

Reproductive Dairy Herd Health Program—Routine Examinations

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Improved selection and feeding have helped dairymen produce more milk. However, in many cases, net income (return) to the dairyman may not have increased with increased milk production due to not getting cows bred on time. To maximize income, cows should calve every 12 to 13 months.

Dairy Reproductive Records

What are the steps in developing a dairy reproductive program to obtain a 12 or 13 month calving interval? The first and most important step is to establish a lifetime record for each cow. These records are the animal's reproductive history. They will be the most valuable aid for the dairyman and veterinarian to predict future occurrences and treatments. UMC Guide No. 3010 "Reproductive Dairy Herd Health Program—Establishing A Record System," illustrates the procedures for developing a simple but thorough dairy reproductive record system.

Routine Veterinary Examinations

The second step in developing a dairy herd reproductive program is to establish routine veterinarian examinations of the reproductive tract of all nonpregnant cows. Establish the examination schedule in advance (for example, the second Tuesday morning or the third Wednesday afternoon of the month) so the dairyman and veterinarian can prepare for each visit. Scheduled examinations should be done monthly as a rule; however, larger herds (greater than 100 cows) may need more frequent visits, and smaller herds (less than 40 cows) may need less frequent visits. The scheduled visits by the veterinarian for reproductive examinations may result in a slightly higher total veterinary cost. However, the return per dollar spent on this program will be one of the largest of the dairy enterprise.

In addition to determining the time and day of the first examination, the dairyman and veterinarian should establish a schedule of fees and costs for his services and treatments. Neighboring dairymen may want to schedule herd examinations for the same day. In so doing, each dairyman may be able to reduce veterinary expense. This cost saving step must have the factors of two relatively close dairies with herd sizes not exceeding a veterinarian's daily work load.

Cows to be examined should be corralled prior to the veterinarian's visit for most efficient use of time. The animals' reproductive lifetime record and the monthly reproductive record for the interval following the last exam should be available for the veterinarian's observation.

The monthly reproductive records will provide the veterinarian with individual animal observations and incidents as determined by the dairyman. This monthly information, in addition to the cow's lifetime reproductive record, serves as a basis for determining extent and kind of treatment.

Animals To Be Examined

What cows should be examined by the veterinarian during the monthly visit? Animals falling in the following seven reproductive situations should be observed.¹

1. Cows that have had a retained placenta should have special attention. If a cow is still retaining the placenta after three to four days postpartum, the veterinarian should be consulted. Manual removal of the placenta should not be attempted. Cows should be examined one or two times prior to breeding to make sure that the uterus is free of apparent infection and returning to normal size.
2. Cows fresh 25 to 40 days should be examined prior to breeding to make sure that the reproductive tract is free of gross infection and undergoing involution at a normal rate. It is much easier to clear up a problem early and it is also less costly to the dairyman. There is a good deal of satisfaction in knowing that a cow is normal and ready to conceive on the first or second service. Furthermore, rectal palpation of the ovaries will indicate abnormal function (i.e., cystic ovaries) and an estimation of the time of next heat.
3. Cows with an abnormal discharge or cloudy discharge during heat should be examined to determine the source of infection and treated as indicated by the examination. A discharge with a strong odor or one that contains pus is always abnormal. It may be coming from either the uterus, cervix, vagina or all three areas. If the infection is not localized, it can spread to surrounding areas making treatment more expensive and prolonged. Similarly, cows having some type of abnormal reproductive event should also be examined. These would be cows following the occurrence of dystocia, abortions, mummified fetuses or even those females returning to heat following pregnancy diagnosis.
4. Cows with abnormal heats and heat cycles should be examined to determine the nature of the hormonal imbalance. Normal estrous cycles are generally 18 to 23 days. Abnormal estrus would be those females exhibiting too frequent heat or prolonged intervals between heats.
5. Cows not showing heat 45 to 60 days after calving should be examined so a normal cycle will be present at breeding time. These cows may not come into heat because their uterus contains several quarts of pus which has the same effect on the corpus luteum as a calf. Cystic ovaries frequently prevent cows from showing signs of heat at this time. Some researchers estimate that nearly 90% of cases of a reported anestrus

¹Profitable Reproduction in the High-Producing Herd, David A. Morrow, D.V.M., Michigan State University.

or failure to show heat, results from the failure of observation of heat or a failure of the cow to show symptoms of heat (see UMC Guide 3012 "Detecting Heat In Dairy Cows"). Whether the cow is cycling normally or not will be resolved by the examination.

6. Cows bred two to three times should be examined to determine the cause of the breeding difficulty.
7. Cows bred 35 to 60 days should be examined for pregnancy. Those done prior to this time should be repeated from 60 to 90 days. The reason for the second examination is that one cow in ten to fifteen will have an abortion during the first sixty days after breeding. Having a cow diagnosed pregnant at this time will permit the dairyman peace of mind concerning that cow. If she is not pregnant, it is much better to know it early when there is still time to work with the cow so that she will not have to be sent to slaughter because of an extended calving interval.

Following examination, the dairyman should enter all comments and treatments made by the veterinarian on each animal's lifetime reproductive records.

Remember, in evaluating a dairy reproductive program, the results may not be evident for six months to a year. The successful program will increase income through added milk and calf sales while reducing feed and replacement costs of the milking herd.

Cost Comparisons

The costs incurred by not maintaining a 12 or 13 month calving interval many times are not seen by the herd owner. Financial returns of two 60 cow herds with 16,000 pounds of milk lactation averages provide an example. Herd A had a 15 month calving interval with a conception rate of 2.3 services per conception. Herd B had a 13 month calving interval and 1.3 services per conception.

Added costs or decreased returns of herd A compared to herd B:

Annual Loss in Milk Sales

Herd B - $\frac{10.5 \text{ mo's in milk}}{13 \text{ mo. calving interval}} \times 100 = 80.7\%$ cows in milk
 16000# milk (lactation average) x 80.7% (% cows in milk) = 12,912# ave. annual milk production per cow

Herd A - $\frac{10.5 \text{ mo's in milk}}{15 \text{ mo. calving interval}} \times 100 = 70\%$ cows in milk
 16000# milk (lactation average) x 70% (% cows in milk) = 11,200# ave. annual milk production per cow

Difference - 12,912# - 11,200 = 1712# x .125 (\$12.50 cwt. for 3.5% B. F. milk) = \$219 (additional income/cow for herd B) x 60 (herd size) = \$12,840

Annual Loss in Calf Sales

Herd B - $\frac{12 \text{ mo's/year}}{13 \text{ month calving interval}} \times 100 = 92.3\%$ of herd calving annually
 60 (herd size) x 92.3% (% of cows calving annually) = 55.4 calves/year

Herd A - $\frac{12 \text{ mo's/year}}{15 \text{ month calving interval}} \times 100 = 80\%$ of herd calving annually
 60 (herd size) x 80% (% of cows calving annually) = 48 calves/year
 Difference in annual calf crop values 55.4 - 48 = 7.4 calves diff. x \$150 (calf value) = \$1,110

Dry Cow Maintenance Feed Costs:

Herd B - 100% - 80.7% (% cows in milk) = 19.3% (% of cows dry at all times)
 60 (herd size) x 19.3% (% of cows dry at all times) = 11.8 ave. no. cows dry at all times

Herd A - 100% - 70% (% cows in milk) = 30% (% of cows dry at all times).
 60 (herd size) x 30% (% cows dry at all times) = 18 ave. no. of cows dry at all times
 Difference - 18 dry cows - 11.8 dry cows = 6.2 more dry cows in herd A than herd B at all times.
 6.2 (addt. dry cows in herd A) x .50 cents (daily feed costs/head) x 365 (days in year) = \$1132 added feed costs for dry cows in herd A, annually.

Added Replacement Costs:

Herd A - 15% of herd or 9 cows are culled annually for reproductive failure.

Herd B - 5% of herd or 3 cows are culled annually for reproductive failure.

Additional Replacements Needed for Herd B (9 cows - 3 cows) = 6 cows.

Replacement cost (\$1,110/head) - salvage value of culled cows, 1300# @ \$43 cwt. (\$559/head) = \$541 difference x 6 head = \$3,246.

Added Semen Costs:

1.3 services (herd B) vs. 2.3 services (herd A) per conception = 1 additional service per cow in herd A x 48 (No. of cows calving annually in herd A) x \$8 (average cost per service) = \$384.

In summary, herd A compared to herd B has the following loss in annual income:

Annual Loss in Milk Sales	\$12,840
Annual Loss in Calf Sales	1,110
Increased Dry Cow Feed Costs	1,132
Added Replacement Costs	3,246
Added Semen Costs	384
Total Loss in Annual Income (herd A vs. herd B)	\$11,712

or \$11,712/60 = \$311.97 return per cow annually.

Additional costs, herd A, would occur, but not determined in this example are:

- (1) Loss of genetically superior proven cows because of reproductive failure;
- (2) Loss of possible genetic advancement because of fewer calves per year; and
- (3) Loss of interest on investment on a higher percentage nonproductive cow.