

Planned Parenthood Pays Off

Cow-calf herd breeding season evaluation, including computer-monitored replacement heifer and bull breeding soundness programs, will pay dividends in increased productivity and reduced losses, according to the American Veterinary Medical Association (AVMA).

In Kansas, a typical herd breeds 50 percent of heifers in the critical first 20 days of the breeding season and less than 80 percent by 42 days, according to Mark F. Spire, DVM, of the College of Veterinary Medicine at Kansas State University, Manhattan.

By comparison, herds following a planned replacement heifer program breed 70 percent of heifers in the first 20 days and 87 percent in 42 days.

At calving, more than 25 percent of heifers in a typical Kansas herd require assistance with difficult deliveries. Calf death losses run 8 to 10 percent. Planned programs cut calving difficulty to 15 percent and calf death losses to less than five percent, according to Dr. Spire.

The first step in developing a planned heifer replacement program is gathering and organizing herd records. Software programs now available for use with personal computers give cow-calf operators the advantages of speed, access to large amounts of data and output in a summarized format for decision making, according to Gary Rupp, DVM. Rupp works at the University of Nebraska's Veterinary Education Center, located at the Meat Animal Research Center, Clay Center.

"The replacement heifer program is the backbone of every cow-calf operation. Monitoring the growth of heifers, selection for adequate pelvic size and selection based upon reproductive information are critical. A computerized report allows for interpretation of the interactions of age, weight at different stages of production, pelvic area through the use of ratios, pregnancy status and projected calving date at a time when selection is critical," Dr. Rupp says.

Examination of the reproductive tract,

including pelvic measurement, is one of the most important parts of a replacement heifer program.

"About three to five percent of the heifers we examine have underdeveloped reproductive tracts," Dr. Spire says. "These animals should definitely be culled. Pelvic measurements can spot females that do



not have the physical dimensions to deliver calves easily. In our work, we have seen 50 percent reduction in calving difficulties among heifers that are selected on the basis of pelvic screening."

Even the best replacement heifer program will fall short of expectations if it is not complemented by a program of bull breeding soundness evaluation, according to Rupp and Spire. A bull breeding soundness evaluation includes physical examination of the bull with emphasis on the reproductive system, measurement of scrotal circumference, and collection and evaluation of at least one semen sample.

From 15 to 25 percent of the bulls are not capable of a satisfactory breeding

performance if short breeding seasons of two months or less are the goal. This is in addition to about 10 percent that are sterile or of greatly reduced fertility, according to a 10-year study now concluding at the Western College of Veterinary Medicine, University of Saskatchewan in Canada.

"Sterile bulls are easy to find," says William Cates, DVM, of the University of Saskatchewan. "According to our study, failure to identify bulls with low breeding efficiency is what really costs producers money."

Despite the Saskatchewan Department of Agriculture's co-sponsorship of the study of bull breeding performance, Dr. Cates says bulls being brought in for evaluation haven't improved much in 10 years, because of the reluctance of purebred producers to cull poor performers.

"They haven't really changed what the bull population looks like," Dr. Cates says. "The producers seem to be hung up on bloodlines and blue ribbons. Actual breeding performance is not high among their priorities."

Studies have shown that size of the testicles and analysis of the morphology (sperm count) and motility (capability for movement) of the semen are more reliable predictors of performance than bloodlines.

One aspect of bull breeding soundness that has been difficult to measure with scientific accuracy is sexual desire and mating ability. Dr. Cates says bulls that look alike and produce similar semen samples may perform very differently.

To measure desire and mating ability, researchers have started doing what they call serving capacity testing. In this procedure, bulls are exposed to cows in a confined environment.

"Some bulls will fool around for half an hour, while others will breed her right away," Dr. Cates says.

Serving capacity testing should be considered an important part of total breeding soundness evaluation.

Dr. Spire says a breeding season evaluation should include:

- Herd reproductive information and recordkeeping, including birth dates of calves and ages of their dams, calf growth rates, breeding season dates, pregnancy examination results, and herd morbidity and mortality rates;

- Analysis of this data giving total pregnancy rate and period breeding percentages based on 21-day intervals;

- Professional interpretation of the information allowing for detection of problems within the herd that need improvement;

- Suggestions on how to correct reproductive problems identified in the evaluation that may include an acute infectious process, chronic infections, mismanagement, poor nutrition or a combination of problems.

"When management procedures are followed year after year, the returns should continually increase," Dr. Spire says. "More calves will be born earlier, once a producer gains proficiency at using breeding season evaluations, including planned heifer replacement and bull breeding soundness."

AJ