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Fresh cow health issues

Abstract

The post-calving period is a critical time in a cow's life. The first few weeks post-calving pose the highest risk period for a number of diseases including milk fever, mastitis, metritis, pneumonia, retained fetal membranes, ketosis, and displaced abomasum. Post-calving diseases adversely affect dry matter intake, peak milk production, and reproductive performance, in addition to increasing the risk of involuntary culling and death. Consequences of disease can be costly. The ideal strategy is to minimize losses associated with disease by preventing their occurrence. However, even with the best management practices in place, it is impossible to prevent all post-calving diseases. For cows that develop post-calving diseases, the challenge is to minimize losses by developing a strategy to identify them as early as possible, implementing effective treatment protocols, evaluating effectiveness of those protocols, and tracking incidence so preventive practices can be re-evaluated when the incidence exceeds a threshold level for an individual disease. A "fresh cow program" is an effective approach to systematically managing post-calving disease by close daily observation of cows during the first 10 to 14 days after calving. By conducting a brief, but systematic physical examination, including monitoring body temperature, disease can be identified as soon as possible and treatment protocols implemented. This approach minimizes losses associated with post-calving disease.; Dairy Day, 2003, Kansas State University, Manhattan, KS, 2003;

Keywords

Diary Day, 2003; Kansas Agricultural Experiment Station contribution; no. 04-129-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 919; Dairy; Fresh cows; Health; Disease

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FRESH COW HEALTH ISSUES

Jerry D. Olson¹, DVM, MS, DACT

Summary

The post-calving period is a critical time in a cow's life. The first few weeks post-calving pose the highest risk period for a number of diseases including milk fever, mastitis, metritis, pneumonia, retained fetal membranes, ketosis, and displaced abomasum. Post-calving diseases adversely affect dry matter intake, peak milk production, and reproductive performance, in addition to increasing the risk of involuntary culling and death. Consequences of disease can be costly. The ideal strategy is to minimize losses associated with disease by preventing their occurrence. However, even with the best management practices in place, it is impossible to prevent all post-calving diseases. For cows that develop post-calving diseases, the challenge is to minimize losses by developing a strategy to identify them as early as possible, implementing effective treatment protocols, evaluating effectiveness of those protocols, and tracking incidence so preventive practices can be re-evaluated when the incidence exceeds a threshold level for an individual disease. A "fresh cow program" is an effective approach to systematically managing post-calving disease by close daily observation of cows during the first 10 to 14 days after calving. By conducting a brief, but systematic physical examination, including monitoring body temperature, disease can be identified as soon as possible and treatment protocols implemented. This approach minimizes

losses associated with post-calving disease.

(Key Words: Fresh Cows, Health, Disease)

Fresh Cow Monitoring Program

The first requirement for a successful fresh cow program is facilities that allow quick and easy examination of individual cows. Such facilities are dedicated to cows that have recently freshened and have sufficient space for the number of cows that freshen during a 3-week period. Stocking rate for this pen should never exceed 90% of the number of feeding spaces, especially if fresh heifers and cows are commingled. Fresh cows are the most sensitive to consequences of over-crowding, and one of the most common consequences of over-stocking is an increase in the incidence of displaced abomasums. Self-locking stanchions are critical to facilitate quick and easy access to the cows for examination. In addition to improving labor efficiency, it is important to minimize the amount of time cows are confined to the lock-ins for examination.

Systematic Examination of Fresh Cows

Veterinarians are a great resource in designing monitoring programs and assisting in training personnel to implement these programs. A key component is daily monitoring

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of fresh cows for fevers. The most common disease of fresh cows is metritis. Fresh cows, especially those that have retained fetal membranes, are at high risk for developing metritis. If cows with metritis are not identified early and treated effectively, metritis can cause cows to go “off-feed” and potentially develop secondary problems such as ketosis and displaced abomasums (DA’s).

Electronic thermometers are extremely helpful in improving efficiency. They allow for quick and accurate monitoring of body temperatures, especially when large numbers of fresh cows must be examined. The temperature of a fresh cow can be accurately obtained within 15 to 20 seconds with an electronic thermometer.

The 20 seconds spent “temping” a cow can be put to productive use by observing it for signs of post-calving diseases. Coordinate the exam by first having someone walk in front of the cows to identify those that aren’t eating and “flag” them so the person taking temperatures knows that these cows need to be examined more closely.

The person taking the temperature should have a mental check-list for an examination. Observe the cow for carriage of the ears. Failure to carry the ears erect is an indication that the cow is not feeling well and likely has some disease process. Observe the rate and character of respiration. An increase in respiratory rate can be an indication of heat stress, fever, or pneumonia. When a cow has an increased respiratory rate, she should be examined further to determine its likely cause. Each cow should be observed for the presence of vaginal discharge. If there is discharge, it should be noted for character and odor. Foul smelling vaginal discharge is an indication of metritis. The udder should be observed for swelling and asymmetry. Asymmetrical swelling is an indication of mastitis, and cows should be ex-

amined closely to determine if clinical mastitis is present. The cow should be observed for rumen fill. Lack of rumen fill indicates the cow is “off-feed,” and space between the last rib and rumen may indicate a DA. Cows that are off-feed, but have normal temperatures, should have their urine checked for ketones.

If a cow has a fever, the cause of the fever should be determined. The primary causes of fevers in fresh cows are metritis, mastitis, and pneumonia. All observations must be evaluated and used to derive a diagnosis. Once a diagnosis has been made, the next step is to assign a treatment protocol.

Treatment Protocols

Treatment protocols need to be developed in consultation with your veterinarian. Your veterinarian understands treatment alternatives, guidelines set forth in the Animal Medical Drug Use Clarification Act (AMDUCA), and the needs of your dairy. Treatment protocols should use products with label indications for a specific disease before products are used in an extra-label manner. Treatment protocols that outline a consistent course of therapy for a specific disease are important for several reasons: It is difficult to evaluate treatment protocols that are inconsistent from cow to cow. If two or more people are involved in the treatment of fresh cows, and if there aren’t specific treatment protocols for a disease, it will be impossible for cows to receive a consistent course of therapy. Once a cow is enrolled in treatment, it is important that she complete that therapy, even if someone has a day off and another person is responsible for continuing treatment. This means that some form of record is available to indicate her treatment protocol and the number of days she has been treated.

Metritis, the most common disease of post-calving cows, is a bacterial infection of the uterus. Excenel® is an antibiotic that has a label indication for the treatment of metritis and has been demonstrated to be effective in field trials. Excenel® has a zero-hour milk withholding, so the cow does not need to be moved a hospital string to prevent antibiotic residue in the bulk milk. Intrauterine therapy of cows with metritis once was a common treatment. However, its use has declined in the dairy industry because of uterine abscesses and peritonitis frequently observed following improper treatment technique.

Record Systems

Record systems are variable, but they should fulfill the needs of the dairy. Some of the goals of a record system include identifying cows that are being treated, means of tracking the course of therapy, a system for evaluating the response to a treatment regimen, means of assuring appropriate withholding times for milk and slaughter (when cows have been treated with drugs requiring milk and slaughter withholding times), and means of determining the incidence of fresh-cow disease. The record systems for tracking individual cow treatments can consist of colored

chalk marks on the back of the cow indicating the treatment status, paper records on a clipboard, electronic records on a Personal Digital Assistants (PDA)/Palm Pilots and/or electronic dairy management programs on computers in the fresh cow pen.

In addition to tracking the treatment of individual cows, record data should be summarized each month to assess the incidence of fresh-cow disease. The minimum for monitoring post-calving diseases should be a “quick and dirty” estimation of the incidence of a disease. This can be done by dividing the number of cases of post-calving disease by the number of cows that freshened in the past month. These numbers become the basis for establishing a benchmark for the incidence of post-calving disease in the dairy. This information can be used to inform your veterinarian and nutritionist on the status of the fresh cow program. The number of cows that either die or are culled in the first 60 days of lactation should be tracked. It is currently estimated that 25% of the cows that leave the herds do so in the first 60 days of lactation. This number tells us there is an opportunity to improve transition cow management and fresh cows programs as an industry.

Table 1. Post-Calving Health Disorders on Dry Matter Intake (DMI) and Milk Production

	Health Problem			
	None	One*	RP/MET**	DA/KET***
No. of cows	22	24	10	13
DMI, lb/day	39.2	30.6	30.6	27.3
Milk, lb/day	57.9	55.7	55.0	73.7
305-ME milk, lb	20,780	19,738	19,622	18,901
Wt. loss, lbs	74.8	103.4	85.8	118.8

*Experienced at least one adverse health event.

**Retained fetal membranes and metritis.

***Displaced abomasums and ketosis.

Adapted from presentations by Dr. Dick Wallace, University of Illinois.