all isolated viruses was determined by reverse transcriptase polymarase chain reaction (PCR).

Results and Discussion

Four herds were classified as infected with BVDV based on serological evaluation of five sentinel heifers. Virus was isolated from at least one animal in each of these herds. BVDV was isolated from two herds that were classified as not infected with BVDV by serological evaluation of five sentinel heifers. These data are summarized in the table below. Based on the data, a sensitivity of 66% and a specificity of 100% was obtained when using BVDV titers in five sentinel heifers for predicting the presence of BVDV in a herd. In the BVDV-positive herds, the genotype of the virus isolated corresponded to the type of antibody titers that were highest in the sentinel heifers from that same herd.

The two herds in which BVDV was isolated in spite of a negative serological evaluation were unique cases. In one herd, a single PI was identified that was only 3 months of age and had not had contact with the sentinel group. In the other herd, an age cohort of PI calves (who did not have BVDV titers) was identified, and three of those were randomly selected for serological analysis. To avoid this problem, IPMA can be run in parallel with the serum neutralization test in the sentinel heifers to identify PI cattle in this group.

Table 1. Results of serum neutralizing antibody titers on random heifers vs whole-herd virus isolation by IPMA in 14 Michigan dairy herds.

	Herd IPMA	
	Positive (N=6)	Negative (N=8)
SN positive	4	0
SN negative	2	8

Conclusion

Serological analysis of sentinel heifers 6-12 months of age is a quick, accurate and inexpensive method for identifying herds infected with BVDV prior to whole herd-screening. The sensitivity of this method can be further improved by running IPMA in parallel with virus neutralization to avoid possible false negatives from the inclusion of PI calves in the sentinel group. Moreover, the genotype of the virus infecting the herd can also be determined using this method and may be valuable in developing vaccination protocols.

Jejunal Hemorrhage Syndrome of Dairy Cattle

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Abstract

In recent years veterinary practitioners have begun to report a peracute, segmental hemorrhagic enteritis in mature dairy cattle with increased frequency. Frequently the producer will see no prodromal signs and witness a sudden death, or find an individual that is down and in systemic collapse. Clinical signs include sternal recumbency, sweats, enophthalmia and signs of shock. Ballotment of the standing cow in the lower right abdomen can elicit a pronounced fluid slosh due to the backup of ingesta and fluid behind the occlusive lesion. Signs of abdominal pain include bruxism, vocalization, treading and kicking at the abdomen.

Based on practitioner and producer reports from Northeastern Iowa, Southeastern Minnesota and Southwestern Wisconsin, as well as reports from across the nation during 1999, clinicians at Iowa State University have begun to suspect that Jejunal Hemorrhage Syndrome (JHS) is a potential new emerging disease syn-

drome. Presentation of this disease has been sporadic in morbidity, with mortality of affected animals approaching 85-100% due to its peracute nature and severity.

The Veterinary Diagnostic and Production Animal Medicine Department of the Iowa State University College of Veterinary Medicine received a call from a Northeastern Iowa veterinarian in April 1999 to investigate recurring sporadic peracute death losses. Examination of production records, rations and post-mortem results led investigators to conclude that a variant of *Clostridium perfringens*, specifically type A should be considered as a possible agent in the presentation of this disease syndrome. Evidence is presented for incrimination of *Clostridium perfringens* type A, including isolation from clinical cases and feed.

Recommendations for investigation of a problem herd are discussed. Our findings suggest that the historical increases in milk production associated with the dairy industry's increases in ration density, as well as overt contamination of haylage, may be creating a new "niche" opportunity for an organism previously considered non-pathogenic.

Field Trial of Intrauterine Antibiotic or Prostaglandin for Treatment of Clinical Endometritis in Dairy Cows

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Introduction

Endometritis is a localized inflammation and/or infection of the uterus characterized by sub-involution of the uterus, and associated with chronic bacterial uterine infection and purulent uterine discharge. Diagnosis and treatment of endometritis are a source of controversy, fueled by a lack of large-scale clinical trials with an objective case definition and economically meaningful outcomes. The objective of this study was to compare the effect on reproductive performance of two common approaches to the treatment of endometritis.

Materials and Methods

On 28 farms, 1910 cows were routinely examined once between 20-33 days in milk (DIM). Every cow received a vaginoscopic examination, followed by rectal palpation of the reproductive tract for collection of objective data. Endometritis was diagnosed on the basis of vaginoscopy (clinical case=visible mucopurulent or purulent discharge), and cows were randomly assigned to receive one intrauterine infusion of antibiotic (cephapirin benzathine, Metricure®); one injection of prostaglandin F2α (cloprostenol, Estrumate®); or no treatment. Survival analysis was used to model time-to-pregnancy for all cows, accounting for cows that failed to become pregnant.

Results and Conclusions

Among examined animals, 391 cows (21%) had visible purulent discharge that significantly increased time to pregnancy relative to normal cows. The effect of treatment depended on DIM and presence of a corpus luteum (CL) at treatment. Between 20 - 26 DIM, neither treatment was able to mitigate the effect of endometritis. In cows with endometritis that had a palpable CL, there was no difference in time to pregnancy between those treated by infusion and those treated with prostaglandin. Between 27 - 33 DIM, cows with endometritis treated with Metricure tended to have a higher pregnancy rate than untreated controls. The difference in pregnancy rate between cows treated by infusion and cows treated with prostaglandin was not statistically significant. Selection of therapy for endometritis should be based on cost, DIM, and assessment of cyclicity. Examination and treatment for endometritis should not begin until four weeks postpartum to allow spontaneous resolution to occur.