Advancement in Sexed Semen

For producers wanting to increase the percentage of calves of a certain gender, new '75%' products offer cost advantage.

by ***Troy Smith***

It's commonly considered a new technology, but sexed semen has been around for a while. It was more than a decade ago that the first gender-selected calf was produced through artificial insemination (AI). With that came expectations for increased use of the sophisticated process for separating sperm with X-bearing chromosomes (female) from sperm with Y-bearing chromosomes (male), and increased application of sexed semen by cattle producers.

Practical application grew most rapidly within the dairy industry due to its already extensive use of AI and the obvious advantage gained through selection for predominantly heifer calves. And, generally, sexed semen delivered on its promise that a minimum of 90% of resulting calves would be of the chosen gender.

Application by the beef industry has come more slowly, embraced mostly by seedstock breeders. They, too, have used sexed semen with their most genetically superior females to produce replacement heifers. The ability to increase the percentage of male calves born also appeals to people in the business of selling bulls. Additionally, the technology lends more control of gender when producing embryos.

Putting technology to work

The advantages of made-to-order calf gender have not been ignored by progressive commercial beef producers, either. Managing about 500 commercial Angus cows on the Hoot Owl Ranch, near Harrisburg, Neb., managing partner Kenny Stauffer has used sexed semen to maximize the number of gender-specific offspring from planned matings. Heifers representing the operation's freshest genetics have been bred to deliver heifer calves.

"We've been using AI pretty hard for five years now, with the goal of producing heifers for the replacement female market," Stauffer says. "AI is the fastest route to genetic progress. And with sexed semen, we now have a better opportunity to get the product we want — heifers."

Stauffer also has used male sexed semen on mature cows to produce steer calves that represent more weight and garner higher prices per hundredweight. Whether targeting males or females, results have been satisfactory.

"It's worked just as expected, with 90% accuracy for the chosen sex. Actually, it's been a little over 90%," Stauffer adds.

Of course, sexed semen costs a little more than regular frozen semen. It does, after all, undergo an additional specialized process. No doubt, the higher cost has kept some producers from using sexed semen.

A new option

That could change as producers become more familiar with the newer "75%" sexed semen. This product promises that a minimum of 75% of resulting calves will be of the chosen gender, and it's less expensive than "90%" sexed semen. Currently, Genex Cooperative Inc. is the only firm through which both 90% and 75% products are commercially available.

While it's still pretty new, Genex Beef Marketing Manager Willie Altenburg expects use of the 75% product to grow significantly among commercial cow-calf producers.

"I think we're going to see more replacement heifers bred AI to have predominantly heifer calves. It means more calving ease and about 3% greater calf livability when a first-calf heifer has a heifer baby. But producers trying to advance genetics quickly can also retain more replacements out of heifers," Altenburg says.

"When you choose to have 75% of the AI-sired calves be heifers, you can reduce the number of females that need to be bred to produce replacements. The mature cows can be bred with 'male semen' to produce steers, using a terminal sire to target growth and feedlot performance," Altenburg adds.

The cost of 90% sexed semen usually runs from $15 to $25 per straw more than conventional frozen semen. The 75% often is just $5 to $10 per straw higher than conventional semen, depending on the individual sire. "Male semen" is sometimes priced a bit lower than "female semen," since there is more cost involved with processing the latter.

Producers should expect no difference in conception rate between 90% or 75% sexed semen. However, conception rates with either type of sexed semen are lower than with conventional semen. Generally speaking, conception rates will be about 85% of those achieved with conventional semen. Therefore, a producer accustomed to 70% conception rates should realize a 60% conception rate with sexed semen. According to Altenburg, some producers have done better. He stresses the importance of proper AI procedures if producers want to maximize conception rates.

"With sexed semen, there are fewer sperm cells in the straw. It's no time to get sloppy, so producers should use their very best procedures," Altenburg advises. "That includes heat detection. Timed AI does not work very well with sexed semen."

It isn't for everyone, but sexed semen is a tool that can further some progressive producers' production and marketing objectives. Whether the goal is to raise more replacement-quality heifers faster, or shift home-raised feeder cattle numbers to a higher percentage of steers, advancement in sexed semen technology now offers more management options and, perhaps, more reasons for applying AI. AJ

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