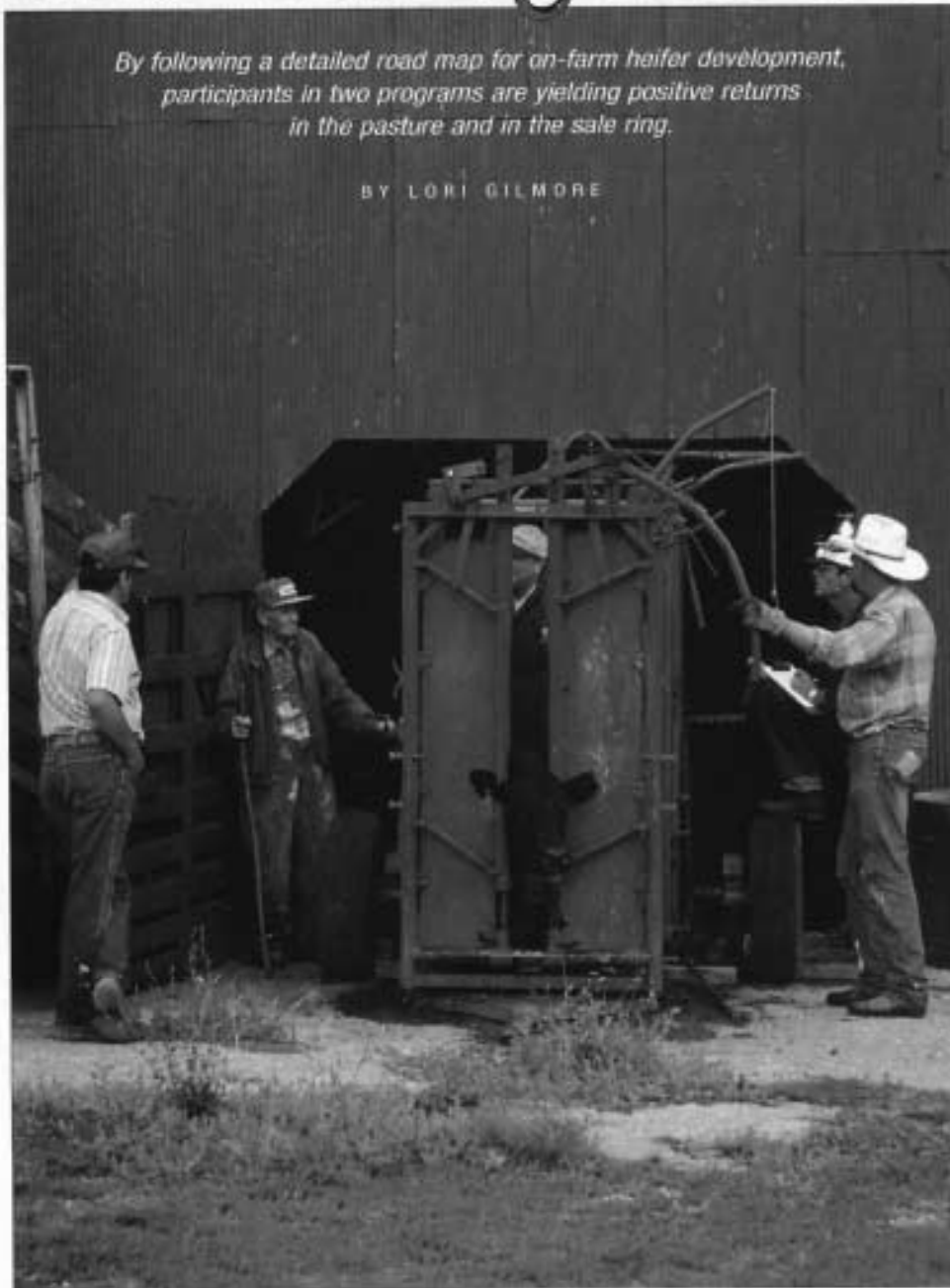


# Fine-Tuning Females

*By following a detailed road map for on-farm heifer development, participants in two programs are yielding positive returns in the pasture and in the sale ring.*

BY LORI GILMORE



DIANE DALEY PHOTOS

## Management makes a difference

Research shows that proper management of replacement heifer calves from weaning to the beginning of the first breeding period is extremely critical for subsequent performance. "Heifers that conceive earliest during the first breeding season will probably stay within a herd for a longer period of time and produce more pounds of beef over their productive lifetimes," says David Patterson, Extension beef specialist at the University of Missouri-Columbia.

While this is an admirable goal, it isn't easily attainable without paying careful attention to development. The challenge: getting yearlings to reach puberty and cycle regularly at the start of breeding season. "Most problems can be traced back to the developing phase, from weaning to prebreeding," Patterson says.

While producers have increasingly focused on adding growth and more milk to the nation's cow herd over the past 15-20 years, heifer development hasn't kept pace, according to Patterson. "We have done only an adequate job getting heifers ready to cycle and breed."

The Bourbon County Elite Heifer Replacement Project began in 1991, according to Glenn Mackie, county agricultural Extension agent. In the Kentucky program, females are objectively selected and managed, helping reduce the risk involved in bringing heifers into production.

For the past seven years producers from Bourbon County and surrounding communities have been enrolling to develop replacement heifers. Most are retaining the quality animals, while some are taking advantage of the marketing opportunities. According to Mackie, all consignors must sign up one year in advance and

**F**or many, raising and breeding replacement heifers is considered a dreadful chore. Some are turned off by the time and labor required to properly prepare young females. Others don't even know where to start.

Cow-calf producers in two states are addressing the replacement dilemma head-on. In Missouri producers may sign up for the Show-Me Select heifer program, and in Kentucky breeders can join the Bourbon County Elite Replacement heifer movement. These closely patterned programs are teaching producers suitable skills for on-farm heifer development. As a bonus, both offer a marketing outlet for certified replacements.

follow strict guidelines. By following the recommended management approach, Mackie says, a consistent, reliable source of replacement females is made available. So far, more than 3,500 animals have been marketed through this program.

While on staff at the University of Kentucky, Patterson helped create the Elite Replacement Heifer program. Now in Missouri, he is leading a statewide effort known as the Show-Me Select heifer program. The rapidly expanding Missouri project, launched in 1997, closely resembles the Bourbon County effort. Extension personnel and local veterinarians help cow-calf clients address nutritional development, implement a synchronization plan and in some cases introduce an artificial insemination (AI) plan.

The programs work like this: Interested cow-calf producers follow a prescribed plan for heifer development. Neither initiative places restrictions on animal color, beef breed or cross. Heifers must meet standard requirements relating to ownership, vaccinations and parasite control. Growth implants are not allowed and long-term use of MGA® is forbidden, except for the prescribed 14-day usage to synchronize heifers for AI.

Young females are first inspected on the farm four to six weeks prior to breeding. To make the cut, a certification committee evaluates each animal for size, structural soundness and reproductive condition. They also look for any blemishes and the animal's overall sale acceptability. Animals with blemishes, such as pinkey scars, bob tails or frozen ears, are not accepted. While working the animals, heifers are weighed, scored for body condition and given prebreeding booster vaccines.

The local veterinarian serves as an important member of the



Certified replacement heifer sales are an optional part of the Show-Me Select program. This photo shows heifers from Geisendorfer Brothers, Monticello, Mo. They entered 35 head of Angus heifers.

certification team. During the prebreeding examination, the veterinarian measures pelvic size and assesses reproductive potential by assigning a reproductive tract score. Qualifying females must have a pelvic area of at least 150 square centimeters (sq. cm). Heifers are rated from 1 to 5 with a reproductive tract score. Those scoring 1 are considered unacceptable for breeding and are culled.

"The prebreeding exam is like an insurance policy," Patterson says. "We go through the exams; and if there is a problem, we get it corrected before the heifers are synchronized."

If a high percentage of heifers have low reproductive tract ratings, the specialists discuss possible reasons with the cooperators. Often, according to Patterson, the problem is lack of adequate nutrition. "In a lot of cases, we boost the nutrition for those heifers and postpone synchronization treatment," he adds.



Recordkeeping is an important part of the management plan in the Show-Me Select heifer program. In addition to body scores and pelvic areas, details of all immunizations are kept on the cattle. Here Al Kennett, regional Extension livestock specialist, New London, Mo., keeps track of the heifers going through the chute.

#### Marketing opportunities

Heifers may be sold as either open or bred. However, open heifers must be ready for breeding. They also must be pregnancy-checked and certified open.

All bred heifers offered for sale are pregnancy-checked at

least once, and for later sale dates, twice. These females are guaranteed safe in calf and will calve no later than May 1.

Program requirements state that bred heifers must be serviced by bulls of known identification and breed. All service sires must have complete

## FINE-TUNING FEMALES

expected progeny difference (EPD) information, with emphasis placed on high-accuracy, low birth weights. According to Patterson, stringent limitations for birth weight EPDs have been established to encourage calving ease. Angus sires may not exceed an EPD of 2.0 for birth weight.

"By reducing both incidence and severity of calving difficulties, you solve or reduce the likelihood of a problem," Patterson says. "This also improves how those heifers breed back as 2-year-olds

In 1997 cow-calf producers in northeast and southwest Missouri launched Show-Me Select with 1,300 heifers. These same producers sold more than 500 heifers in two value-added sales. In 1998 the rapidly expanding program has been offered in four additional regions. This fall approximately 5,000 heifers are being developed under the Show-Me Select specifications. A majority of the heifers will be retained on the farm, while an estimated 1,200 will be sold in six auctions.

Dale McCutchan, of McCutchan Angus, Monticello, Mo., took part in the inaugural year of the Show-Me Select effort. Dale, along with his father, J.D., consigned 13 Angus heifers, bred to low-birth-weight Angus bulls, in the Palmyra auction in northeast Missouri.

The current Missouri Angus Association president enrolled "to make sure we follow a plan" for heifer development. In addition, he believes commercial buyers can acquire better genetics through the sales. This year McCutchan Angus has 15 females tagged for the Show-Me sale. Fifty additional Angus females must pass stringent requirements to stay within the McCutchan herd.

In Paris, Ky., Bourbon County's Elite participants sell replacements in two sales. The annual fall bred-heifer sale, at press time, was to take place Nov. 2. The spring open-heifer



**Black and gold ear tags identify heifers enrolled in the Show-Me Select program and are used in recordkeeping with the program.**



**Qualifying females must have a pelvic area of at least 150 sq. cm. Heifers are rated from 1 to 5 with a reproductive tract score. Those scoring 1 are considered unacceptable for breeding and are culled.**

sale is on the first Tuesday in April each year. As an added attraction, free delivery up to 300 miles is offered to buyers.

"I think it is an outstanding opportunity for commercial producers who are looking to buy replacement heifers," says Elite participant Walter Major Jr. This fall the Bourbon County committee is organizing the largest sale yet, with plans to sell 500 bred females.

Walter and Evidian Major of Major Farms have been part of the Elite program for six years. The Lawrenceburg, Ky., operation runs a commercial herd consisting of 220 cows, utilizing three beef breeds—Angus, Hereford and Charolais.

Developing quality replacement females is a priority at Major Farms. Since 1986 they have operated a closed herd, and

at least 40 females are selected and retained each year. They sell an equal amount in the fall Elite bred-heifer sale.

All first-calf heifers at Major Farms are bred to low-birth-weight Angus sires. "The genetics that the Angus cattle have provided us have been real good," Walter adds.

AI followed by natural service is part of the Majors' management plan. Young heifers are synchronized and bred AI in two groups. The same Angus bulls that are collected and used in the AI program are later released as cleanup bulls.

### Passing along information

All qualifying heifers in both programs are ear-tagged and receive a replacement heifer certificate. The certification

provides assurance to potential buyers that they know what they are getting.

On sale day valuable information is available for every consignment. In the Kentucky county and Missouri regional sales, potential buyers are provided with substantially more information than at similar commercial events. Program organizers and participants believe they are taking steps to eliminate some of the guesswork associated with purchasing replacements.

Sire data, pregnancy status, health and vaccination information are printed in a comprehensive sale catalog. Service sires' EPDs are listed, including birth, weaning and yearling weights and milk. In addition, expected calving dates are given for each lot of bred heifers.

"Commercial breeders who are serious want this information," Walter says. "Buyers realize they are getting a quality product." By participating in the Elite program, Major Farms has established a clientele of repeat buyers for bred heifers.

The Bourbon County effort is also having a trickle-down effect in the community. "Although they might not be officially participating, local farmers are seeing the benefits of heifer development," Evidian says. "The Elite program has increased their awareness that the recommended management practices are necessary in cow herds if they want to produce and keep quality replacement heifers. As a result of this program, their heifers are bringing more money." (See accompanying story, "Show me the money," on page 261.)

These two successful initiatives are teaching producers proper skills for on-farm heifer development. Along the way, participants are building and marketing a better product.



## Show me the money

After the maiden voyage of marketing certified replacements, Show-Me Select organizers set out to measure the program's economic effect. In the first culling, participants sold 518 heifers in two regional auctions for a total of \$401,693. Statewide, these animals brought an average price of \$775. Eight hundred additional heifers were developed according to program specifications and retained in Missouri hands.

Vern Pierce, beef economist for the University of Missouri-Columbia Commercial Agriculture Program, says, after deducting the total cost of development, producers who kept the replacement heifers on their farms realized an additional \$291,455 in income, or \$355/animal, over what they would have received had they not participated. Those producers who sold their Show-Me Select heifers realized an economic gain of \$106,336 or \$205/heifer. In fact, one cooperating producer took home \$21,000 more with this marketing alternative compared to previously selling heifer calves at weaning.

Pierce polled buyers at the Joplin and Palmyra auctions about their interest in the Show-Me Select program and, specifically, what attracted them to the sale. Survey respondents overwhelmingly picked two reasons for bidding: known calving-ease sires and strict requirements for reproductive soundness.

Nearly 60% of the respondents selected stringent birth weight expected progeny difference (EPD) guidelines as service sires as the top response. In this progressive heifer

development initiative, Angus genetics are playing a significant role in filling this need. Show-Me Select Coordinator David Patterson estimates a majority of the certified females are serviced by low-birth-weight Angus sires.

Equally important, buyers appreciated the strict requirements placed on reproductive soundness. On sale day potential buyers received detailed data relating to animal breed, expected calving date and service sire in a comprehensive sale catalog. Buyers could rest assured that all qualifying animals met uniform health and reproductive specifications.

Each brood-heifer lot offered is grouped by consignor and pregnancy status and must calve within 45 days of each other. According to Pierce, many groups bred via artificial insemination (AI) had calving schedules even tighter than expected. He also observed a significant positive correlation between price paid and breeding date, indicating a preference for early-calving heifers.

Finally, AI-bred females captured premiums over those bred by natural service. At the Joplin sale, 188 brood heifers sold for an average of \$684, with AI-bred consignments averaging \$135 more than those bred naturally. The AI difference at the Palmyra auction netted a \$127 premium. There, 229 brood heifers sold for a \$769 average. Pierce figures producers spent \$30/AI-bred animal to realize those notable gains.

— Lori Gilmore