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Detecting and Addressing Animal Health Concerns of Small Ruminant Producers

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Abstract: This article provides information that Extension professionals can use to help small ruminant producers to understand the importance of identification and prevention of introduction of disease-causing agents (pathogens) into production systems that can affect harvesting, processing, handling, distribution, and marketing of foods, especially animal-derived food and products. The information provided should enhance small ruminant producers' ability to observe and detect changes in the status of animals' health and address health concerns adequately to improve food safety and food security and reduce current vulnerabilities on their farms while enhancing capabilities for providing much safer and more wholesome animal-derived products for consumers.

Introduction

Small ruminant producers must be aware that they are the front line of defense for identification and prevention of introduction of disease-causing agents (pathogens) into production systems (Madden, 2008) that will affect harvesting, processing, handling, distribution, and marketing of animal-derived food and products. Extension professionals can provide information to small ruminant producers (Holcomb, & Muske, 2000; Barnes, Meche, Hatch, & Dixon, 2009; Madden, 2010) to increase their awareness and knowledge of detecting and addressing animal health concerns. These producers will be able to reduce current on-farm vulnerabilities, improve food safety and food security, and enhance their capabilities for providing much safer and more wholesome products for consumers (Madden, 2007).

Observing Animals

Small ruminant producers must know what is normal in order to recognize abnormal changes in animals to be able to determine and address animal health care effectively (Pinkerton, 1999; Madden, 2009). Extension professionals with experience can play an important role in assisting small ruminant producers to detect and address animal health concerns (Madden, 2010). Animals should be observed for changes in behavior including:

- Walking
- Feeding habits

- Temperament

- Appearance

- Hair coat

- Eyes

- Nose

- Feet

- Stomach

- Genitals

- Hooves

- Horns

- Tail

- Head

- Back

Problems from lameness in goats and sheep may result from excess moisture. Their hooves may reveal overgrowth, darkened cuts, and tears that serve as reservoirs for bacteria, molds, and fungi. Affected animals are unable to walk and feed normally (Madden, 2009).

Addressing Health Concerns

Information gathered from observation of animals is used to determine the cause(s) of health concerns. Affected animals should be separated from the herd to reduce stress and provided adequate feed and water for easy observation and treatment. Small ruminant producers should not substitute treatment with drugs for good management and production practices to prevent infections and disease-agents transmission (Jackson, Greer, & Baker, 2000). Frequent cleaning and disinfecting of farm areas will result in better prevention and

control of diseases. Colostrum should be provided to newborns from mothers within 24 hours after birth; if not, colostrum should be provided by producers. Vaccinations for animals should be updated to minimize susceptibility to diseases and to build strong immunity among animals (Jackson, Greer & Baker, 2000; Gasparatoo, 2006).

Determining the Causes of Health Concerns

Animals with runny noses and coughing may suffer from respiratory diseases, including pneumonia. Common causes of pneumonia include bacteria, viruses, parasites, and stress (Gasparatoo, 2006; Yenner, Saglam, Timurkaan, & Ilhan, 2005). Other factors may be environmental: poor sanitation, poor ventilation, poor housing, and drenching animals. Bacterial causes may include *Pasteurella multocida*, *Pasteurella haemolytica*, *Mycoplasma spp.*, and *Corynebacterium pseudotuberculosis*. Stress of any type, shipping, animal shows, overcrowding, extreme temperature, feed changes, and weaning can cause pneumonia (Jackson, Greer & Baker, 2000; Gasparatoo, 2006; Ayers & Guss, 1992).

Affected young animals usually show weight loss, lethargy, fail to nurse, nasal discharge, coughing, rapid breathing, harsh lung sounds, and fever (temp. > 103.5° F), 102-103° F is normal (Small Ruminant Manual, 2007). Transmission and spread of most infectious agents occur by direct contact with body fluids, saliva, nasal discharge, and fecal matter. Animal-to-animal spread can occur by hands, buckets, feeders, troughs, and other farm equipment (Small Ruminant Manual, 2007; Jackson, Greer & Baker, 2000).

How to Diagnose Diseases to Determine Treatment

Diagnosis of diseases should include a history of the animals, clinical signs and symptoms, and a careful physical exam. Lesions will help in definitive diagnoses made upon necropsy (Ayers & Guss, 1992). Confirmation can be done by isolation and identification of causative agent(s). Animals with runny noses, swelling in lower jaw, and coughing may suffer from respiratory diseases caused by a single or a combination of agents, bacteria, fungi, molds, parasites, and toxic fumes (Jackson, Greer & Baker, 2000; Madden, 2009). Bacterial culture and sensitivity tests will help to determine the antibiotic of choice to treat animals (Jackson, Greer, & Baker, 2000; Ayers & Guss, 1992; Madden, 2008).

Treating Diseases

Treatment of lameness may include trimming overgrown hooves, cleaning pockets in hooves, and applying iodine, betadine, povidone iodine, or zinc sulfate (Madden, 2009). Foul smell detected in hooves and fevers are indications of infections (Gasparatoo, 2006). Antibiotics used to treat disease-causing agents include Penicillin, Albon, Gallamycin, and LA-200. *Mycoplasma* should be treated with Tylosin- 200 mg/ml-Tylan 200, given subcutaneously at 1 ml/20 lbs once per day for 5 days, and the withdrawal period is 8 days. *Pasteurella* can be treated with Trimethoprim/Sulfamethazine and Sulfadimethoxine, effective against both gram-positive and gram-negative bacteria given orally at 30 mg/kg (665 mg/50 lbs) twice daily, and the withdrawal period is 8 days. *Pasteurella* may be treated with Oxtetracycline-200 mg/ml, brand names: LA 200; Oxy-tet 200; Bio-Mycin 200; Linqamycin LA 200; Geomycin 200; Agrimycin 200; and Maxim 200 given subcutaneously at 4.5 ml/100lbs/36-48 hrs, and the withdrawal period of 12-18 days (Ayers & Guss, 1992; Fias Co Farm, 2007; Madden, 2008).

Preventing and Controlling Diseases

Reducing stressful incidences will decrease disease cases in animals. Young animals are more susceptible to stress and can relapse during feeding periods. Coughing can cause rectal prolapse in feeder lambs. Prevention

and control measures must involve good management practices to reduce pneumonia and respiratory diseases (Ayers & Guss, 1992; Gasparatoo, 2006; Madden, 2008 & 2009). Proper ventilation will reduce pneumonia problems, infectious agents, high humidity, and noxious gases like ammonia. Avoiding overcrowding will reduce animal-to-animal contact and spread of contagious diseases. Reducing the impacts of disease agents on the immune system of animals and building resistance to disease are important to maintain healthy herds (Ayers & Guss, 1992; Gasparatoo, 2006).

Conclusion

The ability of Extension professionals to provide small ruminant producers with information that will assist them to detect early changes in animal health and address concerns effectively will affect producers' enterprises. Producers' increased awareness of the changes that can occur because of introduction of pathogens into production systems will allow them to improve food safety and food security and reduce current vulnerabilities on their farms.

References

- Ayers, J. L., & Guss, S. B. (1992). *Respiratory tract diseases*. Agriculture Research Service. United States Department of Agriculture. Retrieved March 15, 2007 from: <http://www.goatworld.com/articles/respiratorytractdiseases.shtml>
- Barnes, J., Meche, J. C., Hatch, D. A. & Dixon, G. (2009). Strengthening agricultural entrepreneurship: A grant writing tool for agricultural producers. *Journal of Extension* [On-line] 47(2). Article 1TOT4. Available at: <http://www.joe.org/2009february/tt4.php>
- Fias Co Farm (2007). *Goat medications*. Retrieved from: <http://fiascofarm.com/goats/medications.htm>
- Gasparatoo, S. W. (2006). *Pneumonia*. Retrieved from: <http://www.tennesseeemeatgoats.com/article2/pneumonia06.html>
- Holcomb, R., & Muske, G. (2000). The role of Extension specialists in helping entrepreneur food-based business. *Journal of Extension* [On-line] 38(1). Available at: <http://www.joe.org/2000february/a2.html>
- Jackson, N. S., Greer, W. J., & Baker, K. J. (2000). *Animal health*, 3 rd Ed. Interscience Publishing, Inc. Danville, Illinois.
- Madden, U. A. (2006). Food safety and food security information for on-farm and other populations. *Caprine Chronicle, Official Newsletter of the Florida Meat Goat Association*. 21 (6), 11-12.
- Madden, U. A. (2007). Addressing food safety and security on farms. *Caprine Chronicle, Official Newsletter of the Florida Meat Goat Association*, 2 (3), 6-7.
- Madden, U.A. (2008). Animal health challenges encountered resulting from disasters and emergencies. *Caprine Chronicle, Official Newsletter of the Florida Meat Goat Association*, 23 (5), 6-7.
- Madden, U. A. (2009). Management is key in maintaining healthy goat and sheep herds. *Caprine Chronicle, Official Newsletter of the Florida Meat Goat Association*, 25 (8), 11-15.
- Madden, U. A. (2010). Keys for small ruminant producers purchasing and raising goats and sheep. *Journal of*

Extension [On-line] 48(3). Article 3TOT10. Available at: <http://www.joe.org/2010june/tt10.php>

Pinkerton, F. (1999). *Procurement of foundation stock*. Agriculture Research Service. United States Department of Agriculture. Retrieved from: <http://www.goatworld.com/articles/purpose/procurement.shtml>

Small Ruminant Manual. (2007). *Pneumonia*. Retrieved from: <http://www.infovets.com/healthysmrm/F640.htm>

Yenner, Z., Saglam, Y. S., Timurkaan, N., & Ilhan, F. (2005). Immunochemical detection of parainfluenza type 3 virus in paraffin sections of pneumonic caprine lung. *J. Vet. Med. Series A*. Retrieved from: <http://www.blackwell-synergy.com/doi/abs/10.1111/j.1439-0442.2005.0072.000725.x>

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