



4M HIGH PURITY™

When all that
matters are **FEMALE
CALVES**



— REFINED
PURITY REDEFINED —
ACCURACY

PRECISION AND PROFIT IN YOUR BREEDING STRATEGY

In order to hit a bullseye, you have to make an investment in the right bow and arrow that will allow you to hit the target and an investment in time to develop the right technique. Similarly, developing a breeding strategy that advances genetic progress in your herd is a time and monetary investment in the future of your herd to hit your target productive, health, and efficiency goals. It takes time and money to determine which females in your herd and which elite bulls you will use to make the most profitable replacements for the next generation of your herd. High Purity 4M™ semen from STgenetics® helps you increase the precision in hitting your breeding strategy target by increasing the number of female sperm cells in each straw of semen which will result in fewer dairy bull calves being created.

IS ALL FEMALE GENDER SORTED SEMEN THE SAME?

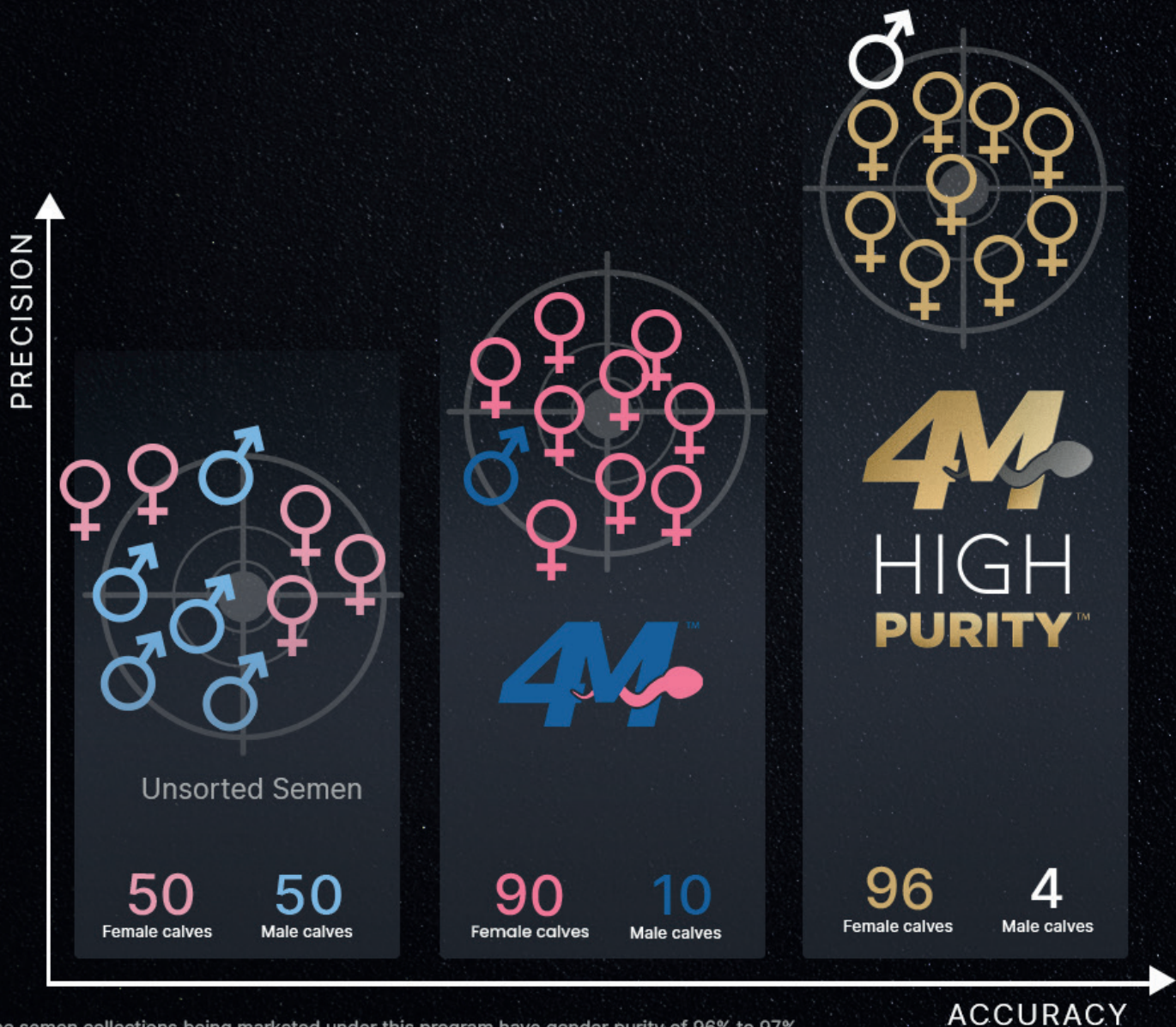
When female gender sorted semen was introduced in the dairy industry, it revolutionized breeding strategies by allowing producers to make the replacement heifers they needed out of their elite females instead of having to keep all females produced from conventional semen across their entire herd. This led to faster genetic progress. Another advantage to utilizing female gender sorted semen to make replacements from your top animals is that

there is opportunity for other revenue streams from pregnancies from animals not needed to make replacements such as in a beef on dairy strategy. The question is, do all types of female gender sorted semen lead to the same number of female calves to achieve your goals? The answer is no. Traditional female gender sorted semen has a standard concentration of 90% female sperm cells in each straw while 4M High Purity™ semen has a standard concentration of 96% female sperm

cells in each straw. This means that if you had a herd of 100 females that are each pregnant to traditional female gender sorted semen, you would expect to calve 90 heifer calves and 10 bull calves. Conversely, if you have 100 females pregnant with 4M High Purity™ semen, you can expect 96 heifer calves and 4 bull calves (**Figure 1**). In each herd, the value of a heifer calf is different, but if you have made the investment in using female gender

sorted semen from an elite bull to make a replacement heifer and get a bull calf instead, you essentially get no return on your investment. Conversely, if you are successful in creating a heifer calf out of your best females with female gender sorted semen, you have increased your precision and accuracy to hit your target and are on track to make genetic progress in your herd and maximize your return on your investment.

GENDER EXPECTATIONS BY SEMEN TYPE FROM 100 PREGNANCIES



*The semen collections being marketed under this program have gender purity of 96% to 97%.

Figure 1 shows the difference in heifer and bull calves created from unsorted semen, traditional female gender sorted semen, and 4M High Purity™ semen. If 100 females are pregnant with unsorted semen, the expected gender ratio would be 50 heifer calves and 50 bull calves. If 100 females are pregnant with traditional female gender sorted semen, the expected gender ratio would be 90 heifer calves and 10 bull calves. If 100 females are pregnant with 4M High Purity™ semen, the expected gender ratio would be 96 heifer calves and 4 bull calves.

WHAT OPPORTUNITIES DO YOU HAVE WITH HIGH PURITY 4M™?

If you utilize 4M High Purity™ semen you have a higher chance of getting a heifer calf out of each straw of semen. This means that ultimately, you will need less straws of female gender sorted semen to create the right number of replacements for your herd. It also means that you will have more females in your herd that can be bred to Beef Add On™ semen to get a beef on dairy cross calf. Let's look at the economic impact of using less straws of female gender sorted semen and creating more beef on dairy calves. For example, if you need to create 500 replacement heifers in your herd and achieved a 45% conception rate, and industry

averages for abort rates, stillborns, and pregnant culls, you could use approximately 87 less straws of semen to produce the number of replacements needed utilizing 4M High Purity™ semen compared to utilizing traditional female gender sorted semen. This would also mean that you would create 35 less dairy bull calves which can have little to no profit margin as well as be a potential animal welfare concern. This also creates an opportunity for 35 additional beef cross calves of significantly higher value resulting in \$4375 worth of revenue (assuming \$125 margin per calf) **(Figure 2)**.

	TRADITIONAL FEMALE GENDER SORTED SEMEN	 HIGH PURITY™
% Female Sperm in Straw	90%	96%
Replacements Needed	500	500
Conception Rate	45%	45%
# Straws Needed	1400	1313
Dairy Bull Calves Created	56	21
Additional Beef Add On™ Calves Created	0	35
Additional Beef Add On™ Revenue (\$125 margin per calf)	0	\$4375

Figure 2 shows the economic impact of utilizing 4M High Purity™ semen to make 500 female replacements compared to utilizing traditional female gender sorted semen. 4M High Purity™ semen would require 87 less straws to make the right number of replacements and would allow 35 less dairy bull calves to be created, therefore creating 35 additional beef cross calves resulting in \$4375 worth of revenue (assuming \$125 margin per calf).

4M High Purity™ semen allows you to create more females and less bull calves because each unit has 6% more female sperm cells than traditional female gender sorted semen. This translates into semen cost savings by using less straws to get the right number of replacements and more opportunity to create additional revenue from beef on dairy cross calves. Hit your breeding targets with more precision with 4M High Purity™ semen.