Sheep symposium: Biology and management of low-input lambing in easy-care systems

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Low-input lambing management was the focus of the 2007 Sheep Symposium at the joint annual meetings of the American Society of Animal Science, the American Dairy Science Association, the Asociación Mexicana de Producción Animal, and the Poultry Science Association held in San Antonio, Texas, on July 8 to 12, 2007. The purpose of this symposium was to bring together biologists and managers who could provide insights about opportunities to practice low-intensity lambing management. In the mid and eastern United States (Connecticut, Delaware, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia) about 12.8 million ha have gone out of agricultural production during the past 30 yr (USDA, 2007). Much of this land is not suitable for cultivated crop production, but because of high annual precipitation, excellent forage production is possible to support large numbers of highly productive sheep. However, the number of sheep farms in the United States with more than 100 sheep decreased 16% and the number of sheep declined 25% from 1997 to 2002 (USDA, 2002). There are numerous reasons why farmers are reluctant to expand or develop sheep operations to exploit these resources. One major cause is the perception that sheep management, and lambing management in particular, is very labor intensive. During the symposium, scientific and applied evidence was presented that showed how animal behavior, genetics, nutrition, and management could be used to improve lamb survival with minimal shepherding inputs during and after lambing.

Cathy Dwyer used data from several experiments comparing Scottish Blackface with Suffolk ewes and evidence from other literature to present details of the coordinated series of events surrounding creation of the ewe-lamb bond and the consequences for failure to complete any one of them (Dwyer, 2008). She concluded her presentation with suggestions for how genetics and management can help to improve the success of low-input lambing.

Julie Everett-Hincks presented major factors important for lamb survival in low-input systems (Everett-Hincks and Dodds, 2008). This information was based upon data from 20 pasture-lambing flocks with almost 16,000 lambs in New Zealand. In addition to the detriment of low and high birth weights and being born a triplet, the effects of maternal body condition, environmental conditions related to heat loss before lambing, maternal behavior score, and other key issues were quantified. Sheep farmers can use these results to decide the relative importance of management strategies to improve lamb survival in low-input systems.

Kreg Leymaster presented reproductive results from 4,171 lambs in 1,962 litters out of 830 half-Romanov ewes managed under either high-input barn management or very low input pasture management (no labor or supplemental feed provided before weaning; Leymaster, 2007). A total of 211 sets of triplets were born in the pasture management system and 3, 10, 40, and 47% of these litters had 0, 1, 2, and 3 lambs alive at 8 wk of age, respectively. The experiment established that levels of prolificacy and maternal ability could be balanced to achieve acceptable lamb survival by prolific sheep on pasture without labor or supplemental feed.

Janet McNally, a sheep farmer who lambs more than 100 prolific ewes on pasture in Minnesota, described successful drift-lambing management (McNally, 2008). Factors that establish the ewe-lamb bond, which is a primary determinant of lamb survival, were discussed. In addition, she presented details about grazing management, as well as how to ensure survival of newborn lambs, control predator and weather-related losses, and improve milk production.

Fred Provenza concluded the symposium with thought-provoking suggestions about why and how ani-
mal scientists and farmers should pay more attention to natural aspects of animal adaptation (Provenza, 2008). Advantages were outlined for lambing in synchronization with available natural feed resources, and data were summarized showing that young animals that graze with their mothers learn to consume a greater variety of forages. One of the major conclusions was that the way animals are managed should be in a state of “constant transformation” affected by energy resources and societal attitudes toward animal management.

As the organizers of the symposium, our goal was to provoke ideas about how to simplify management of lambing. The papers that resulted from the symposium are an important start. We hope that they will provide the basis for a more viable and profitable sheep industry that can make better use of developed permanent pasture and underutilized forage-producing land.

**LITERATURE CITED**


