Treatment Considerations Offered For Bovine Uterine Infections

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STATE COLLEGE (Centre Co.) — Uterine infection is a major problem on some dairy farms.

Cows with uterine infections generally have lower conception rates and more days open. There has been considerable debate about the appropriate treatment for uterine infection.

A multitude of antibiotics, disinfectants and hormones have been used to treat such infections. Some of these products have been shown to be ineffective, while others cause irritation, retard uterine defense mechanisms, and may damage the lining of the reproductive system.

The major uterine defense mechanism against bacterial infection is phagocytosis by leucocytes (white blood cells) within the uterus. Ovarian hormones influence the ability of the uterus to eliminate bacterial infection.

During the period when estrogen concentrations are elevated, uterine defense mechanisms are more effective, and thus the uterus is more resistant to infection. When a corpus luteum (CL) is present and progesterone dominates the reproductive system, the uterus is more susceptible to infection.

The optimal therapy for uterine infection would be a treatment that does not inhibit natural uterine defense mechanisms or cause adulteration of milk or meat, but eliminates pathogenic bacteria from the uterus.

Most antibiotics and disinfectants used for intrauterine therapy fail to meet some of these criteria.

Prostaglandin (PG) is an effective alternative to antibiotic treatment for most uterine infections. However, prostaglandin is a prescription drug, and treatment for uterine infection is considered an extra label use.

Justification for using PG is that it causes degeneration of the CL which lowers progesterone concentrations. Furthermore, once the CL degenerates, follicles continue development, and estrogen concentrations rise, uterine defense mechanisms are more effective, and smoother muscle contractions may expel uterine contaminants.

Will PG treatment be effective for uterine infections which occur in the early postpartum period prior to formation of the first CL?

Although a few trials have noted some benefits of PG treatment in non-cycling cattle during the early postpartum period, the results are not as convincing as using PG for infected cows known to be cycling.

Based on the results of several field studies, the therapeutic use of PG consistently shows recovery and fertility rates equal to intrauterine antibacterial therapy. Furthermore, there is no potential milk residue problem.

However, when cattle are severely ill with metritis, more extensive veterinary therapy is required.

Determining Lifetime Profitability

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STATE COLLEGE (Centre Co.) — Several indexes designed to evaluate the lifetime production and profitability of a cow have surfaced in the past year, including the following:

1. *Genetic evaluation for herd life may soon be available from USDA-AIPL.* Herd life would be defined as "the cow's total months of production, with a limit of 10 months per lactation." No additional credit is given after a cow reaches seven years of age. Heritability would be set at 8.5 percent (versus 25 percent for milk yield). USDA-AIPL says that the estimated value of longevity could be included in total merit indexes such as production-type indexes or the USDA dollar value formula. Further research is needed to determine the value of herd life when other correlated traits such as udder height or somatic cell score are included in the index.

2. *Lifetime Profitability Ranking Dollars (LPR$)* is "the amount of profit over a cow's lifetime that you can expect from using a specific bull versus a breed average bull." Profit is measured as net income over a cow's lifetime and is based on herd life ratings which predict how many days of productive life a cow has in the herd after first calving. Combining herd life estimates with production traits of the daughters determines a sire's LPR$ index. The top eight sires from the AI unit using this index ranged in LPR$ from $169 to $192. Sires with the highest production values and the best type indexes on their progeny would obviously rank highest in such a system.

3. Canadian sires are ranked on a lifetime profitability index (LPI). The index includes fat and protein production as well as final classification, feet and leg, and mammary system scores. The LPI is calculated as:
LPI = 6(5F+6P) + 4(3FC + 4MS + 2FL + CAP) *(F=fat, P=protein, FC=final classification score, MS=mammary system, FL=feet and legs and CAP=capacity)*

The key question is, "Are lifetime indexes better indicators of a cow's productive efficiency and profitability than other presently used criteria such as total lifetime production and/or production per day of life?" Any individual or organization can construct an index of traits that they believe to be important to dairy cattle improvement. It is critical that the values (weights) assigned to the traits in an index are backed by adequate research data.

Tulpehocken YF Holds Anti-Theft Meeting

SHARTLESVILLE (Berks Co.) — The Young Farmers group of the Tulpehocken Area School District will present a program at 7 p.m. Monday, June 7, about protecting farm equipment and animals from theft.

The meeting is to be held at the Paul Zimmerman farm, located along Tulpehocken Road, west of Shartlesville.

Chris Williams, an agriculture instructor at the high school and advisor to the group said a state trooper from the Hamburg barracks will discuss how farmers can protect their equipment and livestock from thieves.

"Several farmers I work with have had their shops robbed," Williams said, adding that theives have and continue to steal from farmers.

The meeting is open to the public and is to be held in the barn at Zimmerman's farm. The farm is the first one on the left, when traveling west on Tulpehocken Road from Old Rt. 22.