

A survey of dairy cattle veterinarians' perspectives on timely management and euthanasia for common adult cow conditions

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Introduction

Timely euthanasia of compromised animals on dairy farms can reduce the poor welfare outcomes when recovery is prolonged or impossible. However, little to now research exists regarding euthanasia decision-making. The veterinarian is often involved in euthanasia decision-making, but it is not clear if there is consensus amongst dairy veterinarians on which conditions warrant euthanasia or appropriate timelines. The objectives of this study were 1) to determine dairy veterinarians' perspectives on euthanasia decisions in response to 13 common adult cow conditions, 2) to assess preferred timelines for euthanasia for each condition, and 3) determine if gender or age of the veterinarians influenced their decision-making.

Materials and Methods

We requested that veterinarians complete an online survey using an email invitation sent to the American Association of Bovine Practitioners list-serve. Participants were provided a series of 13 common conditions in adult cattle and were asked to choose one of 4 options for each condition: "euthanize immediately", "treat and monitor for signs of improvement", "cull/sell for beef", or "n/a". If veterinarians selected "treat and monitor", a follow-up question was asked: "how many days are you willing to give the animal to improve until you decide that euthanasia is the best option?". The proportion of respondents that selected each option was determined using PROC FREQ in SAS. Associations between age, gender, and the number of days that participants reported waiting to euthanize were analyzed using PROC NPAR1WAY in SAS.

Results

Eighty veterinarians completed the survey (n = 43 female; n = 35 male; n = 2 declined to respond to this question). Fifty-four percent (33/61) responded that "euthanize immediately" was the best option for a non-ambulatory adult cow. "Cull or sell for beef" was the most common response for Johne's (93%; 56/60) and Bovine Leukosis (51%; 31/61). "Treat and monitor for signs of improvement" was the most

common response for the following cow conditions: ketosis (100%; 59/59), pneumonia (97%; 57/61), bloat (95%; 62/65), complications from calving (95%; 57/60), diarrhea (95%; 59/62), toxic mastitis (95%; 57/60), traumatic injury (72%; 44/61), nervous system disorder (67%; 41/61), severe lameness (63%; 40/63), and cancer eye (40%; 24/60).

The number of days reported (median, min-max) until euthanasia was deemed the best option were as follows: Bovine Leukosis (24, 24-24), Johne's (24, 24-24), cancer eye (17, 3-60), ketosis (7, 1-24), diarrhea (5, 2-21), pneumonia (5, 1-14), severe lameness (5, 1-30), bloat (3, 1-7), complications from calving (3, 1-30), nervous system disorder (3, 1-14), non-ambulatory (3; 1-7), toxic mastitis (3, 1-20), traumatic injury (3, 1-14).

Age of the respondent (37.5, 25-73) was not associated with the number of days reported until euthanasia was deemed the best option for any condition ($P > 0.13$). Female respondents (n = 15) reported a greater number of days compared to male respondents for cows with diarrhea (7, 3-10 versus 5, 2.5-7; $P = 0.02$) and cows that were non-ambulatory (3, 2-14 versus 2, 1-3; $P = 0.01$).

Significance

Veterinarians generally agreed upon management decisions for most conditions. However, the wide range of responses for euthanasia timelines make it difficult to establish recommendations for the industry and can potentially lead to poor animal welfare. Furthermore, the wide range may indicate a lack of consensus among veterinarians for acceptable euthanasia timelines. For most conditions, gender and age did not explain the variation in the number of days reported waiting until euthanasia was deemed the best option. Our next step to further understand veterinarian decision-making is to examine the intersectionality of demographic factors as well as the importance of clinical signs to determine what drives the wide variation in responses regarding euthanasia decision-making.