

VA 23237). A case of RP was defined as fetal membrane retention beyond 24 h postpartum.

A logistic regression model was formulated using a "step-down" technique. Lactation number, days from parturition at the time of sampling, twin or single birth, and plasma NEFA concentration were the initial independent variables. Variables were eliminated from the model when *p* values were greater than 0.25.

Results

Of 88 animals sampled, six calved with twins and nine developed RP. The mean (\pm standard error) days from blood collection until calving was 3.8 ± 0.3 and the mean plasma NEFA concentration was $.38 \pm .03$ mEq/L. Plasma NEFA concentration and days from blood collection until calving were not correlated ($p > .05$). The mean plasma NEFA for cows with RP and without RP was $0.55 \pm .11$ and $0.36 \pm .03$ mEq/L, respectively. The independent variables remaining in the multivariate model were twins ($p = .02$) and plasma NEFA concentration ($p = .07$). The odds ratio estimates for the effect of twins (single vs. twin birth) and plasma NEFA concen-

tration on the risk of RP were 0.1 and 10.3, respectively. This suggests that cows calving with a single birth are one-tenth as likely to retain their placenta as are cows calving with twins. Furthermore, it suggests that with an incremental increase of 1.0 mEq/L in plasma NEFA, the risk of RP is increased by approximately tenfold.

Conclusion

Monitoring plasma NEFA concentrations in a portion of late-gestation cows may be a practical means of detecting increased risk of RP in dairy herds. Increasing plasma NEFA concentrations indicate a negative energy balance. Thus, adjusting feed intake, or ration energy density, in response to increasing NEFA concentrations in dry cows may in some cases be a practical means of reducing RP incidence.

References

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3. Kaneene JB, Miller RA, Herdt TH, *et al*: *Preventive Veterinary Medicine* 1141:1-14, 1997.

Homoeopathic Remedies in the Treatment of Mastitis: Preliminary Results of a Positive Control Study and Review of Alternative Therapies

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Introduction

There is an increasing demand for organic produce worldwide. In the United Kingdom, the organic food sector shows a growth in retail sale values of approximately 40% per year. Currently, there are about 150 organic dairy farms, with organic milk production predicted to reach 150 million litres in 2003.² Mastitis affects organically managed cattle to the same degree as conventionally farmed cows, and has been identified as a major concern in organic dairy herds.¹ Use of antibiotics for the treatment of sick animals is allowed under organic

regulations, but milk and meat withholding periods are extended. In addition, the routine or continued use of antibiotics is prohibited.

Homoeopathy was found to be the main alternative to antibiotics for mastitis treatment in the Hovi and Roderick¹ study. However, existing data on the efficacy of alternative therapies is deficient. The current study at Cambridge University aims to establish the efficacy of a commonly used homoeopathic remedy for the treatment of clinical mastitis by comparing it with intramammary antibiotic therapy.

Materials and Methods

Cows suffering from clinical mastitis are randomly allocated to either intramammary antibiotics, or mucosal application of a homoeopathic remedy (SSC 30c – a combination of sulphur, silica and carbo vegetabilis). Clinical parameters are recorded daily until clinical evidence of mastitis is absent. Changes in somatic cell count and milk production are recorded, and repeated milk culture is used to establish a bacteriological cure. Time to recovery, milk yield, reduction in somatic cell count and success in achieving a bacteriological cure will be compared for the two treatments.

Summary

The presentation will give preliminary results of this study and a review of alternative mastitis therapies.

References

1. Hovi M, Roderick S: An investigation of the incidence, treatment strategies and financial implications of mastitis in organic and conventionally managed UK dairy herds. An attachment to a Scientific Report to the Ministry of Agriculture, Fisheries and Food (MAFF), 1999.
2. Soil Association: The organic food and farming report 1998. Soil Association, Bristol, UK, 1998.

Effects of Endometritis at the Beginning of the Breeding Period on Reproductive Performance in Dairy Cows

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Introduction

Diagnosis of bovine endometritis by traditional methods, such as rectal palpation or observation of vaginal discharge, is subjective and lacks sensitivity. However, the value of endometrial cytology in diagnosis of bovine endometritis has been established. The objective of this study was to determine the effect of endometritis, diagnosed by endometrial cytology, on reproductive performance in dairy cows.

Materials and Methods

Uterine endometrial samples were collected via uterine lavage on 115 Holstein cows at the beginning of the breeding period (54 to 60 days in milk (DIM)). Uterine lavage was performed by inserting a catheter into the body of the uterus, via the cervix, and infusing 40 ml of sterile saline into the uterine body. The lavage fluid was agitated—forcing the saline into the uterine horns—and aspirated from the uterus. The uterine lavage fluids were centrifuged, and a thin-layer smear was made from cells from the uterine lavage and stained with Diff-Quick (Dade Diagnostics) and examined un-

der microscope. Cows were assigned to one of four endometritis classifications based on number of neutrophils per high power field (HPF). Endometritis classifications were as follows: endometritis negative (1 neutrophil/HPF), mild endometritis (1-2 neutrophils/HPF), moderate endometritis (3-7 neutrophils/HPF), and severe endometritis (8 neutrophils/HPF). The effect of endometritis at the beginning of the breeding period on first service CR was analyzed using logistic regression. Ease of calving, periparturient disease, ECM, artificial insemination technician and parity were assessed as potential confounding variables. The final logistic regression model for first service CR included parity and endometritis classification. Effects of endometritis at the beginning of the breeding period were evaluated by estimate of odds ratios and p values.

Results and Conclusions

Some 52% (60/115) of cows were classified positive for endometritis. For cows with endometritis, 23% (27/115) had mild endometritis, 19% (22/115) had moderate endometritis, and 10% (11/115) had severe endometritis. For all cows, first-service CR was 50% (57/115). First-