**Calf management practices and associations with herd-level morbidity and mortality on beef cow-calf operations**

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**Supplementary Table 1** *Distribution of calving management practices on cow-calf operations.*

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| --- | --- |
| Calving Management | Percent of Survey Respondents (n/N) |
| *Frequency of Intervention* |  |
|  Never | 1.2 (3/254) |
|  Rarely | 52.0 (132/254) |
|  Occasionally | 43.3 (110/254) |
|  Frequently | 2.4 (6/254) |
|  Always | 1.2 (3/254) |
| *Call a Veterinarian* |  |
|  Discover something abnormal | 2.4 (6/248) |
|  Cannot correct on own | 64.5 (160/248) |
|  Only if surgery is needed | 27.0 (67/248) |
|  Do not call a vet | 6.0 (15/248) |
|  Other | 1.6 (4/248) |
| *Calf Resuscitation Techniques* |  |
|  Straw in nose | 89.4 (228/255) |
|  Cold water in ear | 8.6 (22/255) |
|  Suspend by hind end | 57.4 (147/256) |
|  Rub vigorously | 81.6 (208/255) |
| *Administer at Calving* |  |
|  Lidocaine epidural to cow | 6.1 (15/247) |
|  Non-steroidal anti-inflammatory drugs to cow | 15.0 (37/247) |
|  Non-steroidal anti-inflammatory drugs to calf | 13.0 (32/247) |
|  Vitamin/mineral injection to calf | 53.4 (132/247) |
|  Navel disinfectant | 16.6 (41/247) |
| *Record at Calving* |  |
|  Date of birth | 88.6 (226/255) |
|  Visual Identification | 76.6 (196/256) |
|  Calving score | 71.9 (184/256) |
|  Birth weight | 36.7 (94/256) |
|  Radio frequency identification | 33.6 (86/256) |
|  Cow teat & udder score | 25.0 (64/256) |
|  Other | 26.2 (67/256) |
|  Do not record anything at calving | 8.2 (21/256) |
| *Method of Measuring Birth Weight* |  |
|  Scale | 58.1 (54/93) |
|  Weight tape | 11.8 (11/93) |
|  Estimate | 48.4 (45/93) |
| *Record Calving Information* |  |
|  In notebook or on paper | 66.1 (166/251) |
|  On paper then entered into computer | 24.3 (61/251) |
|  Directly on smartphone or electronic device | 2.8 (7/251) |
|  Do not record anything | 6.8 (17/251) |

**SupplementaryTable 2** *Distribution of colostrum management practices on cow-calf operations.*

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| Colostrum Management | Percent Survey Respondents (n/N) |
| *Verify Colostrum Consumption* |   |
|  Saw calf suck | 86.7 (221/255) |
|  Udder not full | 79.6 (203/255) |
|  Calf full | 49.8 (127/255) |
|  Other | 11.8 (30/255) |
|  Do not check | 3.1 (8/255) |
| *Reasons to Intervene Colostrum Consumption* |   |
|  No suck/not enough | 86.1 (217/252) |
|  Assisted calving | 44.8 (113/252) |
|  Weak/slow calf | 84.5 (213/252) |
|  Sick cow | 40.5 (102/252) |
|  Cow behaviour | 57.5 (145/252) |
|  Abnormal udder/teats | 57.5 (145/252) |
|  Abnormal colostrum | 11.5 (29/252) |
|  Do not intervene | 1.2 (3/252) |
|  Other | 4.4 (11/252) |
| *First Choice Source of Colostrum* |  |
|  Dam | 68.7 (167/243) |
|  Replacer | 12.8 (31/243) |
|  Supplement | 8.6 (21/243) |
|  Dairy | 6.2 (15/243) |
|  Frozen (own) | 2.9 (7/243) |
|  Frozen (other) | 0.8 (2/243) |
| *Second Choice Source of Colostrum* |   |
|  Dam | 19.1 (41/215) |
|  Replacer | 9.8 (21/215) |
|  Supplement | 7.4 (16/215) |
|  Dairy | 4.7 (10/215) |
|  Frozen (own) | 19.1 (41/215) |
|  Frozen (other) | 2.3 (5/215) |
|  Multiple sources | 8.4 (18/215) |

**Supplementary Table 3** *Distribution of other management practices, including castration preconditioning, on cow-calf operations.*

|  |  |
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| Other Management | Percent Survey Respondents (n/N) |
| *Castration* |   |
|  Yes | 98.8 (250/253) |
| *Method of Castration* |   |
|  Small elastrator band | 70 (175/250) |
|  Large Callicrate™ band | 13.2 (33/250) |
|  Surgical knife | 39.2 (98/250) |
|  Crush cord with Burdizzo | 7.6 (19/250) |
| *Pain Medication at Castration* |   |
|  Yes | 4.4 (11/250) |
| *Type of Medication* |   |
|  Lidocaine | 27.3 (3/11) |
|  Meloxicam | 36.4 (4/11) |
|  Other | 45.5 (5/11) |
| *Precondition Before Sale* |   |
|  Yes | 65.5 (156/238) |
| *Type of Preconditioning* |   |
|  Pre-vaccinate | 92.9 (145/156) |
|  Pre-wean | 42.9 (67/156) |
|  Train to use feed bunk | 42.3 (66/156) |
|  Other | 5.1 (8/156) |
| *Time of Pre-vaccination* |   |
|  Birth | 12.0 (17/142) |
|  Spring turn-out | 90.1 (128/142) |
|  >2 weeks before sale | 35.2 (50/142) |
|  Other | 19.0 (27/142) |
| *Consider Preconditioning in the Future* |   |
|  Yes | 44.6 (37/83) |
| *Reasons to Start Preconditioning* |   |
|  Economic incentives | 34.9 (29/83) |
|  Facilities at my operation | 18.1 (15/83) |
|  Proof of effectiveness | 16.9 (14/83) |
|  Retaining ownership of calves | 12.0 (10/83) |