

BC DAIRY

Growing Forward with

Innovation

Bill Vanderkooi added the HydroGreen building to his Bakerview EcoDairy Farm in August 2017. HydroGreen is an automated system that grows small grains, 365 days a year, into sprouted grass. It takes six days to produce feed that is six to eight inches tall when harvested. The feed is cut into strips using water jets and moved directly onto a conveyor belt delivering the feed outside to the feeding area. An automated calf-feeding system was also installed, feeding 2.5 litres five times daily, from a sophisticated overhead rail-mounted device.



The Vanderkooi family (L-R): Annabelle, Violet, Bill, Lucy, Helinda, Joe and Liam.

Bakerview EcoDairy Farm

By Tars Cheema

Hank and Henrietta Vanderkooi immigrated to the Fraser Valley in 1960. Here, they raised their five children on a small Sumas dairy farm. After returning from college in 1994, Bill became involved in the feed industry and dairy farming with his three brothers. While the original herd numbered 80 milking cows, they ambitiously increased to 800, while also diversifying into agribusiness investments. In 2008, the family created a succession plan, which gave rise to a reorganized business structure, where Bill would take over the agribusinesses, and leave the dairy farming in the hands of the three brothers. In 2009, he started Nutriva, a group of grassroots businesses with a focus on innovation in the dairy, egg and beef sectors. Bakerview EcoDairy was established in 2010 as an agritourism enterprise in partnership with Science World. Since 2010, the business has introduced innovative technologies with the robotic milker, anaerobic digestion, CalfRail system and now HydroGreen. Bill plans to build a larger HydroGreen facility while cultivating sales of HydroGreen directly to farmers. Bill's wife Helinda works on social media and EcoDairy programs within the business. Their five children (ages eight to sixteen) are all very active in sports and school activities. In his spare time, Bill enjoys spending time with family and friends and competes competitively in CrossFit. The family enjoys RV trips and spending time at their cabin.



The HydroGreen growing system can harvest 6-8" sprouted grains every six days!



Jim, Alan and Celine, Coral and Greg Hessels

Hesdon Holsteins

By Gary Booy

Passion personified. That's what one notices when sitting down with the Hessels family in their new barn office. With father Jim looking on proudly, the next generation of positive minded young dairy farmers, Alan and Celine and Greg and Coral, excitedly tell the Hesdon story. Jim Hessels and MaryAnn VanDongen married in 1981, and began farming in Delta on the home farm of the VanDongens. The first Hesdon registered heifer was a Nolte FM Harry daughter born in 1984. Taking over the VanDongen herd in 1985 and the respected Fred Meyer herd in 2009 set the foundation for the impressive herd seen today. With dairy farming in their blood, sons Alan and Greg enthusiastically jumped in after graduating, securing Hesdon's future. With no outside help, they have forged a solid 10-year plan with the brothers and their families each establishing their own farms while sharing land and equipment. Purchasing and building the new facilities on the farm across the street from the home farm lays the groundwork for the future independent dairies. With the two young couples excited, passionate and confident about their farming futures, it has allowed Jim and MaryAnn to ease up on their daily workloads. That bountiful positive energy in that new barn office will indeed be implanted in the future generations of Hessels youngsters, confirming the bright future of Hesdon Holsteins.



High ceilings and lots of fresh air create cow comfort at Hesdon Holsteins.

The 'idea seed' was planted and nurtured for almost eight years ahead of the January 24 grand opening, when the bright, airy, cow-comfortable barn was unveiled. The results were impressive. The cows moved into the four-row outside drive-through last August. Valuable ideas gleaned from farm tours in recent years were highly visible throughout. From the milker-friendly double-10 GEA parallel parlour, to the air-friendly calf area controlled by Faromor Solar Vu Panels located on the exterior walls, and the large close-up calving pack, all lit by high efficiency LED lighting, make coming to work a pleasure!

Farm Facts:

- Milking 125 cows with room for 140, plus smaller herd (GEP) at home farm
- 140 acres in corn and grass, with land in Delta very limited
- Feeding three TMRs – two year olds, mature and TLC groups
- Classification: 2 ME, 3 EX, 43 VG, 86 GP, 17 G
- Production: 1.48kg BF/cow/day, BCAs: 250M, 265F, 260P
- Families involved: Jim and MaryAnn, Alan and Celine (children – Kayleigh, Sophia, James and Adrianna), Greg and Coral (children – Julianne, Vivian, Nathan and baby on its way)

Advantages:

- Excellent cow comfort – wide stalls and well-bedded
- NO crowding! Ample stalls and feed space for every cow at bunk
- Barn orientation and exceptional high ceiling exploits natural ventilation
- Very bright with quality, high efficiency LED lighting (low cost light)
- Efficient cow flow to parlour and very comfortable parlour environment
- Auto alley scrapers run frequently, keeping cows and barn very clean
- Cow care is improved since it's easy to move and treat cows
- Large deep-bedded calving pack greatly benefits cow care and comfort
- The calving pack is valuable for convalescing lame milking cows
- Calf area is bright, fresh, roomy and clean. Calves are vigorous and growthy

Challenges:

- Obtaining a variance permit for the build was frustrating
- Poor weather during early stages made it challenging
- New concrete caused significant hoof wear and lameness, but cows healed on the deep bedded calving pack

Recommendations:

- When starting on all new concrete, have a plan to prevent related hoof issues
- Attend Farm Tours, see all the new ideas and utilize the best ideas that suit you
- After touring dozens of farms, two stood out and were integrated into the Hesdon build- Alpina Dairy (Russenberger Family, Abbotsford) and PJV Farms (Peter Vink Family, Chilliwack)

Farm Facts:

- 45 dairy cows, 1,000 layer chickens, 250 beef steers
- Cows milked by robot, in full view of EcoDairy visitors from viewing room
- EcoDairy hosts 12,000+ visitors annually, including 90+ fieldtrips
- Production average: 35kg, 4.4 % Butterfat, 3.4 % protein
- 90 acres – 80 acres for grass silage, 10 acres for corn silage
- Calves are fed by the automated CalfRail system – both milk and water
- The calves are housed in individual pens that are made with movable panels

Advantages:

- The automated calf feeding system is auto-cleaning and auto-disinfecting, with nipples replaced each day. In addition, water is also provided automatically to each calf
- Calves grow better and are healthier with higher intakes due to the frequent CalfRail feedings
- HydroGreen system is an on-farm, automated turn-key system
- Produces consistent, high quality fresh feed
- Produces one acre of feed per 40 square feet per year
- More cost-effective way of producing own feed in comparison to purchasing alfalfa farm land
- All functions of seeding, harvesting, cleaning, lighting, and watering are automated in an 800 square foot building with two tables stacked six high
- Less time and resource intensive than growing forage in fields
- Increasing forage production is not reliant on whether good land is available close by
- Growing and harvesting good forage is not dependent on natural growing conditions or harvesting weather
- HydroGreen gives complete control over typical outdoor risk variables

Challenges:

- As with any build, adequate planning ensures the construction and installation will go smoothly
- While the new system is working well, there are still tweaks being made to the mechanical and software elements to ensure the system functions effectively and efficiently with minimal labour and maintenance

Recommendations:

- "We are happy with the design of the building and our 2x4 section systems."
- "We advise to install systems using the maximum length of six sections in order to gain economies of size benefits."



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