

To Understand the Animal Behaviors is Important for Many Aspects of Animal Husbandry

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Abstract

Since human beings are on earth, they have become intimate with animals. As in humans, animals can respond to various events, either with their inherited forms of reaction or with responses to their experiences which they attained via their learning capabilities. Knowing the animal behaviours is of importance for animal welfare and farm economy. The farm animals, which are raised for meat, milk, fleece and egg production, respond to stress factors with instinctive reactions. The number of behaviours which animals had by learning is low. In this review, it was tried to emphasize the importance of the reactions that animals give against various events they are exposed to. A review of recent literature on livestock animals behavior will help to understand how production systems and behavior are interrelated.

Keywords: Ultrasonography Animal behaviour; Stress factor; Animal welfare; Animal production

Introduction

Due to the increase in consciousness regarding animal welfare, the need for studies on animal behaviour has begun to gain importance. In commercial livestock farming, the sustainability and profitability of production is ensured by raising the animals at the tolerable welfare level. The exposure of living organisms to conditions below the tolerable welfare level leads to the occurrence of physiological responses against stress conditions, resulting in increase in health problems and decrease in yield [1]. There are many stress factors for animals. Among these stress factors are inadequate nutrition, sudden voices, internal and external parasites, displacement, birth, milking and unusual feed exchange etc.). You cannot protect animals from some of stress factors such as wind and rain if you are raising your animals at pasture. However, if you know the patterns of behavior of these adverse conditions, you can take precautions to ensure that your animals are not exposed to stress.

Parturition and Offspring Survivability

Maternal behaviour is essential to promote offspring survival in mammals. Hence, the use of strategies to provide nutrition, thermoregulation, protection (both immunological via colostrum intake and physical) and comfort to the offspring is important for animal welfare and production [2]. Intensive period of behavioural interaction between ewes and newborn lambs occurs during parturition with specific physiological changes, which permit rapid olfactory learning in the ewes. The birth process brings a complete change in the ewe behaviour, with an intense attraction to olfactory and others sensory cues provided by the neonatal lambs [2]. This is characterized by licking or grooming the lamb, frequent low-pitched bleats or “rumbles” (a specific lambing vocalization made by the ewe to communicate with her lamb), and standing still to facilitate access to udder [3].

In a farm where extensive production system is practiced, the lambs were kept together with their mothers continuously, for 1 hour or for 6 hours and then were separated from their mothers for 5 minutes or 12-16 hours and afterwards they left beside their mothers. The time required by lambs for finding their mothers and also the time

required by mothers for accepting their lambs were determined and then the bleating behaviours of the lambs were determined within 3-5 minutes (Figure 1). Furthermore, the weaning weights and mortalities of the lambs were determined (Figure 2). The incidence of unconscious behaviors of the lambs in mother recognition for the control, 6 hours and 1 hours groups were 0%, 25% and 75% respectively [1].

Separating the lambs from their mothers after the birth led to negative effects on animal welfare and consequently on lamb growth and viability [1].

Maternal Ability and Guarding Behaviour

In mammal species raised under extensive conditions, the chances of survival of the offspring depend on the maternal behavior of the female and also the mother-offspring connection. The maternal ability of a newborn female depends on the heredity. However, the response of the offspring is also important for this behavior to occur [1]. Maternal ability and protection behaviors affect various environmental factors, care-management style and animal health status.

Mating Behaviours

The appearance and frequency of sexual behaviours varies according to the animal's species, race, sex, management, feeding, lighting, social interaction and so on [4,5]. Shouting, approaching, courting, poking, clinging, tossing, biting, flehmen, jumping and mating are the main sexual behaviors [6].

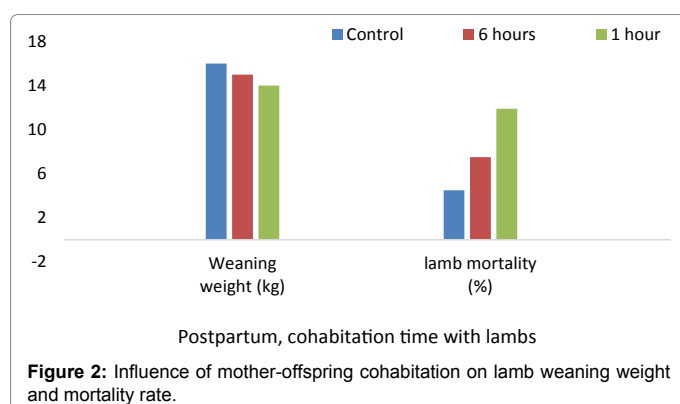
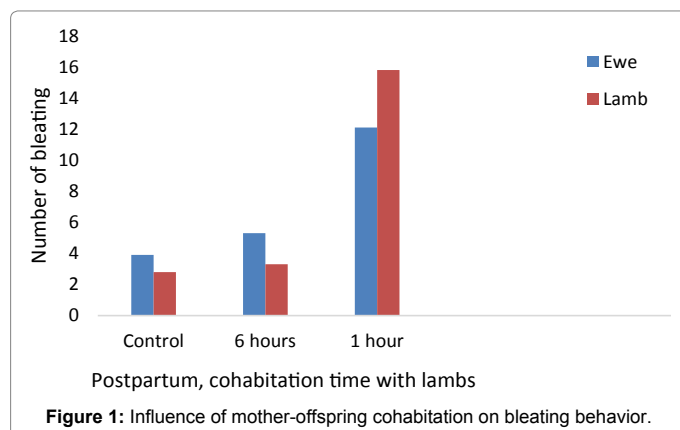
Flehmen, which is characterized by the curling back of the upper lip accompanied with deep inhalations and exhalations [2], is a mating

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behaviour seen in almost all farm animals. This behaviour helps the male (ram) to understand whether the female (ewe) has mating desire or not by smelling the reproductive organ and urine of the female. Functionally, flehmen appears to be related to the transport of volatile chemosensory materials from the oral cavity to the vomeronasal organ [7,8]. In species in which flehmen is observed, the chemical content of female urine and feces (especially pheromones) plays an important role for libidone and erection in male, in the sense of the presence of the heat female at certain distances [7-10].

Male homosexual behavior is observed in many ruminant species, including goats, sheep and cattle. Nevertheless, the factors that influence the expression of this behavior have been scarcely studied. Some researchers claim that male homosexual behavior is related to social hierarchies. It has been reported that other environmental and social factors, such as seasonality and isolation from females [8] also affect the display of homosexual matings in male ruminants [11,12].

In social livestock such as sheep, goat and pig, sexual and maternal behaviors are affected by a group context to obtain the highest reproductive rate and offspring survival. Young animals reach maturity early and physiological hormonal balance is more stable. This is important in terms of farm profitability [12].

Two main phases might be observed in mating behavior of males; the first phase is sexual excitation (libido) and the second phase is copulation.

For these functions to be realized, photoperiod is an indispensable factor in animal species with seasonal reproduction cycle. Some manipulations can be done in sexual activity and gamete production by using some species-specific lighting programmes which stimulate reproduction facilities.

Fear, Anxiety, Warning Behaviors

These behaviours depend on animal species and on the social life patterns of animals. Generally, it appears that the dominant one in flocks (sheep goat and buffalo behave differently depending on the severity of the danger. If the danger perception is strong, the animal perceiving the danger moves with a sudden jump, in a direction opposite to the perceived direction of the danger, and at a speed towards the part where the sniff is intense. If the perceived danger is in motion, sheep, who perceive the danger, warn other animals by lifting their heads, erecting their ears and hitting one from their forelock and hitting them somewhere. In Buffaloes, they emerge in the face of perceived danger in the form of stimulation by voice, gathering, defensive positioning and attack.

The behaviours of eating placenta after birth and licking the offspring are aimed to prevent the threats from wild animals. If there are no counter reactions from offspring against the mother's licking behaviour, the mother moves away from her offspring and puts itself in confidence.

Agonistic Behavior

In social animal species, aggressive behaviours are the ones which are performed by the animals with the aim of having a place in the group. These behaviours can make an animal the leader of the group and also they facilitate its life activities (feeding, grazing, drinking and copulating). Sometimes these behaviours can lead to death in the group [13,14].

Grazing and Feeding Behaviours

Knowing grazing and feeding behaviours of farm animals is of importance for efficient use of ranges and pastures and also for preventing feed waste [15]. Abnormal grazing or feeding behaviours are warning factors for the animal raiser. In extensive raising conditions, especially in species such as cattle and buffalo, where female and male animals are not found together, grazing and feeding behavior can be monitored and heat animals can be detected.

Conclusion

In all living organisms, knowing the responses against the events which these organisms encountered is important for those who deal with or observe this behavior. It is obvious that we should do our best to learn the meanings of the behaviours shown by farm animals which can express themselves only by these behaviours.

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