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Popular Article

Behavioural Disorders in Farm Animals

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Abstract

There are various abnormal behaviours in different animals. Tongue rolling in cattle, crib biting in horses, wool biting in sheep, tail biting in pigs and feather pecking in birds are some of the commonly found stereotypic behaviours. These may be due to stress, prolonged confinement, dietary deficiencies and poor management.

Introduction

Behaviour is a central part of the mechanisms allowing animals to adapt to their social and physical environments. Animal behaviour includes all the ways animals interact with other organisms and the physical environment. Some behaviours are **innate**, while others are **learned**. However, due to change in environment, nutritional deficiencies, stressful conditions, pathological diseases, poor management and some other disturbances animal may show a deviation from the normal behaviour, which may be called a behavioural disorder. There are various abnormal behaviours in different farm animals. Stereotyped behaviours are the acts which are repeated over and over again and which seem to be without any apparent adaptive function. It appears that both stress and the inability to perform some important species-specific behaviours contribute to the development of stereotypies. Stereotypies are one of the most commonly used indicators of poor welfare in farm animals. Behavioural disorders vary with the species and habitat.

Behavioural disorders in bovines

Tongue rolling is the most common stereotypic behaviour in cattle. Calves after weaning showed tongue playing, inserting the tongue into the nostrils, as well as licking and sucking of protruding objects. Self- sucking or cross- sucking of heifers or cows may also be seen in dairy farms. A variety of surgical techniques are used for the prevention of self- sucking. These techniques include



lateral glossectomy and ventral glossectomy. Inter- sucking i.e., one animal touching the udder region of a group member with its mouth is also frequently seen at dairy farms. Inter-sucking in cows may be influenced by breeds. Amount, availability and balance of concentrate and roughage also influence inter- sucking (Lidfors and Isberg, 2003). The most common method to stop cross- sucking in calves is to place them in individual housing systems. Inter- sucking in cows can be stop by putting a bull ring or anti- self-milker on the muzzle. Tethering of inter-sucking cows is another method to stop inter-sucking. Some other abnormal behaviours of cattle are fighting, butting, chasing, rubbing against equipment, sniffing equipment and ground, bar-biting and threatening etc. Bar-biting occurred more often in the tie-stall than in loose housing. It may also be due deficiency of some minerals. Tie- stalls decreases the freedom of movement of cows, therefore, this will influence the social behaviour of cows. During summer months, silent heat is observed in buffaloes. This is due to summer stress in which animal does not show normal heat signs. Silent heat occurs most often in heifers during the first cycle.

Increased sexual behaviour i.e., nymphomania occurs mainly in high-producing dairy cows that are 4 to 6 years old. These cows usually mount other cows excessively and have a significant decrease in milk production. Most of the cases of nymphomania are due to hormonal imbalances that will cause follicular cyst. It can be treated by the administration of hormonal preparations of GnRH and LH. Kicking is mainly a problem in beef cattle and is seen most commonly in heifers. Tongue rolling is a stereotypic behaviour resulting from confinement. The affected calf flicks its tongue outside and rolls it back inside the mouth, followed by swallowing saliva. Oral stereotypies are much more frequent in cattle reared intensively in tie stalls, entirely indoor deprived from grazing naturally on a pasture. Cattle reared on pasture spend almost nine hours daily grazing. The lack of pasture decreases the time spend in rumination. Frequency of tongue rolling is correlated with the presence of abomasal ulcerations (Binev, 2022). Stressful environment, poor feeding management and deficiency of certain trace elements like Copper (Cu), Zinc (Zn) and Manganese (Mn) etc. resulted into development of tongue rolling behaviour in cattle. This disorder is generally more common in fast developing high-yield cattle breeds. It will result into reduced feed intake and retarded growth of the animal. Cattle due to prolonged confinement in stalls may rub their heads against some part of the stall. Eye rolling may be seen in some young calves.

Behavioural disorders in small ruminants

In sheep, wool biting is often seen at farms. It is also known by the terms like “wool pulling”, “wool eating”, or “wool chewing”. Wool biting is often seen in a stressful environment and thus releasing these animals to the pasture often reduces this abnormal behaviour. Wool biting results into conditions like alopecia, wool damage, anorexia, poor growth, pica and emaciation. Hair balls may be formed in stomach of sheep as they are unable to digest wool. Overcrowding in case of intensive



system may create stressful conditions that may result into wool biting behaviour of sheep. Minerals or salt deficiency may also lead to the development of this abnormal behaviour in sheep. Increasing fibre in the diet may reduce the chances of wool biting behaviour in sheep.

Homosexuality is an abnormal behaviour in sheep and is seen in up to 30 percent of all rams. Ewes can steal the lambs of others before their own parturition and then reject their own lamb when it is born. Self-suckling can be seen in goats that abort late in pregnancy. Sheep may often neglect or desert their young ones. Ewes that are on low protein diet may desert their offspring.

Behavioural disorders in horses

Aggression is a common problem in horses and includes chasing, neck wrestling, kicks and bites, and other threats. Most common stereotypic behaviour observed in horses are crib-biting, wind sucking, weaving, stall kicking, pawing, head shaking, wood chewing and polydipsia etc. These behaviours may be developed due to suboptimal environment, stress, poor feeding management and some other diseases etc. A wood chewing horse will grasp pieces of wood with its incisors and it will swallow the pieces. It is due to lack of roughage in diet. Confinement, high concentrate diets, high sugar grasses and lack of exercise may result into the development of this abnormal behaviour. Feeding of high fibre diet to the horses may resolve the problem. When cribbing, the horse usually grasps an object in the stall (such as the water bucket) with its incisors, flexes its neck, and sucks air into the pharynx. Wind sucking involves the same suite of movements except that the horse does not actually grasp a fixed object. Some horses will aspirate or swallow the air. Wind sucking can be prevented with the help of a wind sucker strap. Feeding highly palatable food (grains, molasses) is associated with cribbing. Crib biting increases indigestion of hay as smaller quantities of saliva is produced in horses. It may also result into gastric ulcerations and colic in horses. Incisor teeth of upper jaw show signs of excessive wear. Chances of crib biting are more in horses that are fed with a diet low in forage and high in grains. Crib biting in horses can be prevented through use of a hinged collar that prevents the horse from arching its neck by applying pressure to the throat, oesophagus and poll. Use of straw bedding and fibre rich diet may also reduce the chances of crib biting in the horses. Stall walking and weaving are also seen in confined horses. Weaving is a stereotyped lateral movement of the head and neck; it occurs most frequently just before feeding. Weaving occurs when confined horses anticipate an exciting or stressful event but are frustrated by their inability to leave the confined area. Addition of mirrors and providing increased visual access to other horses through the windows has been found to reduce the weaving.

Lack of exercise due to chronic confinement may result into stereotyped pacing in horses. Tail rubbing may be seen in horses due to parasitic infestation (*Oxyuris equi*). Geophagia may be seen in horses. Most horses will ingest sand or dirt. Soil that is ingested is richer in iron and copper than other soils and this may attract the horse. Horses may kick the walls of the stall because of boredom,



aggression or frustration. Similar to kicking, pawing or digging may be a result of frustration and anticipation. Use of hanging mats or barriers might reduce the injury due to stall kicking. Access to pasture and proper exercise can prevent stall kicking behaviour in horses. Head nodding in the horse occur as stereotyped behaviour in various forms.

Behavioural disorders in swine

Tail biting is seen mostly in confined pigs. Overcrowding and boredom seem to be the main causes of tail biting. Intolerable situations at farm and stressful conditions may lead to tail biting behaviour in pigs. An outbreak of tail biting can also occur due to presence of a respiratory disease and lameness in a pen. Warm weather and high humidity increase the incidences of tail biting in pigs. Slatted floors without bedding, low salt diets and low iron soil seem to predispose pigs to tail biting. Tail biting is seen among growing pigs grouped in pens. Haemorrhages due to tail biting encourage other pigs in the group to chew on the damaged tail. Wound may become contaminated with infection that may results into formation of abscesses. Breeds like Landrace are more susceptible for the development of this abnormal behaviour of tail biting. Amputation of the distal half of the tail (tail docking) has become a widespread strategy to prevent tail biting in the pigs. It can also be controlled by removal of tail-biters from a group. Reduction of stocking density can reduce tail biting in pigs.

Sham chewing is also seen in pigs at farms. In this condition, pigs show jaw movements but there is no food in their mouth. This condition occurs due to prolonged confinement of sows in stalls. The jaw movements become vigorous when all food has been eaten. It can be prevented by providing straw and sawdust to sow. Cannibalism is most commonly seen in primiparous gilts. It occurs after parturition when the sow is in stress. Farrowing crates have been used successfully to reduce the incidence of cannibalism. Bar biting and tether biting are stereotyped behaviour of sow. It can be prevented by providing straw or sawdust to sow. Belly-nosing can be seen in piglets that are early weaned. It is mostly seen in piglets that are weaned before 21 days of age (Gardner *et al.*, 2001). Belly-nosing involves the repetitive rooting motion on the belly of another piglet similar to massaging the sow's udder. It can lead to development of lesions on the recipient piglet. It may be associated with hunger. It can be prevented by providing straw to the piglets.

Behavioural disorders in poultry

Aggression and feather pecking or plucking are the two most common behavioural problems in chickens. They may be associated with overcrowding, stress and competition over resources such as food. Cannibalism is also seen in chickens due to low fibre in the diet. Feather pecking is mostly seen in chickens that are provided with pelleted or crumbled diet. A methionine deficiency may also lead to feather picking behaviour in chickens. Egg eating, litter eating and head shaking are also some abnormal behaviours found in poultry.



Conclusion

Stereotypic behaviours are mostly associated with stressful environment, poor dietary management, lack of exercise, pathological diseases, prolonged confinement and poor feeding. Different species show different stereotypic behaviours. These abnormal behaviours may reduce the performance and productivity of the animals. These can be prevented by better management practices.

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