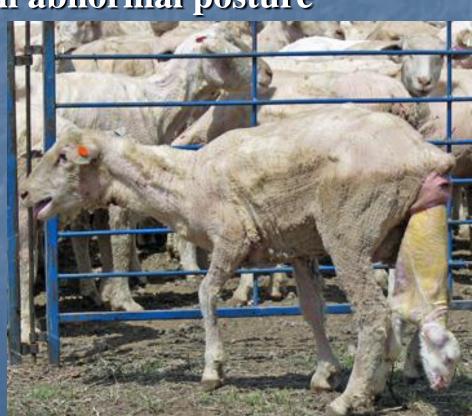
After that, the fetal membrane is ruptured and the fetal fluid are spilled and straining continue with increasing frequency and strength until the lamb is born.

The ewe in the latter stage of delivery spends most of the time lying down but stands intermittently and the lamb is borne with the ewe standing.



### Factors affecting the duration of birth process:

- When the lamb is relatively large.
- Ewes lambing for the first time or older than usual.
- When the fetus takes up an abnormal posture during delivery.
- **Exhaustion of the ewes.**





## 1- Nursing

The active mother-young relationship is prompted by the seeking massage activities of the newborn, which are directed towards the udder. Experiments have shown that newborn animals show a distinct preference for soft objects and this explains the motivation towards the udder. Most newborn lambs are able to stand within the first half-hour following birth and nearly all are able to stand within the first two hours. The lamb's first attempts to suck are usually are unsuccessful.



It often seeks out the teat by nosing between the forelegs of the dam or any nearby objects. If at this point the newborn fails to find the teat or prevented from doing so by the behaviour of the mother during removal of the placenta or due to too large udder, its drive to suck may become inhibited.



Within about one hour of birth, nearly 60% of the newborn have been begun to suck and in normal cases nearly all the lambs have sought out the udder within the first 2 hours.



Once the newborn reach the udder, it facilitates the milk letdown by pushing the teat upward into the udder by its mouth and so progress in lactating the teat again and sucking becomes very rapid.

The dam facilitates sucking by lifting its hind leg on the side at which the newborn is attempting to suck.



## 2- Imprinting

Imprinting is the special behavioural affiliation between the neonate and its mother. The process of imprinting takes place in a comparatively short period of time and sometimes referred to as

'critical period".



Critical period in sheep normally take place few hours following parturition and involves the neonate environment as well as the form of the mother.

The establishment of imprinting is thought to be a less visual mechanism than olfactory one where the young animal is able to absorb, amongst other factors, smells and tastes that may influence its feeding behaviour even later on live.

Studies have shown that, if a newborn lamb is taken from its dam an hour or so after birth and returned after 8 hours, the young lamb will be still accepted by the mother.



It is important that the dam involved in the critical period by licking and grooming of the neonate, so its specific odour becomes identifiable to her and so establish the attachment. However, it has been found that, if the neonate lamb is removed immediately after birth and returned to its dam within 2-4 hours, it is usually rejected.



## 3- Social interactions

The development of social interactions in lambs is less obvious. Lambs follow the older ewes or their own mothers. In all male flocks, the young rams follow the oldest members of the group but they gradually develop some form of independence and can easily separate from the flock if required. There is no dominant animal in sheep.

