

# Cow-Calf Management

## Herd Program Boosts Profits

A management program aimed at improving the performance and profitability of cow-calf operations was unveiled at the 1990 meeting of the National Cattlemen's Association (NCA).

Called the Herd Efficiency/Reproductive Development program (HE/RD), it was presented as a part of the NCA's established Integrated Resource Management (IRM) program, which is designed to help cattlemen adopt better record-keeping and make more efficient use of production technology.

HE/RD materials will be available locally through state cattle associations, Extension personnel, bovine practitioner groups and the field personnel of the program's developer and sponsor — MSD AGVET, a division of Merck & Co. Inc.

"Reproductive efficiency is probably the most critical variable in the cow-calf operation," says Jim Chancellor, a cattle producer from Branson, Colo. "The development of the HE/RD program by MSD AGVET and its inclusion in IRM should produce lasting benefits for the cattle industry."

The comprehensive HE/RD program will be introduced in three phases over the next several months. The first phase of HE/RD focuses on ways to maximize the growth rate of replacement heifers, which in turn increases the probability of earlier breeding and a shorter calving period.

"More than anything else, animal age and weight determine whether heifers will begin cycling and be able to become pregnant when exposed to a bull in their first breeding season," says Dr. Jay Brown, director of technical services for MSD AGVET.

"If a heifer has reached the critical minimum weight for her particular breed, she'll probably get bred during the first 21 days. But if producers fail to

adequately develop their replacement heifers during the first 14-15 months, the result is a low conception rate during the first 21 days and a long, strung-out calving season," he explains.

Besides having the capability to breed earlier, animals that are growing well are less likely to have problems with difficult births. "There is a strong rationale for doing all you can to optimize the health and growth rate of replacements," Brown says.

But the benefits of ensuring rapid growth in heifers do not end with the first calving. According to research summaries presented in HE/RD educational booklets and audio-visual materials, replacements that breed and calve early are likely to keep up this pace throughout their productive years.

"The cow that calves early her first time — say, during the first three weeks of March — is more likely to con-

The veterinarian also noted that the earlier heifers are brought into the herd, the more pounds of beef cattle-men can produce. "And really, pounds of beef are what cattle producers are selling — not cows," he adds. "If a calf gains two pounds a day, an additional one month of growth can mean an extra 60 pounds at weaning time."

MSD AGVET technical service veterinarians and marketers developed HE/RD to help cattlemen understand such growth-related variables as nutrition, disease prevention and parasite control.

"We know that yearlings, for example, are particularly susceptible to inhibited Ostertagia," Brown says, referring to a roundworm notorious for its ability to depress cattle appetites and slow weight gains. "Research shows that even a low level of parasites can hold a heifer back from reaching her critical mating weight.

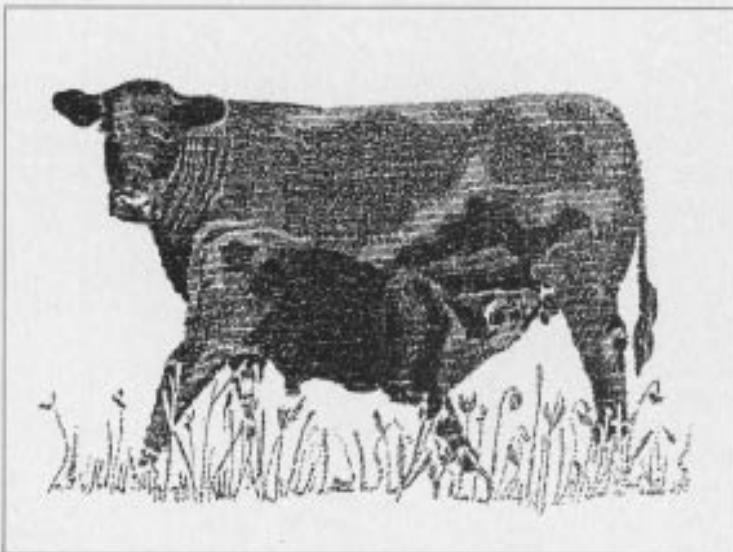
By working with livestock specialists to make improvements in their parasite-control program, cattlemen can improve growth rate and feed efficiency."

MSD AGVET acknowledges that the philosophies and strategies behind HE/RD are not revolutionary, but industry statistics suggest there is still ample room for improvement in replacement heifer management.

For example, a 1989 production survey involving 68,000 cattle in

Alberta, Canada, showed an average calving span of 115 days, with less than 35 percent bred during the first 21 days of estrus. Similar figures have been obtained in previous U.S. surveys.

"I keep hearing that only three of the last 10 years have been profitable for U.S. cattlemen," Brown says. "Yet, every year there are cattle operations that — regardless of market conditions



tinue to calve each year at the same time," Brown explains. "On the other hand, the cow that starts out as a late calver will likely remain a late calver, simply because she won't be ready to become pregnant again when turned out with a bull. This domino effect adds greater incentive for producers to maximize the growth rate of heifers during their first 14-15 months of age."

— continue to make a profit. One common denominator shared by most of them is a high percentage of early calving — often 60 percent or more during the first 21 days and a calving span of less than 63 days.”

Implementing HE/RD does not require special facilities or a large cash investment from producers. “It’s basically a matter of awareness and education — learning how to draw on established resources and using them properly to improve herd efficiency,” explains Thomas McClintock, executive director of marketing for the U.S. operations of MSD AGVET.

As part of the program’s introduction, MSD AGVET has organized a series of interactive satellite teleconferences that feature a panel of international livestock experts. The day-long teleconferences, beamed to seven U.S. cities, will let specialists review the principles of HE/RD while soliciting input and commentary from Extension personnel, bovine practitioners and other livestock specialists in major cow-calf areas.

“One of the real advantages of HE/RD is it’s universally applicable,” McClintock says. “It doesn’t matter if you’re raising Angus cattle on short-

grass pasture in North Dakota or Brahman-crossed cattle in a semi-tropical environment such as Florida or Louisiana. The principles of the program remain the same.”

In summarizing the objectives of HE/RD, McClintock says the future belongs to efficient cattlemen who keep good records.

“In the ‘90s and beyond, U.S. livestock producers will be competing in a world economy,” he says. “By pulling together all of the resources that are available to us and using them properly and efficiently, I think that’s going to be the key to our success.”

## Calving Difficulties Major Cause of Early Death

Cattle producers lost nearly \$12 million last year because of calving difficulties.

In 1989, the National Animal Health Monitoring Service reported that 4.5 percent of the year’s calf crop died between birth and weaning, and 34 percent of the deaths were due to calving difficulties.

Two factors, size of the dam’s pelvic opening and the calf’s birthweight, were major causes of calving problems, says Mike Holland, a graduate research assistant in Colorado State University’s animal sciences department. Birthweight accounted for 35 percent of the calving problems and pelvic opening another 15 percent.

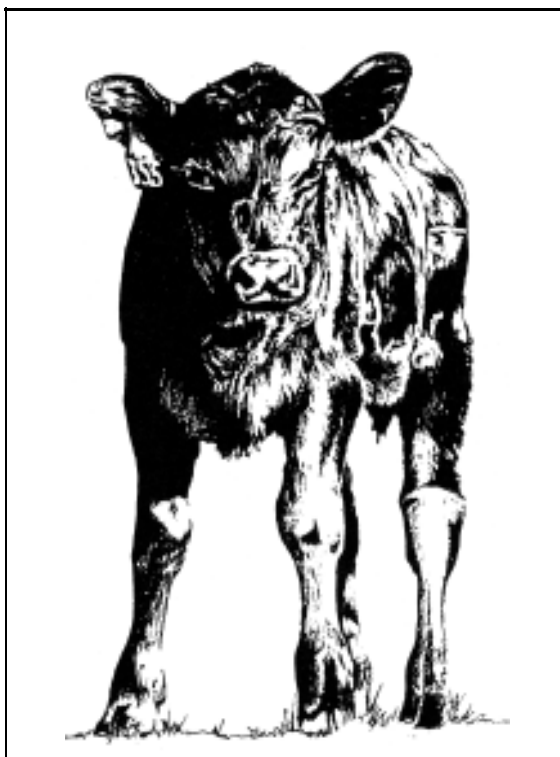
Research on fetal growth and development in cattle at Colorado State indicates that the length of gestation period had little effect on calving difficulties.

“We thought there would be a dramatic difference throughout the gestation period in the growth rate of fetuses sired by heavy birthweight and low birthweight bulls. There wasn’t.

“All fetal groups had approximately the same growth rate. Once maximum growth was attained at around 220 days, the growth rate declined through term. The difference between birthweights is largely a factor of how fast growth declines after maximum growth is reached,” Holland says.

The most important factor between

heavy and light birthweights was the genetic makeup of the sires. The sires of the heavy birthweight and light birthweight calves had extremely divergent Expected Progeny Difference (EPD) val-



ues. The EPD of the low birthweight sire was -6.5. The EPD of the heavy birthweight sire was +12.7. The expected difference in the birthweight of calves sired by the low birthweight sire and the heavy birthweight sire was 19.2 pounds.

Calves sired by the heavy birthweight bull had an average birthweight of 81.2 pounds. Calves sired by the low birthweight bull averaged 66.6 pounds at birth. The average difference in birthweight between the two groups was 14.6 pounds.

The 4.6-pound discrepancy between the actual and predicted difference in birthweight between the two groups of calves probably was due to the age of the dams, Holland says.

The dams in the study were first-calf heifers. If they had been mature cows, the average difference in birthweight of the two groups would, in all probability, have been nearly 19.2 pounds as predicted by the EPDs.

The research showed that the length of gestation, within normal limits, had little effect on calf size or subsequent calving ease.

“The best way to reduce calving difficulty is to use bulls with negative EPD values for birthweight. In addition to negative birthweight EPDs, the accuracy of the EPD must be considered,” Holland says.

A bull with a negative birthweight EPD with an accuracy of 0.2 cannot be counted on to consistently sire low birthweight calves.

On the other hand, a bull with a negative birthweight EPD that has an accuracy of 0.3 or higher can be relied on to sire lighter, easier-calving offspring.

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