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KANSAS DAIRY EXTENSION NEWS

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1994 K-STATE DAIRY DAY

Milk Quality Awards

Due October 17th

(Entry form enclosed)

1994 K-STATE DAIRY DAY REPORT OF PROGRESS - EXCERPTS

(The following excerpts are taken from papers to be presented at K-State Dairy Day and/or to be included in the annual Report of Progress. Copies of the report may be obtained at your County Extension Office).

RAISING DAIRY HEIFERS: A BUSINESS

by J.L. Morrill

On many dairy farms, improvement is needed in raising replacement heifers, especially in providing proper nutrition and management to allow for freshening at 23 to 24 mo of age at a desirable size. With larger herds, there is a trend toward more specialization, which may (but may not) result in more attention to, or responsibility for, proper care and management of the heifer. In some cases, the heifers are raised by a person at a location away from the dairy farm on which they originated, and contract raising of dairy replacements has several potential advantages and disadvantages. These are discussed in this paper, along with the results that should be expected and some of the types of programs and typical charges when heifers are raised on contract.

STRATEGIES FOR SMALL DAIRY FARMERS TO BE PROFITABLE AND COMPETITIVE IN THE FUTURE

by B.A. Cropp

Profitable dairying will not become any easier in the future. Farm level milk prices will continue to be volatile. The government will not provide additional price or income support to dairies. Long-run milk prices will be either flat or perhaps even trending slightly lower. Average annual milk prices will be in the range of \$12.00 to \$13.25 per hundred-weight. Dairy producers must be able to generate adequate net income at these milk price levels. Smaller dairy operators need to find means of being cost competitive with the larger operators. Without question, smaller producers can be profitable in the decade ahead with proper changes. Not all profitable dairy operations will be those with at least 300 milk cows. There will be very profitable herds with 40, 50, 75, 100, and 150 cows. Even smaller herds will exist with substantial off-farm income or income from other farming enterprises.

USE OF GnRH AND PGF_{2α} FOR SYNCHRONIZED OVULATION AND FIXED-TIME INSEMINATIONS

by J.S. Stevenson and Y. Kobayashi

Holstein cows and virgin heifers were treated with GnRH and PGF_{2α} in a novel ovulation synchronization protocol, which involves one fixed-time insemination. One injection of GnRH is given on a Monday morning, followed in 7 days with an injection of PGF_{2α}. Approximately 32 hr later, ovulation is induced with a second injection of GnRH, and one insemination is made 18 hr later. Control cattle were

given one injection of PGF_{2α} and inseminated at estrus. Pregnancy rates measured between 28 and 35 days after insemination by ultrasonography were slightly, but not significantly, higher in controls (52.9%) than in the ovulation synchronization treatment (44.3%). This treatment may be particularly well suited to cows in which estrus is rarely observed, as well as for synchronizing first or repeat services.

STAGE OF LACTATION PROFILE REFLECTS NUTRITION AND MANAGEMENT

by J.R. Dunham

The Stage of Lactation Profile (SOLP) is a good estimate of the shape of the lactation curve for dairy herds. The SOLPs for herds with various milk production levels are somewhat similar. The rates of decline of all SOLPs are about the same. Therefore, the differences in production levels are about the same in late stages of lactation and in early lactation, regardless of production Rolling Herd Average (RHA). In addition, higher-producing herds have their highest level of production in the second stage of lactation (51 to 100 days in milk), whereas this occurs in the first stage of lactation (<50 days in milk) in lower-producing herds. Nutrition and management programs have a large impact on the early stages of lactation that affects the total lactation milk yield.

MANURE STORAGE STRUCTURES FOR SMALL DAIRIES

by J.P. Harner and J.P. Murphy

Kansas environmental regulations require dairy producers with more than 300 animal units (215 mature cows at 1,400 lb, or equivalent weight) to be able to store the manure scraped from freestalls, lots, alleys, and holding pens for 120 days. Many dairies are smaller than the size requiring mandatory registration. However, some are considered a potential environmental problem because of their location near streams or waterways and/or their management and application of manure and may require registration. The intent of the regulations is that manure be stored from December to March to avoid applying it onto frozen ground. Most dairies consider these prime months for manure application, but these are the least desirable from an environmental perspective. Manure applied to frozen ground is not absorbed, and, therefore, the nutrient value of the manure drains from the fields when snow melts or early spring rains are heavy. Three types of storage structures are described.

TIMELY UPDATE

RECORDS: KEY TO REPRO-FORMANCE

Having a good set of reproductive records (and using them!) is the key to keeping on top of reproductive problems in dairy herds. Long calving intervals are partially due to not breeding the cow back early on after calving. Normal cows are ready to conceive by 60 days after calving. Yet, the average interval to first breeding in Kansas is 89 days!

Also, how about cows not yet bred back but should be? While all production tested herds (DHIA) have records, higher producing herds have fewer cows open percentage-wise beyond 60 days after calving and especially 120 days. Surveys show that herds that use repro-records have considerably less reproductive loss. After all, cows that are open (but should be bred) are not sick or debilitated!

What kind of records should I have? The "what-and-when-to" records. Namely:

- Cows (and heifers) to calve
- Cows (and heifers) to breed
- Cows (and heifers) to Preg Check
- Cows (and heifers) to lead feed
- Cows to dry off

HEART-OF-AMERICA UPDATE

Currie is Prexy

At an organizational meeting in August, the directors of Heart-of-America Affiliate, selected Mike Currie, Gypsum, Kansas as president. George Phillips, Holton, also represents Kansas on the board of directors.

The laboratory will be located at the current Kansas DHIA site in Manhattan. Equipment from the Nebraska DHIA lab will be moved to Manhattan. Chosen to be the general manager was David W. Sukup who has been the general manager at Kansas DHIA since 1983.

Two additional employees will be added to the Manhattan staff. Kansas DHIA members will see little to no change in service or turn-around time. All local associations will convert to central management and continue to have control over field supervisors and establish supervisor testing fees.

The other states involved in Heart-of-America are North Dakota, South Dakota, Nebraska, Oklahoma and Arkansas. The board of directors will consist of two producers each from South Dakota, Nebraska and Kansas and one each from the other states. In the future, directors will be nominated at district caucusses within the state and elected by mail-in ballot by all members.

INFECTION MAIN IMPACT ON SCC

The major factor affecting somatic cell count (SCC) in milk is an intramammary infection. Other factors are often implicated when SCC increases. However, few have a significant impact.

Because marked increases in SCC are a result of cells being attracted to mammary tissue in response to the mediators produced during a local infection, events that do not affect udder health are unlikely to have a direct or dramatic effect on SCC. Little evidence exists that any factor other than normal diurnal variation has a major influence on SCC in the absence of intramammary infection.

National Mastitis Council Regional Meeting Proceedings (1994).

GOALS FOR PREMILKING COW PREP

- ▶ Reduce excessive use of water
- ▶ Increase milker's ability to target the teat with the pre-dip
- ▶ Use a sanitizer that results in quick kill of bacteria but does not adulterate milk
- ▶ Result in milk letdown stimulation (15-20 sec)
- ▶ Remove all organic matter from teat surface
- ▶ Minimize milking routine variability between milkers
- ▶ Not slow down milking

National Mastitis Council Regional Meeting Proceedings (1994).

HANDLIN' RETAINS - DYSTOCIA

No subject will generate more discussion than how to handle retained placenta (afterbirth) and dystocia (difficult delivery). A recent study at the University of Florida dealing with 445 cows who had retained afterbirth and/or dystocia was unique in that the comparison included an abnormal as well as a normal control group. Treatments included GnRH (gonadotropic releasing hormone) at Day 12 only and GnRH on Day 12 followed with PGF_{2α} (prostaglandin) on Day 26. Another group received PGF_{2α} on Day 12 and Day 26. While most reproductive measures of fertility were similar for all groups, the PGF_{2α} (12 + 26 day) group had a significant improvement in first service conception rate to AI and some improvement in services per conception and days open. When comparing the abnormal controls (affected cows) with normal cows (no problems) there were no differences in the reproductive traits measured.

J. Dairy Sci. 77:2562, 1994.

NON-ANTIBIOTIC MASTITIS PROGRAM

The Kellogg Farm, Michigan State University, Hickory Corners, MI, initiated a non-antibiotic treatment program for clinical mastitis in 1990 (All quarters are dry cow treated). The predominant mastitic pathogens at that time were the "environmentals" usually Strep. uberis or E. coli, and almost never Staph. aureus.

Mastitis was categorized into "mild" or "severe" clinicals based upon symptoms. Mild cases (few clots, no swelling or temperature) were injected with oxytocin (40 units) near the end of each milking until the symptoms disappeared. The success rate was about the same or better than with traditional antibiotic therapy.

Treatment of animals with severe, acute mastitis is more aggressive. The approach is to offer supportive therapy while the cow fights the infection. Frequent milking is advisable accompanied with oxytocin to remove endotoxins from the quarter(s). The cow is rehydrated by administering 1-2 liters of hypertonic saline (7.5% NaCl) intravenously as soon as the acute case is identified. Drinking water must be readily available. Aspirin and anti-inflammatory drugs are also administered. No antibiotics are used.

Summary: The predominant mastitis causing organisms at Kellogg Farm are of environmental origin. Acceptable clinical cure rates can be achieved under these conditions without the use of antibiotics. Most mild clinical cases will clinically cure spontaneously with complete and frequent milk out. More severe cases will respond favorable to supportive therapy that addresses the symptoms of the cow. The major benefit of both protocols is the elimination of potential antibiotic residues entering the bulk tank. The somatic cell count averages between 100,000 and 250,000 throughout the year.

National Mastitis Council Regional Meeting Proceedings, 1994.



Cooperative Extension Service

Extension Animal Sciences and Industry
Call Hall
Manhattan, Kansas 66506-1600
913-532-5654

Dear Producer:

This issue of KDEN covers the program for the 1994 edition of K-State Dairy Day. This event provides the dairy industry the opportunity to review research programs at K-State and address current issues facing the dairy producer. If you haven't already, why not complete the entry blank for the Milk Quality Awards Program. Deadline is Monday, October 17.

Sincerely,

Edward P. Call

James R. Dunham

Extension Specialist, Dairy Science

THE COVER

Robert Cropp, Director of the University of Wisconsin Center for Cooperatives, will be the afternoon featured speaker at the 1994 K-State Dairy Day, Friday, October 28. The complete program is contained in this newsletter. Dr. Cropp is well recognized in the United States as a dairy marketing and policy specialist. He will discuss the impact of NAFTA and GATT along with the 1995 Farm Bill. His primary concern is the strategies required for small dairy farmers to be profitable and competitive in the future.

The morning program will deal with the ever increasing interest in raising dairy heifers and steers. Both Dr. Morrill and Dr. Brandt have a real insight into rearing programs through their research trials at K-State. Another highlight of 1994 K-State Dairy Day is the milk quality awards program. An entry blank is contained in this newsletter. Entry deadline is Monday, October 17.

Plan to attend this year's Dairy Day and bring your neighbor, veterinarian and nutritionist.