



A survey of recommended practices made by veterinary practitioners to cow-calf operations in the United States and Canada

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ABSTRACT

Practicing veterinarians ($n = 148$) who service commercial beef cow-calf herds responded to a survey describing general recommendations made to their clients in terms of vaccine protocol, health, and production practices. Responding veterinarians represented 35 states in the United States and 3 provinces in Canada. More than 50% of responding veterinarians devote over 50% of their practice to service commercial cow-calf producers. The largest group (33%) of veterinarians have been in practice for over 30 yr. Thirty-nine percent of responding veterinarians serviced more than 10,000 cows. Genetic advice is provided by 54% of practicing veterinarians. When vaccinating at branding, the most common recommended vaccines are clostridial (96%), infectious bovine rhinotracheitis (IBR; 94%), bovine respiratory syncytial virus (BRSV; 91%), parainfluenza-3 (PI-3; 90%), and bovine viral diarrhea (BVD) Types 1 and 2 (78 and 77%, respectively). When vaccinating before weaning, the most common recommended vaccines are IBR (99%), BRSV (98%), BVD Types 1 and 2 (96%), PI-3 (93%), clostridial (77%), and *Mannheimia haemolytica* (77%). When vaccinating after weaning, the most common recommended vaccines are BVD Type 2 (97%), IBR (97%), BVD Type 1 (96%), BRSV (96%), and PI-3 (91%). Over 60% of responding veterinarians recommended that the last preventative vaccine should be administered to cattle 7 to 21 d before shipping. The largest number of respondents (38%) recommended that the earliest age their clients should wean their calves is 90 to 120 d. Castrating bull calves at an age of 0 to 7 d was recommended by 34% of respondents. Calf nutrition is considered as extremely important during a preconditioning program by 82% of responding veterinarians.

Key words: beef, cow-calf, survey, veterinary practitioner

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INTRODUCTION

Veterinary practitioners provide constant advice and recommendations to beef cow-calf operations across the United States and Canada regarding health, well-being, and production practices to gain satisfactory health status and optimum herd performance. Summarizing and reporting these recommendations provides valuable feedback to understand how best management practices are applied at the beef cow-calf herd level. These recommendations, over time, have been developed by academic researchers, practicing veterinarians, consulting veterinarians, and other animal health professionals. Currently, there are several published resources in the literature that provide recommendations made to feedlot managers by consulting veterinarians regarding animal health and well-being (Terrell et al., 2011; Terrell et al., 2014; Lee et al., 2015). In addition, similar publications exist for recommendations made by consulting nutritionists for nutritional recommendations in feedlot operations (Galyean, 1996; Galyean and Gleghorn, 2001; Vasconcelos and Galyean, 2007; Samuelson et al., 2016). Although there is limited and outdated published data (Sanderson et al., 2000) that provide a description of health and production practices employed by cow-calf producers, there is no published data that describe recommendations made by veterinary practitioners to cow-calf operations. Thus, the objective of this survey was to obtain descriptive data to describe recommended practices made by veterinary practitioners who service clients with commercial beef cow-calf operations in the United States and Canada in terms of vaccine protocols, health practices, and production practices.

MATERIALS AND METHODS

Institutional Animal Care and Use Committee approval was not required for this study because no animals were used. Approval to conduct this survey was granted by the Institutional Review Board at Kansas State University (IRB #8423).

Survey Participants

Veterinary practitioners were contacted for participation in this study based on their individual participation in professional veterinary organizations. A total of 1,200 veterinarians were randomly contacted through the Academy of Veterinary Consultants and American Association of Bovine Practitioners respective email listservs. Veterinarians were sent an individual electronic invitation requesting their participation in the study. A total of 148 veterinarians completed this survey.

Data Collection

The survey was conducted during the month of September 2016. Data were collected using Kansas State University's web-based survey software Qualtrics Online (Qualtrics 2015, Version 2417833, Provo, UT). Invited veterinarians received a URL to access the survey via an email invitation. There was no information requested in the survey that identified individual veterinary practitioners, making responses completely anonymous. Participating veterinarians had 4 wk to access and complete the survey after receiving the original email invitation with the URL. An email reminder to complete the survey was sent to participants once at 2 wk after the survey was available to them.

The survey was composed of 42 questions covering areas of vaccine protocol, health practices, and production practices for beef cow-calf operations. Several questions gave the respondent the option to choose "Other" as an answer and type their response in a blank space. These responses were also included in the analysis.

Data Analysis

Response data collected from this survey were downloaded from the web-based survey software into a Microsoft Excel (Microsoft, Redmond, WA) spreadsheet for summarization and descriptive analysis. Graphs, tables, number of respondents per question, frequency of responses per question, means, minimum values, and maximum values were calculated for all questions using Microsoft Excel. Not all respondents answered all questions; therefore, the number of total responses to each individual question was expressed as a percentage of the number of answers to that question out of total survey responses.

RESULTS AND DISCUSSION

The United States produced a total of 11.5 million tonnes of beef during 2016, making it the number one beef producer in the world (USDA, 2017a). Beef cattle operations represented a total of 93.6 million cattle as of January 1, 2017, in the United States (USDA, 2017b). In 2016 the calf crop in the United States was estimated at 35.1 million cattle, and all cows and heifers that have calved

represented 40.6 million cattle according to the 2016 USDA Cattle report (USDA, 2017c). Currently, there are less than 32 million head of beef cows widely dispersed throughout the United States on over 720,000 farms and ranches (USDA, 2017c).

The cow-calf operation is considered the first stage of the beef production process, and it takes slightly over 2 yr from the time cows and heifers are bred until their offspring are ready for slaughter (Comerford et al., 2013). As of 2012, there were almost 728,000 cow-calf operators in the United States according to the most recent Census of Agriculture (USDA, 2014). Although cow-calf operations are spread across the United States, the top 25 cow-calf operations during 2015, ranked by number of cows, were located in Florida, Texas, Wyoming, California, Hawaii, Idaho, Kansas, Missouri, and New Mexico (NCBA, 2015). Texas was the state with the greatest number of beef cows and calves under 205 kg and the largest calf crop (4.5, 2.0, and 4.3 million, respectively; USDA, 2017c) for 2016; however, 9 out of the top 25 cow-calf operators in the country were in Florida during 2015 (NCBA, 2015).

An increase in preventative healthcare and management measures among beef cow-calf operations in the United States has been the result of an integrated proposal that advocates to improve health, performance, and profitability for the beef industry. These recommended programs, commonly referred to as preconditioning or backgrounding, focus on optimal cow herd nutrition and health, early castration and dehorning, anthelmintic treatment, proper and timely vaccinations for calves, and the weaning of calves 30 to 45 d before shipping (Kirkpatrick et al., 2008). Preventative programs that reduce compounded stress have been shown to reduce incidence of bovine respiratory disease (BRD) in the feedlot (Cole et al., 1979; Roeber et al., 2001) and improve ADG in the preconditioning period (Bolte et al., 2009) and the finishing phase (Peterson et al., 1989).

Demographic Information

Table 1 provides general information and demographics of participating veterinary practitioners including states where they practice, proportion of their practice dedicated to cow-calf producers, years in practice, and number of beef cows serviced. A total of 148 veterinary practitioners responded to the survey, with most participants providing a response to the majority of questions. Responding veterinarians represented 35 states in the United States and 3 provinces in Canada. In the United States, 11% of veterinarians practiced in Kansas; 10% in Nebraska and Iowa; 6% in Oklahoma and South Dakota; and 5% in Missouri, Minnesota, and Texas (the remaining states represented less than 5% of total responses). In Canada, veterinarians practiced in Alberta, Ontario, and Quebec, but these represented less than 5% of the total response.

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