

MU Grazing-Dairy Herd Now Bred With Timed AI; Calves Come Early, Milking Starts Sooner In Spring

MOUNT VERNON, MO.

Getting cows to calve early in the milking year produces more milk in a seasonal dairy. Timed artificial insemination (TAI) makes grouped early calving possible according to research done at the University of Missouri's Southwest Center in Mt. Vernon.

At breeding time, 36 of 49 heifers conceived on the same day when bred with TAI, said Scott Pooch, MU Extension veterinarian who bred the herd.

Chris Davis, MU dairy herdsman, says that getting heifers bred was one of the biggest challenges on a dairy farm.

With TAI, the new heifers entering the herd were synchronized and bred without heat detection, a labor-saving method. The cows were synchronized, but were visually heat detected to determine when to breed.

In conventional dairies without synchronization, heat detection and breeding becomes almost a year-round chore. With TAI, all breeding can be done in one day. The resulting calves will be grouped to be born just ahead of the grazing season, another labor saver.

The grazing dairy at the MU research farm is operated as a seasonal milking herd. Milking season begins in early February, as the calves are born. The cows are dried off in December, which gives the cows and the milking crew a break in the daily milking chores.

"From the name, you can guess where the Show-Me Synch timed AI protocol was developed," Pooch told visitors. The protocol, which uses a CIDR insert, was developed from basic research and field testing at the University of Missouri-Columbia.

To synchronize cow breeding, the CIDR, a vaginal insert, delivers naturally occurring progesterone, which controls the cow's breeding cycle.

The Show-Me Synch protocol has been tested on thousands of heifers in beef herds across Missouri, Pooch said. Long-term average for the new protocol, now adopted nationally, has been about 62 percent conception on the first day of the breeding season.

"We're extremely pleased with the 73-percent conception in the dairy herd," Pooch added.

With grouped calving, the cows reach peak lactation and their highest energy demand at a time when cool-season grass paddocks reach peak of spring growth. The cow nutritional demand matches forage production. More of the milk from the herd can be produced on low-cost forages instead of purchased supplemental feed.

At his stop on the dairy farm tour, Ted Probert, MU Extension dairy specialist, said a major advantage of AI breeding is access to the best genetics in a cow breed. "You can select from the best proven sires in a breed, whether Holstein or Jersey," Probert said. "The sire books provide lots of information on projected production. You can select what you need for your herd."

The basic breeds in the milking herd at the MU dairy are Holstein and Jersey. Most are crossbred, giving advantages of both breeds through hybrid vigor. Heterosis typically gives a 10-percent bump in reproduction efficiency, Probert said.

"Over time, genetic selection in U.S. dairy cattle has centered on milk yield," Probert said. "In a seasonal grazing dairy, ability to rebreed on time becomes the No. 1 concern."

Current MU dairy breeding concentrates on building a herd of about half U.S. dairy genetics and half New Zealand genetics. "At the Southwest Center we want to see if imported genetics result in improved herd fertility," Probert said. "Those have developed in an environment where breed-back is important."

In forage research, studies are underway comparing tall fescue containing a novel endophyte with a perennial ryegrass, said Stacey Hamilton, MU Extension state dairy grazing specialist. In the first year, the toxin-free fescue came on stronger, earlier. However, that advantage was lost as temperatures increased in the grazing season.

Hamilton said research at the farm is directed by a panel of farmer advisers. "We try to answer questions they need answered."

This fall, new research paddocks are being seeded west of the airport at the farm. These will compare five kinds of ryegrass to determine suitability for local climate and soils. Δ



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