DCRC

DAIRY CATTLE REPRODUCTION COUNCIL

There's More to Consider With Sexed Semen Than a Larger Heifer Crop

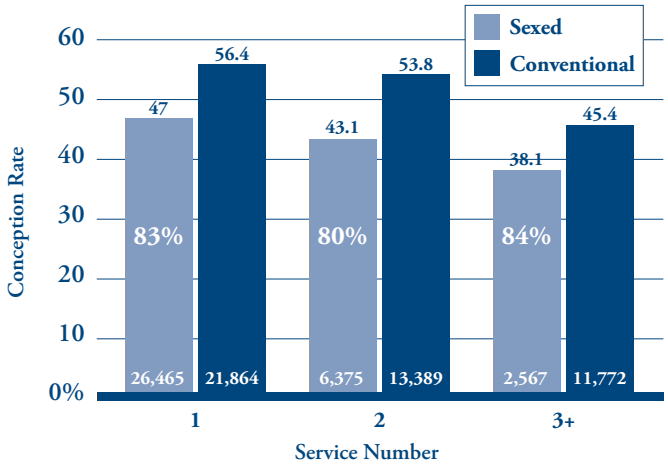
Account for These Challenges When Considering Sexed Semen

With the emergence and wide acceptance of sexed semen, producers are finding their own unique application of this latest technology. Maybe sexed semen is only used for first-calf heifers; maybe you've chosen to utilize sexed semen for all first-services. Regardless of how it's being implemented on your dairy, multiple changes, some of them unexpected, must be accounted for before sexed semen is included in your breeding program.

What do we know about sexed semen?

There are many qualities we know about sexed semen that will ultimately influence decision-making on how it's used. Here are some of the details research has reported since the technology's inception:

- **Additional "X" chromosomes.** This is the basis of sexed semen—semen is sorted to remove "Y" chromosomes and increase the number of heifers born. The result? More young animals in the heifer pens, eventually resulting in more cows in the milking herd.
- **Lower conception rates.** Research has shown lower conception rates often result from using sexed semen. For this reason dairies often utilize sexed semen on genetically superior cattle or animals with the highest conception rates, including first-lactating cows and first-service A.I. The adjacent chart compares conception rates of conventional and sexed semen. Sexed semen performed at 80 to 84 percent of conventional semen in terms of conception.



Conception rate for Holstein heifers inseminated with gender selected semen and conventional semen by service number in 49 herds reporting ≥50 services to both sexed and conventional semen.

Issue 13, *Progressive Dairyman*, From "Sexed Semen: Myth or Reality?"

- **Higher-priced.** Although sexed semen prices have dropped since the technology first became available, the price is still higher than conventional semen. Making the best use of sexed semen to ensure complete uptake of the additional cost can make it most effective.
- **Selective bulls.** Sexed semen is available from only certain bulls. Although bulls with sexed semen have an array of high-quality traits, ensure the bulls you select meet your herd's production and type goals, rather than utilizing them only because sexed semen is available.

- **More value in the breeding program.** More heifers can mean more profits and more genetic gains each generation. The increase has helped herds expand without purchasing replacements and allowed dairies to sell extra heifers for additional income. Whether lowering replacement costs or increasing heifer sale profits, more heifers can mean additional financial benefits.

Make Adjustments Before Using Sexed Semen

We often talk about more heifers from sexed semen, but other changes will result as well. Nutrition programs, breeding protocols, and facility design and planning will all be influenced by the introduction of sexed semen. We've explored some of the areas that will need extra attention as you implement sexed semen into your breeding program.

Heifer Breeding and Nutrition

For dairies using sexed semen on all first-lactation cows, the lower conception rates may call for earlier breeding to achieve similar calving dates to conventional semen. Producers looking to have 100 percent of heifers bred to sexed semen will need earlier breeding dates to account for lower conception rates.

But what about managing heifers confirmed pregnant at first service when bred at 12 months? This group of heifers may join the milking string sooner, but won't possess the size and condition to perform optimally.

That's when heifer nutrition comes into play. With the proper nutrition, earlier-calving heifers can be ready to join the milking string at a stature and size closer to maturity. Rations must be balanced for proper energy, protein and fiber levels for accelerated growth without resulting in fat heifers. By utilizing a rumen fermentation enhancer, each pound of feed can best be broken down and boost rumen function, resulting in healthy, consistent heifers ready for breeding sooner.

Overconditioned heifers are hard to get bred, which makes your heifer nutrition program a tightrope walk. Work with your nutritionist to ensure heifers are large enough to withstand earlier breeding. This will ensure sexed semen is allocated appropriately and provides optimal use of each straw.

More Heifers on the Farm

It's easy to say "we'll have more heifers," but it's a lot harder to account for all of the changes that can occur. More heifers means more colostrum, bottles, hutches, feed and water pails, naval dip, ear tags … the use of anything associated with heifer rearing will increase. Your supplies and their usage will also expand. Plan ahead and make the appropriate purchases and expansions to account for the growing heifer crop.

Accounting for more heifers is just one of the many considerations before using sexed semen in your breeding program.

And once these heifers are bred and join the milking herd, there are more cows to milk, feed, breed and treat. This means your facilities for heifers and the milking string must often expand to accommodate growing populations.

More heifers joining the milking herd will allow for more selective culling decisions. This will speed genetic progress and allow removal of cows that you may have otherwise kept in the herd to maintain cow numbers.

Higher Input Costs

More cows mean more profits at the onset of milking, but they also mean more upfront costs. Not only is sexed semen more expensive, but additional milk replacer costs, employees to care for growing heifers, heifer facilities and feed costs can be extensive. Accounting for the additional expense is something to consider as you implement sexed semen into your breeding program.

Labor Needs

With more animals to feed, milk and care for, more people are needed to complete these tasks. Hiring qualified employees to work on the extra tasks will be necessary as you account for the ever-changing heifer landscape.

Each dairy will need employees to fill different roles, but more people will be needed to complete daily tasks. The job of feeding calves may now take three people instead of two; cleaning heifer pens and feeding heifers may need the assistance of an additional person. Work with your employees to identify where additional help is needed to complete daily tasks.

As you consider incorporating sexed semen into your operation, remember that there's more to account for than adding more hutches and heifer gates. The implementation of such technology will eventually influence all areas of the dairy, including milking herd size, culling decisions, labor needs and speed of expansion. Carefully consider these often unaccounted for changes as you make decisions regarding your reproductive program.