

Large or Small Herds, the Cow is the Same

Small herds can achieve same benefits with synchronization and AI protocols.

by Troy Smith, field editor

Time and again, it has been emphasized reproduction is the most economically important trait of beef cattle. While owners of “small” cow-calf operations may not depend solely on their cattle for income, Sandy Johnson figures few can afford to ignore the cost of poor reproductive performance.

A Kansas State University Extension beef cattle specialist, Johnson spoke during the Applied Reproductive Strategies in Beef Cattle (ARSBC) workshop hosted Aug. 20-21 in Knoxville, Tenn. She said herds of modest numbers can achieve the same benefits as large operations when implementing estrous synchronization and artificial insemination (AI) to help enhance reproduction.

“On large or small operations, the physiology of the cow is the same, and the technologies work,” Johnson said, noting increased quality of replacement females and reduced calving difficulty are the factors most often contributing to profitability achieved through AI. Evidence shows it’s true regardless of herd size.

Johnson acknowledged concerns of smaller operations related to the additional cattle handling required to apply synchronized AI. Administration of a synchronization protocol and insemination often requires a minimum of three

handlings. Frequent handling tends to emphasize the need for working facilities that allow cattle to be worked at an adequate rate of speed while minimizing stress and physical danger. Such facilities can be costly, but there may be alternatives to installing permanent facilities.

“Portable systems, including chutes, corrals and breeding barns are available to rent,” Johnson said, adding that purchasing such systems might even make sense for multiple producers willing to pool their money and share ownership. “And if a producer is hiring a custom AI technician, many provide portable breeding barns and other equipment as part of their service.”


According to Johnson, having decent working facilities often reduces manpower requirements. Still, she advised against overwhelming a small crew by jumping headlong into fixed-time AI (FTAI), where a group of cows or heifers is synchronized such that all must be inseminated within the same short period of time.

Johnson also advised beginners to have realistic expectations. Year-to-year variation in pregnancy rates for AI should be expected, even by seasoned AI veterans. Johnson said maintaining relatively high AI pregnancy rates requires excellent year-round management.

“Don’t be too quick to jump to a different estrous synchronization protocol because you’re a little disappointed in one year’s results. If you have chosen an appropriate protocol, stick with it, but review your year-round management and protocol administration,” she added.

She recommended producers consider using “Estrus Synchronization Planner,” a software program to aid in selection of an appropriate estrous synchronization protocol. There are two versions — one for planning synchronized AI for one group of females, and a second aiding in planned breeding of multiple groups. Either version will help managers arrange for the proper timing, product usage and dosage.

Johnson said “Estrus Synchronization Planner” is available online, through the Iowa Beef Center’s website.

“Planning ahead is important,” grinned Johnson. “It can help you avoid surprises, like finding you’re scheduled to inseminate heifers on December 25th.” 

Editor’s note: The 2019 ARSBC workshop was hosted Aug. 20-21 by the University of Tennessee and the Beef Reproduction Task Force at the Hilton Knoxville in Knoxville, Tenn. For details on Johnson’s presentation — including the accompanying proceedings and PowerPoint — visit the Newsroom at www.appliedreprostrategies.com.