DOWNLOAD PDF HOUSING, STRESS, AND WELFARE OF SHEEP AND GOATS

Chapter 1 : Goat Publications - College of Agriculture and Food Sciences

United States Department of Agriculture National Agricultural Library Baltimore Blvd. Beltsville, Maryland Housing, Stress, and Welfare of Sheep and Goats.

High temperatures are even more problematic in states like Maryland, because high temperatures are also often accompanied by high humidity. Heat tolerance Some livestock and people tolerate heat better than others. Sheep and goats tend to be less susceptible to heat stress than swine, cattle, llamas, and alpacas. Hair sheep usually tolerate heat better than wooled sheep. This is why they are often used for training and trialing herding dogs. Fat-tailed sheep are also more heat tolerant. The European sheep breeds are usually the least heat-adaptive because they tend to have shorter bodies and legs, short, thick ears, tight skin, and dense fleeces. Goats tend to tolerate heat better than sheep. Goats with loose skin and floppy ears may be more heat tolerant than other goats. Angora goats have a decreased ability to respond to heat stress as compared to sheep and other breeds of goats. Dark-colored animals are more susceptible to heat stress, while light-colored animals may be prone to sunburn. Females usually handle heat better than males. The heat is especially hard on fat animals. Horned animals dissipate heat better than polled or disbudded animals. Young animals are more susceptible to heat stress than older animals, though the geriatric animal is also very vulnerable. In fact, any animal with a poor nutritional status or compromised immunity will be more susceptible to environmental extremes. Wool Wool protects sheep from extreme heat as well as extreme cold. A thick fleece is mostly immune to temperature changes due to its insulating properties. According to research, sheep with a one-inch fleece are more comfortable than sheep with less wool, as wool fibers dissipate heat more rapidly. However, woolly animals should be sheared prior to the onset of hot weather. Spring shearing allows sheep to have adequate wool growth to keep them cool in the summer and avoid sunburning and a full wool coat in the winter to keep them warm. Sheep and goats should not be sheared in extreme heat. Shearing lambs will improve their growth performance and welfare during the summer months, if temperatures and humidity are elevated. Water Plenty of clean, cool, and fresh water is paramount to preventing heat stress in livestock. During periods of extended heat and humidity, it may be necessary to provide extra water and clean and change waterers more often. On-average, a sheep or goat will drink 1 to 2 gallons of water per day. Lactating females will drink even more water. A study conducted with 3-year old ewes showed that consumption of water is 9 to 11 percent of body weight in the winter and 19 to 25 percent during the summer. High temperatures are often accompanied by dry weather, resulting in lower moisture content in grazed forages. Dry forages increase water needs. Salt consumption increases water intake. Young animals need more water on a percent body weight basis than adults because a greater percentage of their body weight is water. Young animals need to drink more often because they drink less water at a time and have a more rapid metabolism. Sheep will drink more water than they need for metabolism, perhaps as a pre-adaption to heat stress and water deprivation. Another way sheep adapt to heat stress is by producing more concentrated urine. Shade Access to shade is another important aspect of managing livestock during hot weather. Livestock shelters do not need to be complicated or elaborate. Mature trees provide excellent shade and shelter and are usually the least-cost alternative. Simple shade structures can be constructed from shade cloth, mesh fabric, tarps, canvas, or sheet metal. Movable shade structures are suitable for intensive rotational grazing systems. All livestock should be able to lie down in the shade structure or area at the same time. Lying down in a cool spot provides additional relief from the heat. While there is disagreement as to whether grazing livestock require shade, numerous studies show the benefits to shade. The benefits to shade would be greatest in humid environments. It may be necessary to install fans or other cooling systems in barns and similar structures. Research has shown cool water spraying to reduce heat stress and improve welfare of goats. It goes without saying that livestock should not be handled, worked, or transported during the heat of the day. If livestock must be worked, they should be handled in the early morning or late evening hours. This is because animals generate more body heat when

they digest poor quality feed. The feed supplement that produces the least amount of heat is fat. Heat stress Under normal circumstances, livestock are able to maintain their body temperature at a safe range, so long as they have shade and plenty of water. In extreme heat, they will decrease their grazing time and spend more time in the shade, especially during the heat of the day. They will graze mostly in the evening and early morning hours. They should be allowed to rest during the heat of the day. While heat stress exhaustion or stroke is not very common in sheep and goats in temperate climates, it may occur, especially if stock are handled during the hottest part of the day. Animals suspected of being heat-stressed should be moved to a cool, shaded area with good air circulation. The obvious goal of treatment is to lower body temperature. Sheep should be cooled by applying rubbing alcohol to the area between their rear legs. Besides not being covered with wool, this area has a lot of vascular activity. Wooled sheep should not be sprayed with cool water as this will prevent cooling. Air will not be able to pass through the wetted fleece. Heat-stressed animals should be offered ample water and encouraged to drink small amounts. Woolly or hairy animals should be sheared as conditions allow. Productivity Extreme heat can have a profound effect on productivity, especially if the onset of heat is sudden, not giving livestock ample time to adapt. It goes without saying that growth rates are reduced in hot weather, as livestock forage less and have reduced appetites. This situation is often worsened by dry, poor quality forage. If temperatures subside, there is often a risk of acidosis or bloat as livestock engorge on feed. Overheated rams may lack libido sexual desire. Ideally, rams should be sheared six to eight weeks before the onset of the breeding season. Woolly scrotums should be sheared. In extreme heat, rams can be housed during the day and put with the ewes at night. After a ram or buck has been affected by heat stress, it will take six to seven weeks before he produces semen that is capable of fertilization. Fully-developed sperm are less susceptible to heat stress than sperm in the developing stages. High temperatures can also be detrimental to embryo survival and fetal development. Heat stress lowers the natural immunity of animals, making them more susceptible to disease. It is not uncommon to see cases of pneumonia in extremely hot weather. In general, animals will have less tolerance for parasitic and other opportunistic diseases. References and further reading.

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Code of accepted farming practice for the welfare of goats Bureau of Animal Welfare, Attwood This Code of Practice provides detailed information from the code and is intended as a guide for all people responsible for the welfare and husbandry of goats. Goats are kept in situations which vary from extensive grazing to close confinement and housing. Whatever the form of husbandry, owners, managers and custodians of goats have a duty of care and a clearly defined legal responsibility under the Prevention of Cruelty to Animals Act to care for the welfare of the animals under their control. The basic behavioural, anatomical and physiological needs of goats are considered in this document, irrespective of the method of husbandry practised. The importance of competent stockmanship and management in animal welfare cannot be overemphasised. Important skills of the competent manager and stockperson include the ability to recognise the early signs of distress or disease in goats so that the cause can be identified, and prompt, appropriate, remedial action taken. The basic requirements for the welfare of goats are: Food and water to sustain health and vitality; Sufficient space to provide freedom to stand, lie down, stretch, turn around, move about and groom themselves; Protection from predation; Protection from disease, including disease that can be exacerbated by management; Protection from extremes of climate during certain phases of their life; Protection from pain, suffering and injury. Food and water Food Goats should have access to or be provided with adequate food to maintain their well-being. They are more selective feeders than either sheep or cattle and can choose from a wider range of plants including browse from trees and shrubs. Goats are fastidious, and will not thrive or produce on soiled, contaminated, tainted or poor quality feed and may reject good quality food if superimposed on leftovers. Goats should not be deprived of food for periods longer than 24 hours. The food available to goats should meet the requirements of maintenance, growth, pregnancy, lactation and fibre production, and any extra demands such as exercise or cold stress. Health and productivity of goats are maximised when goats are fed forage diets of high digestibility which enable high levels of energy intake and contain sufficient nitrogen and trace minerals. Such diets enable goats to grow and lactate at high levels. Goats can be successfully grazed on pasture. Browse is not necessary. If browsing is available as a supplement to pasture, it may be possible to increase the stocking rate. However, the feed quality of scrub is often very low. If only browsing is available, its height must be such that it is within reach of younger kids. Where only poor quality scrub is available, supplementary feed should be supplied. In grazing situations conducive to high stocking rates such as on improved perennial pastures , goats are vulnerable to internal parasites. To assist in the control of parasites, it is recommended that breeding goats are grazed at no more than 8 DSE per hectare. Goats prefer a diet containing forage. Body weight and condition of goats may fluctuate with seasonal feed availability, usually being lowest in late summer and autumn. Animals with a condition score of I very lean need to be supplementary fed see Appendix 1. Nutritional stress or sudden dietary changes e. Feral goats require a conditioning period of 14 days to adjust from browsing scrub under range conditions to grazing pasture under intensive conditions, to allow them to change feeding habits and for their gut flora to change appropriately. If goats are to be fed predominantly grain or concentrate mixture, it must be introduced slowly to the diet over a period of 2 to 3 weeks to prevent ruminal acidosis. It is recommended that the introduction be at no more than 50 g per head per day with increases of 50 g per head every second day. Goats should be protected as far as possible from foods and materials deleterious to their health e. Water Clean, potable water must be readily accessible to goats. The amount of water drunk depends upon the dry matter content of feed eaten and surface moisture available from rain or dew, body weight of goats and production level, especially of lactating goats. Water quality salinity, taste, temperature can adversely affect intake. One DSE is regarded as equal to a 45 kg

wether. Goat equivalents are calculated on a pro-rata body weight basis. Pregnancy and lactation must be considered in the calculation. Drought is not the normal seasonal shortage of feed. Goats being fed for survival should be inspected daily for health and vitality. Less thrifty goats may require segregation for special treatment and more frequent inspection. Where provisions for health and vitality cannot be met, goats should be moved, agisted, sold or slaughtered humanely on site. Drought-affected goats are highly susceptible to stress and require careful handling: Drought-affected goats should be protected against exposure to extremes of temperature and weather. Vehicles transporting drought-affected goats must provide adequate cooling in hot weather and protection against cold, wet conditions. Protection from climatic extremes and predation Goats are sensitive to extremes of weather and all reasonable steps should be taken to minimise the effects of climatic extremes and other factors that produce either cold stress or heat stress. Goats are vulnerable to cold stress, especially off-shears or when in low body condition, or during continuous rain when in full fleece. They require the provision of effective shelter or good natural shelter. Steps should be taken to ensure that, as far as practicable, goats can be attended to promptly in the event of fire, flood, injury or disease. Reasonable precautions should be taken to protect goats from predation. The use of electric fencing should be considered. Intensive goal systems - housing and accommodation Feedlots and feed pads should provide sufficient space for each goat to be able to stand, turn around, stretch, lie down and move to feed and water. The design, location and construction of feedlots and feed pads should take account of topography, climate, age and size of animal, space and feed requirements, and labour and management skills available. Confined goats should have enough space to be able to lie down, stretch, stand up and to exercise. They should have access to shelter, food and water. Tethering of goats must not be used as an ongoing form of confinement. It may be acceptable only as a short-term measure for a specific confinement need where conditions could otherwise cause injury, endanger the goats in some way, or permit them to stray. If tethering is required it should be done in accordance with this code and also the Code ofPractice for the Tethering ofAnimals. The agility and mobility of goats make them prone to entanglement when tethered; in addition, tethered goats are particularly vulnerable to attack by predators. For these reasons, tethering should be used only where there is adequate close supervision. Goats should not be tethered by lengths less than 4 body lengths, unless selective veterinary therapy under shorter tether is prescribed, or for show, display or approved experimentation purposes. Collars, ropes, chains and similar materials used for tethering of goats should be constructed and used so as to avoid injury and pain. Sheds or arks mobile sheds provided for goats should be of sufficient size to allow the animal to stand up, turn around and lie down. In the case of housed goats, ventilation, whether mechanical or natural, should assist in the removal of environmental heat, moisture, dust, carbon dioxide and other noxious gases and airborne infectious organisms, and replace these with fresh air. This air should be distributed in a manner appropriate to the location of the stock and the design of the building. Adequate fire fighting equipment should be available to control a fire in any goat housing shed, building or feedlot. Goat handling facilities Sheds, pens, yards, lanes, loading ramps, dips and areas where goats are forced to congregate should be so constructed and maintained and of such a size as to minimise the risk of injury, disease, overcrowding and trampling. Floors or yards, sheds, pens and loading ramps should have a surface which is not slippery and which facilitates cleaning. Uneven or steeply sloping surfaces greatly increase the risk of failing because goats often display defensive reflexes when confronted with such situations and may make sudden erratic movements. Goats should spend as little time as management practices allow confined in yards, so as to minimise chances of injury. Handling of goats in small groups, particularly kids and heavily pregnant does, will minimise injury in yards. Special facilities should be available to permit adequate restraint of goats which require inspection or treatment because of illness or injury. Goats should be caught and restrained with care. Homed goats may be restrained by holding the hom at its base, not at its tip, as this may cause the hom to break. If it is necessary to pick up goats it should be done by the body and not by their homs or hair. Management practices General Management procedures carried out on goats should be competently performed. Any injury, illness or distress observed should be promptly treated. Practices that cause pain

should not be carried out on goats if painless and practical methods of husbandry can be adopted to achieve the same result. Hygienic precautions should be undertaken for all operations. Restraint used on goats should be the minimum necessary to perform procedures efficiently. Pregnant does are susceptible to stress-induced abortion. Animal husbandry practices should induce minimal stress, whether from extreme climatic conditions, mustering, handling, prolonged transportation or nutritional factors. A suitable control plan should be devised and followed. Paddocks used for grazing and yards where goats are confined should be managed in such a way that pick-up of contamination with parasites or other agents is minimised. Where anthelmintic resistance is suspected, faecal egg count reduction tests should be performed to determine suitable anthelmintic on an annual basis. External parasites, such as lice, should be treated as early as possible. Suitable methods of administration of vaccines and medication should be employed. Any medication which does not bear specific instructions for treatment of goats should be performed on the farm in a humane manner. The condition should be detected and treated promptly if it occurs. Difficult kiddings should be diagnosed promptly and does assisted only by a skilled and competent operator or by, or under the supervision of, a registered veterinary practitioner. When does are producing more milk than is required by their kids, they should be hand-milked to relieve udder pressure. Regular feet care is imperative to maintain soundness. Hoof trimming should be perforined as necessary to remove over-growth of hom. Goats are susceptible to deficiencies in trace elements, including iodine, selenium, copper or cobalt, when grazing deficient pastures. Appropriate preventive measures should be undertaken in known deficient areas. Supervision Frequency and level of inspection should be related to the likelihood of welfare problems of goats. Milch goats and goats kept under intensive management should be inspected, fed and watered daily. Goats grazing under more extensive conditions require regular supervision, according to density of stocking, availability of suitable feed, reliability of water supply, age and pregnancy status. Agreements relating to leased land and agistment should specify who has duty of care under the Prevention of Cruelty to Animals Act for supervising stock. Castration Castration should be carried out on kids as early as management practices allow, preferably before 2 months of age.