OBSERVATIONS REGARDING THE DIGESTIVE BEHAVIOUR OF RUMINANTS ON PASTURE

OBSERVAȚII PRIVIND COMPORTAMENTUL DIGESTIV AL RUMEGĂTOARELOR LA PĂŞUNE

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Abstract *In this paper we present a few behavioural features regarding feeding, watering and rumination at ruminants and resting on pasture. As biologic materials we used cows, buffaloes, sheep and goats in extensive raising system belonging to some households in Varfurile County of Arad.*

Rezumat *Lucrarea îşi propune să prezinte câteva particularităţi comportamentale privind modul de hrănire, adăparea, rumegarea şi repausul la rumegătoare pe păşune Materialul biologic a fost reprezentat de vaci, bivoli, oi şi capre crescute în sistem extensiv, aparţinând unor gospodării particulare din comuna Vârfurile, Judeţul Arad.*

Key words**:** *comportment, caws, buffalo, sheep, goats, pasture*
Cuvinte cheie: *comportament, vaci, bivoli oi, capre, păşune*

INTRODUCTION

Ethology involvement in the research and practice of animal farming represents an element of actuality and novelty.

Knowledge of animal behaviour 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.

MATERIALS AND METHOD

Research was carried out on caws, buffaloes, sheep and goats from the village of Varfurile (Country of Arad) a hill area with medium yielding natural pastures whose predominant natural flora is constituted by graminaceae.

RESULTS AND DISCUSSION

In the pasture cow herds there were observed complex hierarchical relations. In these groups there are a lot of hierarchical structures depending on which animals they come in direct contact with.

In unfavourable weather conditions both grazing time and green mass quantity are reduced. In very hot days the cows seize the grazing and seek cooler resting spots. In colder or humid days bovines do not lay on the pasture and the resting is taking place in a standing position, animals getting closer to each other.

Bovines are grazing in a more disorganized fashion compared to the bubaline on which the existence of a grazing front is characteristic and the distance between animals is very small. For bovines the distance between individuals can be from 2 to 8 meters or even higher. (fig. 1 and 2)

During the day the cows and the buffaloes have two grazing periods. The morning period lasting till around twelve o'clock (around 3 -- 4 hours), and the second period beginning after four o'clock pm and lasting until eight o'clock pm when they for stables.

In buffaloes, the existence of a feeding lot is characteristic (figure 1).

Figure 1: Feeding lot at buffaloes

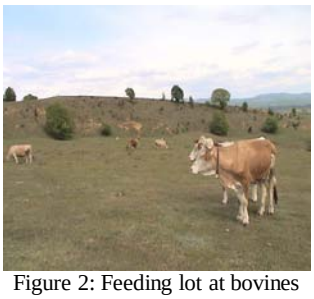

Figure 2: Feeding lot at bovines

The individuals on the same social step are on the same line. Dominant buffalo cows form a true "biological wall" advancing simultaneously. Their closeness is extremely tight even though grazing area allows a looser setting.

Bovines and buffaloes are turned out to pasture in the morning, at dawn, the moving formation keeping the same no matter the herd caretaker (figure 3).

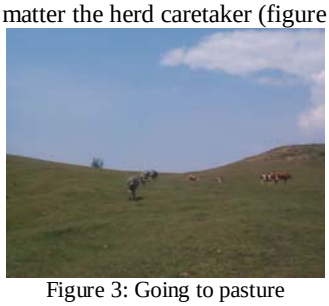

Figure 3: Going to pasture

Continuity of grazing depends on grass abundance, which can limit grazing time, and on temperature.

Some animals graze continuously, others rest frequently or walk.

If there are puddles or mud holes on the pasture, grazing is limited, as buffaloes prefer mud bathing (figure 4). Grazing duration depends on size, age, gestation state, and milk production, so that we cannot draw any conclusion about it.

Figure 4: Resting at buffaloes

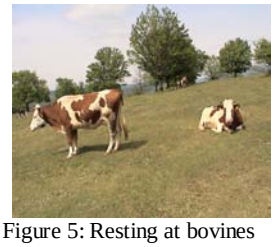

Figure 5: Resting at bovines

Regarding grazing time and the distance between bovines we can make the following observations:

- the grazing time is reduced when the grass is abundant and its quality is high.
- the distance between bovines grows up to minimum 10 meters when the pasture is of a poor quality, and consequently the grazing time is considerably higher.

Resting during grazing is frequent for bovines, resting being the equivalent of the ruminating times. In the unfavourable climatic conditions the bovines are resting in standing position. The main resting time (around 60 -- 80%) is the night time when the animals are sitting.

On the pasture the bovines are resting in groups, animals keeping a distance of 1 to 5 meters one between another (figure 5).

Ruminating was seen 30 minutes after pasturing. The preferred position is the decubitus, (sternum – abdominal). We noticed ruminating in standing position too.

At both species there are two more significant ruminating periods: at noon, between 12 a.m. and 2 p.m., and at night, between 11 p.m. and 3 a.m. For the rest, there are only shorter periods of time

On cold weather or on a rainy day, buffaloes spend their resting period standing. Feed quality also influences ruminating.

On a high-quality pasture, ruminating has a shorter duration of time than on a more mediocre one, in this latter case ruminating prolonging with 1-3 h.

If the pasture has a permanent water source, watering occurs 2-3 times a day.

Of the watering troughs are not enough, there are trough dominations of the 1st degree

Of the watering facilities are large enough, all the buffaloes can have water simultaneously.

At sheep the ingestion of grass is quick and, during a day, there are multiple periods of grazing, beginning with the dawn and continuing all evening till dusk.

Adult sheep perform a less selective grazing compared to the young ovine.

Ruminating is usually occurring at one hour after pasturing.

During the day the sheep have three grazing periods.

The first period beginning of four or five o'clock till around eight o'clock (around 3 - 4 hours), the second period beginning after ten o'clock pm and lasting until two o'clock pm and a third period beginning after six o'clock pm and lasting until ten o'clock pm.

The total duration of grazing is influenced by quantity and the nutritive value of the plants from the pastures.

Watering occurs 2-3 times a day.

Figure 6: Feeding lot at sheep

Figure 7: Feeding lot at goats

Goats are very different species compared to their close relative, the sheep and behaviourally distinguished in a radical way. (Salantiu et al, 1998)

The goats can valorise very well the inaccessible pastures such as those from rifts and abrupt hills, raising goats in some areas present an important economic importance.

Goats have the ability to profit from a large variety of plants, especially plants with an abundant content of cellulose.

The goats kept on pastures consume especially the leaves, offshoot, the tender sprigs and the buds; also have the capacity to consume the leaves from thorny branch of shrubs and trees (figure 7).

Compared to sheep, on the pastures with herby vegetation, the goats will perform a more intense selective grazing (figure 6).

During the day, the goats have two grazing periods. The morning period, beginning of 6 - 7 o'clock till around eleven o'clock (around 3 - 4 hours), and the second period beginning after five o'clock pm and lasting until eight o'clock pm when they go to stables.

Figure 7: Diversified feeding

CONCLUSIONS

The behaviour on pastured is influenced by the way the grazing is organized, by the vegetation quality and quantity and by the climatic factors.

The pastures with variant flora constitute the most preferred forage of the ruminant animals, fact proved by the quantity and period of grazing.

For all the species the grazing intensity is not uniform during the day, thus they graze more in the morning, in the evening and before noon but after noon the grazing amount is reduced.

The shortest period of grazing is registered usually in the months of May and June when the pastures are very productive and the longest period of grazing is registered in the month of August.

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