More dairy producers are now using embryos to accelerate herd genetics and boost their bottom line.

When it comes to accelerating genetic gain in a dairy herd, both high and low genetic merit daughters play a key role in reaching herd improvement goals. That's what happens when dairy producers incorporate genetically tested female embryos into their genetic plan, says Carl Barclay, Semex Embryo Sales & Product Development Specialist. “With embryos, you can add new genetics and incorporate much higher genetic value animals than those currently in your herd,” he explains. “If you can implant an embryo with higher genetic value than the parent average, you are gaining ground.”

**Measuring Return on Investment**

By using lower genetic heifers as recipients, producers can achieve three generations of improvement in one. Making that genetic advancement will also prove profitable, says Barclay. The return on investment can be measured simply by looking at Net Merit (NM$). “If your herd averages +400 NM$ and you can implant an embryo with a NM$ value of +900, then the calf resulting from the embryo is expected to bring $1,000 of increased profitability to your farm,” he notes.

Barclay also uses the Canadian Pro$ index to further explain the value equation. “If you compare two heifers that are 500 points different in Pro$, then the actual difference in profitability between those two animals is $1,000,” he notes. “The Canadian average Pro$ value is around $420. Compare that to an embryo you can buy at

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2,500 for Pro$. The difference in lifetime profit up to six years of age is $4,160 Canadian dollars.”

Barclay adds that if three embryos on average are required to create a live calf, the investment still easily yields a return in the first generation, with resulting calves becoming an engine to drive genetic acceleration in the herd.

BIOPSIED EMBRYOS DELIVER BENEFITS

Embryo strategies have been gaining popularity in recent years, especially in herds seeking greater efficiency and profitability. Barclay says a key driver in Semex’s embryo sales growth has been the company’s ability to sell biopsied embryos. “We’re the only supplier in the world that can sell an embryo that we know the genetics — we can tell you it’s LPI, TPI, Net Merit$, or its PTAT level among others. We have all of that data already processed for that individual embryo and they are always female.”

Implanting only female embryos also has other advantages, says Barclay, beginning with the calving ease associated with generally smaller female calves.

LARGER HERDS INCORPORATING EMBRYO STRATEGY

Are there specific dairy operations or management approaches that match up best with an embryo strategy? Barclay says using embryos in a herd strategy takes planning and organization but the same management practices still apply. “If your herd is achieving high pregnancy and conception rates with AI breedings, then similar results can be expected when using embryos. Herds that have previous experience with embryo transfer, and the synchronization protocols for the recipients, will be more familiar with the process. If you have not used embryos before it’s worth having a discussion with an implant embryo technician or veterinarian.”

Dairy producers are also using embryos to help alleviate other management challenges. “We’re seeing herds that are incorporating embryos into a heat stress strategy,” says Barclay. “They’re seeing increased pregnancy rates with the use of embryos during hot weather.”

Barclay acknowledges flushing and embryos used to be more of a niche market — restricted mainly to show cows or just for elite indexes — but that’s changing. “Herds want to incorporate an embryo strategy because they see the benefit of having higher genetic potential for production and health traits and better rates of reproductive efficiency. They really can see the increase in the bottom line.”