

## THE BEHAVIOR OF CALVES

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**Abstract:** *In this paper we present a few behavioral features regarding birth process, cow and calf bonding, feeding, rumination, resting as well as behaviour on pasture. As biologic materials we used cows of the Bruna breed, in extensive raising system belonging to some households in Varfurile County of Arad. Suckling behaviour begins 0,5 - 1 hours after birth and the mother must be standing. The mother licks the young to stimulate breathing, circulation, urination and defecation. Calves usually stand 30 minutes after birth, and are suckling 0.5 - 1 hours later; the mother aids suckling by positioning her body for easier access. Between birth and 4 months, the mean duration of suckling time for calves was seen to be 25 minutes, with the suckling frequency being 3 times per day. Vision, olfactory and vocal senses are involved in cow and calf identification. Nutritional behavior occurs both during the suckling and feeding of the animals after weaning. Social behavior is well expressed by calves, they are social animals and require contact with other calves or with their mothers and have a preference for games in which aggressive elements can be found. Resting behavior is influenced by several factors, the most important being age, floor structure, state of health. Younger animals require a longer rest period. Grazing behaviour is affected by many factors, including environmental conditions and plant species. The calves begin to pasture in the first weeks of age for 10 -15 minutes a day and as they grow older the grazing time is gradually increased as well as the amount of ingested food. At two months old grazing time is about 3 hours a day, at 4 months old about 4-5 hour a day and at 6 months old about 6 hours daily. This period is divided into 4-5 reprises alternating with periods of rest. For the 6 months old calves the duration is 6-7 hours of grazing per day. The resting occurs between grazing reprises with a longer duration at night. As they grow old the calves will reduce their resting time and increase the grazing time. They ruminate when resting and time devoted to ruminating is approximately three-quarters of that spent in grazing. If pasture is good, ruminating time is short, if the herbage is poor and fibrous, ruminating time is longer. Ethology involvement in the research and practice of animal farming represents an element of actuality and novelty. Knowledge of animal behavior by the scientists who work in this field is critical because only by adapting their life to the farming technologies and the other way around it can bring to production parameters optimization.*

*Key words: comportment, caws, calves, pasture*

### INTRODUCTION

Animal behavior is the expression of an effort to adapt or adjust to different internal and external conditions, i.e. behavior can be described as an animal's response to a stimulus. (DAWKINS, 1989).

The study of behavior (ethology) involves not only what an animal does but also when, how, why and where the behavior occurred (LEHNER, 1979). Social behavior involves the development of relationships in which animals build up regular patterns with each other and their environment. This is a dynamic process and leads to stable relationships. These relationships are important when we examine domestic and captive animal behavior.

Only by understanding animal behavior can we really begin to appreciate whether the way we keep animals is appropriate. Ethology involvement in the research and practice of animal farming represents an element of actuality and novelty. Knowledge of animal behavior

by the scientists who work in this field is critical because only by adapting their life to the farming technologies and the other way around it can bring to production parameters optimization. (PALICICA, 2007)

#### **MATERIAL AND METHODS**

As biologic materials we used calves of the caws of Bruna species, in extensive raising system belonging to some households in Varfurile County of Arad.

#### **RESULTS AND DISCUSSIONS**

Suckling behavior begins 0,5 - 1 hours after birth and the mother must be standing. Calves that were active early usually suckled early. The mother licks the young to stimulate breathing, circulation, urination and defecation. The calf licking starts in the head region and is continued along the neck, the back part and the croup (Figure 1). The cows which do not lick the calves usually will not accept it for suckle. Calves usually stand 30 minutes after birth; the mother aids suckling by positioning her body for easier access. The calf stands parallel to the cow with its posterior oriented to the cows head (Figure 3). The strongest connection between mother and calf comes from suckling. Before the suckling the cow sniffs the calf nostril to nostril (**Error! Reference source not found.**2). During suckling cow licks the calf with affection for recognition and acceptance. Between birth and 4 months of age, the mean duration of suckling time for calves was seen to be 25 minutes, with the suckling frequency being 3 times per day. Vision, olfactory and vocal senses are involved in cow and calf identification.



Figure 1. During suckling cow licks the calf

In the summer time when the cows are kept on pasture and they prepare for calving, they tend to leave the herd. If possible, the cow will leave the herd shortly before birth, finding a quiet place to calve.

In the first days calves suck 3-4 times per day. The calf approaches the mother's body both on the left and right side, a suckle takes about 10-15 minutes. For 24 hours the total suckling duration was up to 30-35 minutes.

In the first days after birth a strong bond between mother and calf is created, this relation is more intense in the first months after which the cow and calf ties reduce progressively. Motherhood instinct develops as the cow has more calves.



Figure 2. The cow sniffs the twin calves nostril to nostril



Figure 3. Cow sniffing the calf

Social behavior is manifested by licking, smelling, playing and jumping. The calves lick each other.

Playful behavior is shown by the following actions: jumping, running with the tail lifted sideways, jumping on each other. Playful behavior is more intense for calves which are brought on pasture after long periods of sheltering.

Social behavior is well expressed by calves, they are social animals and require contact with other calves or with their mothers and have a preference for games in which aggressive elements can be found. Exploratory behavior in calves usually occurs simultaneously with playful behavior but as an independent manifestation of the internal motivations of environmental knowledge.

Resting behavior is influenced by several factors, the most important being age, floor structure, state of health (Figure 5). Younger animals require a longer rest period. The total duration of rest for calves on the pasture is 10 - 14 hours, divided into several reprises, the

majority of resting takes place during night and midday. In adverse, rainy conditions, calves rest in orthostatic position. Younger animals require a longer rest period.

Grazing occupies a large amount of time. Grazing behavior is affected by many factors, including environmental conditions and plant species. The animal moves slowly across the pasture with the muzzle close to the ground, biting and tearing off grass, which is swallowed without much chewing.

They ruminate when resting and time devoted to ruminating is approximately three-quarters of that spent in grazing. If pasture is good, ruminating time is short, if the herbage is poor and fibrous, ruminating time is longer. While grazing, calves constantly sniff the pasture, but it is not known if plants are rejected on the basis of odour, but they can distinguish smells. The sense of touch is important in determining which herbage is rejected or preferred.

Under farm conditions the dairy herd is organised into a social hierarchy. Age and weight to be significantly correlated with rank, and the height at the withers is also a contributing factor in steers. Calves are part of inferior rank animals.

If the cattle are on pasture, the cow and calf stay close to each other (Figure 6), if they are separated the cow becomes restless and starts calling and search for it. The calf will remain in the company of the mother during trips to and from pasture.

The grazing time of calves in the presence of experienced grazing cattle was significantly longer than the time for ruminating or grazing of calves grazing by themselves.

In windy - wet weather, grazing occupied 40% of their time and compared to windless - cloudy conditions when grazing occupied 70% of their time.



Figure 4. Calf on pasture

The amount of time cattle spend resting depends on environmental conditions, time spent ruminating, time spent grazing, and on breed.

Feeding behavior is affected by climate, condition of teeth, age of cattle, and the nature and the kind of food.

Calves of only 6-8 weeks, fed with cut grass, have a digestive efficiency similar to that of mature cows. If we are to exploit this ability, we must find out whether the animal is capable of grazing for periods long enough for it to obtain most of its food from the pasture.



Figure 5. Resting at calves

The calves begin to pasture in the first weeks of age for 10 -15 minutes a day and as they grow older the grazing time is gradually increased as well as the amount of ingested food. At two months old grazing time is about 3 hours a day, at 4 months old about 4-5 hour a day and at 6 months old about 6 hours daily. This period is divided into 4-5 reprises alternating with periods of rest. For the 6 months old calves the duration is 6-7 hours of grazing per day. The resting occurs between grazing reprisals with a longer duration at night. As they grow old the calves will reduce their resting time and increase the grazing time.



Figure 6. Calf stays close to its mother

The calves will perform a more selective grazing compared to the older cows, preferring younger plants, and leaves more than stems, avoiding the plants with a bitter and unpleasant taste.

Adapting the amount of water ingested by a calf depends on content of grazing and mostly on environmental temperature. The calves prefer clean, warmer water. Feeding with concentrates will increase the water intake of the calves. The calves dip their muzzle in the

water and powerfully suck in the water. Adverse weather conditions appeared to have little effect on the grazing behavior of the calves.

The behavior may be classified under four categories:

Grazing time - total time spent eating herbage including short periods of walking while selecting grass (Figure 4).

Rumination time - total time spent ruminating either laying down or standing. Time spent eating hay.

Idling - time spent not engaged in any of the above activities.

Rumination will start at calves around the age of 14-21 days. During rumination, whether laying down or standing, calves are quiet and relaxed with their heads down and their eyelids lowered (Figure 7). Calves can ruminate while standing, but they usually lay down with their chests against the ground. The rumination process is split into several periods. Like adult cattle, calves tend to ruminate for long periods after dark. It does seem, however, that after only 3 days at pasture the rumen had begun to function.

The time spent in grazing was modified by the presence of hay and probably by that of concentrates, and it was influenced also by the quality and quantity of herbage on offer.



Figure 7. Ruminating at calves

### CONCLUSIONS

Calves usually stand 30 minutes after birth, and are suckling 0.5 - 1 hours later; the mother aids suckling by positioning her body for easier access. Between birth and 4 months, the mean duration of suckling time for calves was seen to be 25 minutes, with the suckling frequency being 3 times per day.

Vision, olfactory and vocal senses are involved in cow and calf identification.

Social behavior is well expressed by calves, they are social animals and require contact with other calves or with their mothers and have a preference for games in which aggressive elements can be found.

Resting behavior is influenced by several factors, the most important being age, floor structure, state of health. Younger animals require a longer rest period.

They ruminate when resting and time devoted to ruminating is approximately three-quarters of that spent in grazing.

Grazing behavior is affected by many factors, including environmental conditions and plant species. While grazing, calves constantly sniff the pasture, but it is not known if plants

are rejected on the basis of odour, they can distinguish smell, The sense of touch is important in determining which herbage is rejected or preferred.

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