Semex’s partnership with University of Guelph plays a key role in identifying dairy cattle genetics that can produce naturally healthier animals.

It’s a collaboration that continues to help optimize milk production by reducing the time and money producers spend on treating sick animals with antibiotics or other therapeutics.

Dr. Bonnie Mallard and her University of Guelph research team developed the High Immune Response (HIR) technology that powers Semex’s Immunity+® and Elevate® dairy management tools.

The Elevate genomic test provides standard genomic results plus exclusive female immune response results that will identify an animal as a low, average or high immune responder. Females with high immune response have inherently superior immunity reducing disease occurrence, delivering better response to commercial vaccines and producing higher quality colostrum. When bred to Immunity+ sires, producers naturally improve their herd’s health.
COWS IDENTIFIED AS HIGH IMMUNE RESPONDERS HAVE HIGHER QUALITY COLOSTRUM

Mallard’s team, including immunogenetics project leader Dr. Lauri Wagter-Lesperance, also continues to research the benefits of having calves consume the colostrum of high responding females. Their findings indicate that HIR cows also have higher quality colostrum with more antibodies compared to average and low responding cows for the first six weeks after calving.

GETTING CALVES OFF TO THE BEST POSSIBLE START

“Our research shows that calves getting the colostrum from high responding dams have more antibodies in their blood,” says Wagter-Lesperance. “The correlation is very significant.”

So what does all this mean for dairy producers? Wagter-Lesperance and the Guelph team believe the research indicates:

• Calves from HIR dams benefit from the best possible start as their dams offer a higher concentration of antibodies, cells and other factors in their colostrum.
• Colostrum from HIR dams can be given fresh (rich in antibodies, cells and other factors), or frozen (rich in antibodies, cells and other factors) to calves from low and average immune response dams giving all calves the best possible start.
• If a herd has been exposed to a particular pathogen, HIR dams provide colostrum that is rich in antibodies and immune cells providing protection against organisms causing disease in their environment.

“It really is exciting,” says Wagter-Lesperance. “Results of colostrum from HIR cows fed to calves provides them with the protection they need until their own immune system matures.”

Wagter-Lesperance says the best time to give colostrum is immediately after birth in order to absorb antibodies and cells into a calf’s bloodstream. She adds that the next best window for colostrum feeding is within the first six hours after birth. After 24 hours, gut closure occurs and the window of protection is no longer available to the calf.

While experts recommend four litres of colostrum per feeding, not all newborn calves can consume this much in a single feeding. That’s why the colostrum of HIR cows is so important – it provides the calf with a higher concentration of antibodies per unit of volume consumed, explains Wagter-Lesperance.