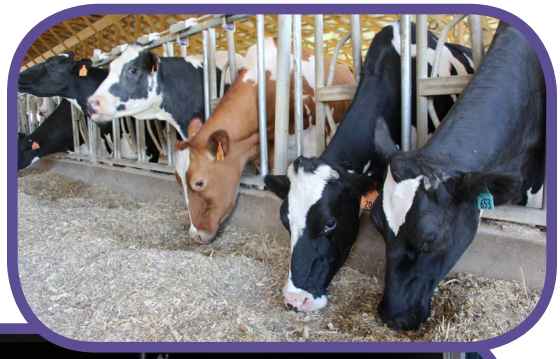
Farms for the Future

Houseknecht Family
Knecht-Knoll Farm
Transformation Team Case Study



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CENTER FOR DairyEXCELLENCE

Houseknecht Family
Knecht-Knoll Farm

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Farm History and Executive Summary

Bill and Stacey Houseknect, Bradford County, own and operate Knecht-Knoll Farm. This family's expansion plan and management practices evolved during their Transformation Team project. Prior to expansion, the Houseknects milked 60 cows in a tie-stall barn. Initially, they saw a future in dairy that included robotic technology. Research included visits to robotic farms and meetings with a robotic dairy consultant.

While the project's feasibility study confirmed robotics as a viable option, local lenders didn't want to fund the robotic dairy. Bill and Stacey also realized that the study left little room for error, if there were volatile swings in milk or feed price. They re-evaluated their options, and decided a conventional free stall barn with parlor would best meet their risk comfort level and lender funding approval.

With the assistance of their Transformation Team, the family began modifying their expansion plan and broke ground on their new dairy in September 2012. Cows moved into the facility in February of 2013, with the new lagoon finished that May.

Today, the Houseknects milk 180 cows in their double 8, fast exit parlor. The cows are housed in a freestall barn with curtains and fans for ventilation and sawdust for bedding improved cow comfort. An automatic manure scraper system was installed and decreased their manual labor. The family retro-fitted their existing tie stall barn for dry cows and also continues to milk fresh and sick cows in that barn as well.

The expansion has transformed management practices at Knecht-Knoll Farm. Bill and Stacey implemented standard operating procedures (SOPs) with their employees and strive to document practices in manuals. After the expansion, the Houseknechts also now use risk management tools, such as milk and feed contracts, another change in their business. Having learned from the planning process associated with their expansion, Stacey says, "Today, numbers are associated with everything we do on the farm. We almost have a mini feasibility study for every decision, whether it is buying a tractor or trying a new medicine."

Feasibility Plan

Situation Overview:

A. *Why did the farm need a feasibility study?* Our farm needed a feasibility study to explore the idea of a building a free-stall barn and robotics. Three years ago, I attended a presentation by Mason Dixon Farms at a Women's Conference. They shared slides of their robotic milkers. Excited at the prospect, I told Bill about the robotics, and while he wasn't as keen to the idea as me, the dream of more comfort for our cows, and quality of life for our family, remained through the years.

B. *Where did the farm turn for help in developing the plan?* Our local loan officer also was the feasibility project person. At that time, our plan included robotics. It was hard to know where to start when considering such a drastic change in our operation. At times, it seemed easier to gain information from someone 100 miles away, than from a close neighbor.

C. *What peripheral resource people did the team use to build the plan?* Our local loan officer, through our Center for Dairy Excellence (CDE) Profit Team, was a resource person because he started tackling the important numbers. We paid our bills and taxes, but didn't know the other key numbers which were critical for the study.

Challenges and Opportunities:

D. *What challenges, if any, developed during the feasibility study process?* The cost of the building was a challenge. We had to build a new barn, at a new site, across the road from our old barn including space for a lagoon. Adding onto the existing barn was determined to not be an option.

E. *How did the team overcome those challenges?* Ultimately, we had to "tone down" our dream of robotics. We were able to apply grant money to help fund the lagoon costs. We previously had no manure storage. We now have a parlor and our herd size is 200 cows, increased from 60 cows.

Another challenge for us was the financial optimism of our loan officer. He felt we could accomplish all our goals, and "do it all," but it left little room for error. When the bank viewed the plan, they were not willing to accept it or fund it. They didn't want to lend maximum dollars to a start-up robotic operation. Our bank wanted a different solution. It left us frustrated with the feasibility study and the process.

Our loan officer went to the First Industries Fund to help back our project. During the two month wait, grain prices soared and we decided we wanted to re-examine our plan. Although the First Industries Fund approved our robotic plan, we decided that we didn't want to go down that road because it was too risky. We took a step back, and looked at a parlor option.

Feasibility Plan...*continued*

With a decision to go the parlor route, we had to begin the process again with our loan officer, gathering new prices for the barn, excavating and other contractor bids. All that information was incorporated into a new feasibility study.

Communication also was a struggle for us. We felt the loan officer wasn't happy with us because we changed course, but in retrospect, we wish we would have had a more realistic feasibility study, initially, for the project. We would not have wasted the time of contractors and others, if we had asked the right questions.

Actions:

F. *What are the key components to the feasibility study?* Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA), debt per cow, and income over feed cost (IOFC).

G. *Approximately how much did the feasibility study cost?* $6,000. As noted in this case study, we made several variations to the initial study that all resulted in a higher cost than initially planned.

Results:

I. *How did the feasibility study help the farm move forward and make better decisions?* Over time, we completed six variations to the feasibility study for this project. Today, we now really understand the study's 39 pages, and we know the key takeaway items. Before we started, a financial class probably would have been beneficial to understand what's important in the process. Our perspective on both the information and our business changed when we started down the robotics path. We kept following others' advice, without asking the tough financial questions. We bought cows and feed, ramping up for the new barn and robotics planned for the fall of 2011. We also rented a neighbor's facility to milk those additional cows and took out two loans.

Today, we have our hands firmly around the operation and make more decisions based on profit. We can't make as many mistakes as we grow.

J. *Did the feasibility study reveal any surprising information about various scenarios?* We realized the margins were too tight in the robotics scenario for our family. Once we reached that conclusion, we seriously considered the parlor and barn scenario that we operate today.

K. *What might you have done differently in regards to the feasibility study?* Despite our struggles, we would do a feasibility study again. We would agree to a price, and ask how the price is impacted by any scenario changes. We would ask for better explanations so we fully understand the feasibility study conclusions. If we ask more questions in the beginning, we can save everyone's time, and arrive at the important decisions for the business.

Business Plan

Situation Overview:

A. *Why did the farm need a business plan?* We felt that a business plan would help us achieve a more professional presentation when approaching the bank for our construction proposal. It validated why we wanted to move our business forward and helped us better understand our business. Our plan was completed in April 2011, after working on it through the winter months.

B. *What resource people did the team use to build the plan? T*he Center for Dairy Excellence (CDE) website was an excellent tool to help us with our plan, along with our local loan officer. Our plan was not as lengthy, as some in the industry. It is a toned down version!

C. *Does the farm have a mission statement?* Yes. *If yes, what is the farm's mission statement?* Striving to make the best product we can, while benefitting our community, animals and family.

Challenges and Opportunities:

D. *What challenges, if any, developed during the business plan process?* One challenge for us was family farm versus business dynamic. From our perspective, we always viewed ourselves as farmers. Through the planning process, we needed to see ourselves as business owners.

E. *How did the team overcome those challenges?* Our loan officer encouraged us to think about planning for the future. His presentation style helped us realize that we are a business. We took a step back, and said, "that makes sense to us now."

Actions:

F. *What are the key components to the final plan?* Feasibility study, budget, risk management, and future steps – life insurance and a will. If something happens to us, what then? We had to plan for the business in the future. It also included our mission statement.

G. *Approximately how much did the business plan cost?* $2,500. This included time to develop the plan and lawyer fees.

Business Plan...*continued*

H. *Approximately how long did it take to develop the plan?* Several months, through the winter. Stacey worked on portions of the plan, our loan officer worked on portions and the lawyer also completed some of the plan.

Results:

I. *What benefits, if any, has your farm dairy operation derived from engaging in a business planning process?* We now view ourselves as a business, and make decisions as a business. We always ask the question, "will new technology or new purchases generate income for the business or is it too big a cost?" This remains our biggest challenge today.

J. *How often will the farm update the business plan, in the future?* Our goal is once per year. Through the building project, however, the bank requested that our budget be updated on a quarterly basis.

K. *As a result of engaging in developing a business plan, what has your family learned that is unique to your dairy operation?* Through the process, we learned that we are still a small dairy farm, even growing from 60 cows to 200 cows. While it's a big transition to us, it's still small in scale. At first, we viewed our small scale as a negative to the business, but realized it's positive to have our own identity too.

In the future, we may need to research further business diversification and have already considered a retail ice cream shop.

L. *Was there anything uncovered during the business planning process that helped family members to better understand other members of the family?* Yes. We discovered that Stacey likes to tackle tasks in order, and Bill can jump from one task to another. Our work processes and styles are very different. In the tie stall barn, Bill became the trouble shooter, jumping from one project to the next. Today, he can complete tasks he started because there is extra labor and more efficient work processes.

M. *What, if anything, would you have done differently with your business plan?* We wish we would have prepared a business plan much earlier, when we initially were taking over the farm from our parents. We would have made different decisions if we had a solid view of our future. If we had a business plan, and a path forward, we are certain we would have made different choices.

Modernization and Technology

Situation Overview:

A. *Detail the farm's reasoning behind the decision to pursue a modernization plan.* For our family farm, labor was the big issue that drove us to explore modernization. In our town, high school graduation is at 6:30 p.m. I always said I wanted to make it to our four kids' graduation, and in our current system, that would have been a difficult goal to meet. We wanted flexibility, freedom and quality of life.

With a modernization plan, we wanted a full-time hired employee. We had been able to make our farm work with high school kids, but we never had a complete comfort level with them.

B. *List the key variables that impacted the decision to move ahead with the plan.* Our Transformation Team walked through decisions with us. We explored robotics and the associated debt and equity load. Once we accepted that a parlor and free stall was the best fit for us, they also walked through those decisions and choices with us. They also helped us look at exit strategies. We knew we needed to be progressive and better positioned for the future or, we needed to be out of the business.

C. *The farm was modernized in the following areas during this project:*

- Young Stock Facilities – We retrofitted our machinery shed to group housing for calves, with an acidified milk feeding system. It modernized our calf production that was previously 10 calf hutches.
- Milking Cow Facilities – Double 8, fast exit parlor. With a touch of button, all the cows exit.
- Manure Management & Storage –Earthen lagoon, emptied twice per year in the spring and the fall. A lot of rain could impact surface area, but the expectation is that it should be fine.
- Manure Handling – Automatic scrapers that run on a timer.
- Feed Storage – No change, but added more ag bags and old silos.
- Bedding – Sawdust for free stall barn.
- Ventilation –Side wall curtains, and fans down the middle of the barn.
- Other – Existing tie stall barn is now the dry cow facility. Fresh cows and treated cows are milked in that barn too.

Modernization and Technology...*continued*

Challenges and Opportunities:

D. *What were the different options the Transformation Team considered as they worked together to pursue this plan? Please describe.* We considered robotics and a conventional free stall with a parlor. Ultimately, we chose the conventional free stall barn, and our Transformation Team advisors had the knowledge of what we needed to do next, to keep the plan moving forward. We had invested a lot of time and research into robotics, and were more familiar with our choices, as compared to a parlor and free stall barn. Our Transformation Team helped us switch gears and make decisions.

Our team met throughout the building phase of the free stall barn. One example of their input was they knew we needed a "cross over" alley for our number of cows. With that guidance, we were able to talk to our builder and make that change. We tapped into the team's experience and knowledge.

When planning the parlor, we knew we wanted adequate lighting and didn't want to work in the dark. We have big garage doors with windows. We also have heated floors in the parlor that adds to a high quality work environment for our family and employees.

Looking to the future, we can expand our parlor to a Double-10, should we decide to grow our operation.

E. *Did any barriers, or bottlenecks, occur during the project, and if yes, how did the team overcome those issues?* We had scheduling bottlenecks with our contractors at various times. We were ready for our cows in the new facility, but the lagoon wasn't ready. We moved our cows thinking we could handle the manure until the lagoon could be completed in the spring. Unfortunately, it wasn't a good idea, since we couldn't keep up with the volume of manure.

Actions:

F *How did the work done on a business plan or feasibility study impact the farm's final decisions?* Our feasibility study showed us how much our debt load would be with the new barn and parlor. We still have that debt load, but are more confident in our decisions moving forward. As you are building, you sometimes think the new barn will solve all your problems. Even with a new barn, it's still dairy farming and it's still managing animals.

G. *How long did the project take, start to finish?*

- Planning – 2 years
- Building – 8 – 9 months; we broke ground the end of September and began milking in February, but the builders were still working on the barn.
- Lagoon – started in the fall, stopped, and had to wait on temperature to rise for the lining, so it was not completed until May.

Modernization and Technology...*continued*

Results:

H. *How did the modernization and new technology change the business as it relates to profitability?* We experienced energy savings and also fertilizer savings with our lagoon. The new barn and parlor also is an attraction for future employees. Many people stop and leave their name and number, wanting to work on our farm now (significant advances in worker environment). Daily manure management is much easier with a skid steer and it's also more enjoyable to milk cows in our new facility.

We are benefiting from programs that reward volume purchases that were unavailable to us when we were milking 60 cows. As an example, we have more options for contracting feed because we own more cows. Instead of 2 -3 artificial insemination companies visiting the farm, we might have 5 – 6 today.

I. *Did the modernization and new technology change management practices on the farm?* Yes. See additional details in the "Animal Care" template discussion. We were always the "do-ers" on the farm, and felt guilty if we took a phone calls, etc. Now, we realize that we need to be managers. In a given day, about 30% of our time is managing and approximately 70% is performing labor around the farm. It took us a few months in the new barn to realize that we needed to be looking at information, not just preforming labor tasks.

J. Have you learned anything that has influenced future decision making about technology or given you new enthusiasm for some aspect of modernization? Today, numbers are associated with everything we do on the farm. We almost have a mini feasibility study for every decision, whether it is buying a tractor or trying a new animal health product.

K. *Has the farm shared the new facilities or technology (milking facilities, manure management, etc.) with others in the dairy community? If yes, what was the response from the community?* We hosted an Open House in August 2013. People close to our age said if you can do it, we can do it. Several of those people came back, at a later time, to ask more detailed questions.

There was a little negative feedback, from smaller sized farms. They didn't see a need to expand dairy businesses and even criticized our choice in barn color – blue. We heard comments that it was "too showy." When you are in the process of trying to transform your business, you can feel lost. It can feel like people are scrutinizing everything you do. We chose to stay in the community, to keep farming and we are still learning. It will take lots of work, but this is how we want to raise our kids.

Site Survey

Situation Overview:

A. *How did the team analyze potential sites for construction?* One of our biggest concerns was ventilation. We also needed a location that allowed us to build a lagoon with our new barn. By moving across the road from our current barn, we had a wide open space with natural ventilation. The new location also gave us plenty of room to for any future facility expansion.

B. *What variables did the team consider as they reviewed sites?* Primary variables were ventilation and room to grow in the future. With the aid of a topographic map, we also could determine best location for cut and fill, taking into account the current building project and what we might build in the future.

Challenges and Opportunities

C. *During the site survey process, did the farm encounter any problems? If so, what were they?* There was a natural gas line that ran through the construction site. We went through the process of moving that line for the project. Rather than move it the required 400 feet for the new barn and lagoon, we decided to move it 1700 feet to accommodate any future facility growth. The natural gas company worked with us on the costs associated with moving the line because it would need replaced in the next five years.

Actions

D. *How long, from start to finish, was the site survey process?* Seven to eight months for the entire process.

E . *Approximately, how much did the site survey work cost?* The Natural Resources Conservation Services (NRCS) prepared the topographic map at no cost as part of our lagoon project. Red Barn Consulting prepared additional measurements associated with site engineering. Total approximate costs: $8,000

Results

F See the resources section of this case study for the project blueprint.

Permitting and Regulatory

Situation Overview:

A. *What was the process the farm went through to prepare for necessary permits?* Both our Transformation Team and our Center for Dairy Excellence (CDE) Profit Team discussed permits. Permits needed two years ago are different than permits needed today because the (local) Bradford County permitting landscape continues to change.

B. *Please list the necessary permits needed for your modernization and technology project. Please also include the approval agency (DEP, County Conservation District, or Township), time to receive permit and cost of permits.* Our team leader advised us to budget $7,500 for permits; we exceeded our budget, as outlined below:

- NPDES Permit (National Pollutant Discharge Elimination System)
  Approved by the NRCS/DEP. Cost: $2,500. We wrote three separate checks for this permit. We began the permitting process in June 2012 and were denied. We had to perform a perk test for drainage, and were approved in August 2012. Our permit arrived in September, in time for us to begin excavation. Engineering and perk tests added another $6,000 to the cost for a total of $8,500.
- Building Permit
  Issued by Spring Township. Cost was measured by the square footage of the barn. – ten cents/square foot for a total cost of $1,500. We also included this permit with our NPDES permit, because it was required that we prove the township reviewed our plans. We were code inspection exempt because it was an agriculture project. It was another 2 – 3 weeks before the permit went before the supervisors.

Total Project Permit Costs: $10,000

Challenges and Opportunities:

C. *Were there setbacks during the permitting process?* We didn't have as much knowledge about NPDES. We also were new to NRCS. In the past, we wouldn't have to worry about the new lagoon. This permit was needed because we were moving an acre or more of dirt

D. *Which permit was the most challenging to secure?* NPDES, for the reasons noted earlier in the case study.

E. *How did you resolve those challenges?* Ultimately, we didn't have any choice but to fund the needed perk test and spend the extra money to receive the permit. In the future, we would know to budget more money for necessary permits.

Permitting and Regulatory...*continued*

F. *What resources or resource people were used in addressing those challenges?* Red Barn, our engineering consulting firm, was very helpful. They have applied for these type of permits for other clients and could handle the logistics.

Results:

G. *Was the local township supportive of the permitting process? Please explain.* Yes. Spring Township supervisors are supportive of agriculture and appreciate the dairy industry. They were very excited about a new dairy expansion in their township. Most of the supervisors we've known personally, and live within 5 – 10 miles of us.

Conservation and Environmental Stewardship

Situation Overview:

A. *How does this farm view their environmental responsibilities for both the farm and land? Please describe.* We take this responsibility very seriously. We care for the land so it will provide a living for our family. Our farm was purchased in 1981 in Bradford County. Prior to 1981, our family farmed in Lycoming County.

B. *The following conservation and environmental best management practices (BMPs) have been incorporated into this farm plan that last 5-10 years.*

- Crop residue management
    - No-till practices
- Contour farming
- Conservation buffers
- Stream bank protection
- Water (manure) storages/Manure Stacking (Lagoon for the Transformation Team project)
- Roof runoff management
- Precision feeding/Feed management

C. *Does the farm have a Nutrient Management Plan (NMP) or Manure Management Plan?* Yes. *Did this project change the way the farm handles animal manure? Please describe.* We have a daily haul plan, and with the new lagoon, we developed a new manure management plan.

D. *Is manure applied in the winter months (generally December – February)?* Yes. *Is the manure applied in winter due to not enough storage or for other reasons such as timing, field conditions in spring, etc.? [if yes, for what particular reason(s):]* We maintain contour strips and practice crop rotation. Our highly erodible fields stay in a sod with two years of corn rotation. We also have erosion ditches for contour water.

E. *Does the farm have a conservation plan or an agricultural erosion and sedimentation control plan? If yes, what are the key components?* Yes, the farm has a conservation plan. Crop rotation and riparian buffers for our creeks are included with our nutrient management plan.

F. *If this project included new conservation or environmental changes, how did they impact farm profitability? Please describe.* We built a manure storage facility for the new barn. The lagoon has reduced labor costs associated with manure management, improving our profitability.

Conservation and Environmental Stewardship...*continued*

G. *Can the farm quantify the environmental impact of the project? Please describe.* Our building project probably contributed to losing approximately five acres of field land that are no longer dedicated to our crops.

This is the first winter that we didn't need to haul daily manure. During a harsh winter, it's easy to see the environmental benefit of not spreading manure, when you recognize the challenges associated with manure run off.

H. *What is the most significant environmental/conservation improvement made on this operation within the last 5 years, and what improvement(s) did it result in?* For our family, the biggest improvement is the lagoon. We utilize the nutrients better, and don't have associated run-off in the winter.

Prior to lagoon construction, the riparian buffers were a significant improvement.

Animal Care and Comfort

Situation Overview:

A. *Can you determine if cow comfort or care was limiting the productivity or profitability of your dairy operation?* Yes. *If yes, please list animal factor(s) that needed to be improved.*

- Ventilation
- Weather impacts on cattle
- Lighting
- Stall size

In our old barn, cow comfort was an issue. We struggled during the winter because we couldn't let cows outside for exercise. We had mattresses and sand bedding in tie stalls, but invariably, we would lose a cow because she was lame. In the spring and through the fall, things were better for the cows because they were on pasture, but pasture wasn't a source of feed. The time away from the feed bunk hurt intakes, depressed production, and ultimately affected our profitability.

It also was a very labor intensive barn, requiring us to push up feed and lay down bedding for each cow. We were so busy performing daily labor in the tie stalls that we weren't worried about smaller details such as bunk space that could help our operation. Our ventilation system was nature and exhaust fans.

We decided to expand our operation and make cow comfort a priority. It was a difficult transition from tie stall to free stall by doubling the herd. We had to rotate cows, with half inside and half outside, until the new barn construction was complete. There were times when we questioned ourselves on the road to expansion because it was hard on the cows. We also rented another barn for eight months during this project, and it seemed to have more issues than our barn.

B. *If you determined that cow comfort or care was a limiting factor, did you make structural and/or management changes to address the deficiencies?* Yes. *Please list structural and/or management changes.* We built our new barn with cow comfort in mind.

- Ventilation – In the new barn, we have an automatic curtain system and doors at each end. Fifty six inch overhead mounted fans, located in the free stall and in the holding pens, also improved ventilation for cow comfort.
- Automatic Scrapers – Area is clean for the cows, with the help of a skid loader. Previously, manure was removed through a gutter system.
- Management – We no longer do all the manual labor on the farm, giving us more time to manage the cows, business, and employees. One day a week, we have "Herd Health Day." We schedule hoof trimming on a regular basis. Vaccinations previously were only in the spring and fall. Today, vaccinations are 25 days after cows freshen, before they go into the breeding program.

The new barn has plenty of lighting and every stall has mattresses. We use sawdust for bedding because of the ample supply and vendors willing to deliver by tractor trailer. We have adequate stall size and a hoof bath as cows flow to the parlor.

Animal Care and Comfort...*continued*

C. *What did you learn that would be of interest to the broader dairy community?* We continue to learn as we go, but we know management is important. There were finer points on our dairy that we were missing. With our new facility, we can spend time on details that will make us more profitable in the future.

The new barn is built on a hill and we thought that we would have plenty of natural ventilation, never thinking we would need fans. By June, when the temperature soared, it became obvious that fans were needed, despite the curtains and natural ventilation.

We grooved our walkways, but less than a year into the new barn, they were wearing down, and we needed to add mats. Even though it's a new barn, we must continue managing, paying attention to what our cows need to remain comfortable.

D. *What is your farm's approach to administration and documentation around the use of standard operating procedures (SOPs) for animal care?* Prior to building the barn, we had verbal SOPs. At that time, we didn't think it was that important. When we had five – six calves, written SOPs were not an issue; I took care of all the calves.

Last summer, our Penn State extension educator helped us by printing off standard templates that we customized to our farm. Today, they are in a binder, with pictures of our processes, in English and Spanish. New employees receive a binder and for example, watch a few milkings, with the binder in hand.
We changed our policy and procedures on calves. In the fall, we had trouble with our calves. We went back and compared what each employee was doing with the calves and changed the process. Today, we are working on finishing up the SOPs for our dry cows. Our SOPs are living documents, always changing as we learn new ways to improve our animal care.

White boards also have been a practical, inexpensive way for us to communicate between owners and employees. We have white boards all over the barn – parlor, calf feeding area and dry cow barn. If cows get moved, we write it on the board. Stacey takes a picture of the board, once a week, with her cell phone and transposes it to the PC Dart software program. Once she takes the picture, she erases the board.
If Stacey has a sick calf, she marks it in red marker on the board, so the next employee that feeds sees the notes. It is an ongoing dialogue on the white board between employees. We have miles to go, with lots of learning, but we've made great progress during this project.

E. *Have you enrolled in a formal animal care program? If so, what have you learned that's been beneficial to your operation?* We are enrolled in the Dairy Farmers of American (DFA) animal care program. They visit our farm and perform an audit every year, issuing a certificate. For us, audits have been a great tool to remind us what the public is thinking, when they drive by or visit our farm. While we always have been proud of how we take care of our cows, we have so much to do during the day that we sometimes forget about the public relations side of our business. It's the little things and the big things – how are calves look, where we store our medicine, any manure on the heifers out in the pasture, etc. – that matter to our neighbors and customers.

Other Unique Components

Situation Overview (Satellite Dairy Rental):

A. *Please describe farm characteristics.*

- Number of cows – before project (80-90 total head, milk and dry) and after project(180 milking, with 26 dry cows and heifers)
- Number of acres – before and after the project (owned 160 acres, rental 160 acres)
- Total forage needs (in tons) – increased forage needs by 2,000 tons. Required 1,500 tons before expansion and today need 3,500 tons.
- Storage Structure Facilities – before, 3 silos, 1200 ton silage capacity and ag bags for corn silage. After the expansion, we've added more ag bags for corn silage.

B. *Additional key factors to the satellite dairy rental.*

- Winters are harsh in northern Pennsylvania, making it difficult to run cows outside in the winter. While we grew our herd for the new facility, we rented another tie stall barn.
- We milked in the rental barn from October – middle of May. Someone else was farming the land, so pasture wasn't an option in the spring and summer.

C. *How was the team instrumental in helping you think through available options? Please describe.* There was discussion within our team about building an inexpensive barn to give the cows shelter in the winter versus hiring more labor to milk cows at two facilities. They helped us weigh the pros and cons of both options, ultimately leaving the decision to us.

D. *Did any of these additional components result in added profitability or a change in management style? Please describe.* We quickly realized the rental dairy was not a profitable venture for us, as we were losing money. As an example, we fed the same TMR (total mixed ration) to our cows at our existing barn and the rental barn. The cows in the rental barn were producing five less pounds of milk, per cow. It convinced us that the new free stall would be more profitable for the business.

Risk Management

Situation Overview:

A. *The following traditional risk management tools applied to this farm before applying for this grant:*

- Crop insurance – Field crops
- Contract feed with a mill – Very sporadic
- Other – Locked in fuel prices, for one year

B. *What new risk management tools did the farm pursue during, and after, the project? Please describe.* After building the barn and expanding our herd, we decided to become more serious about risk mitigation. We now contract our feed (we are locked into eight months) and have started to contract our milk. For our custom crop work, we also ask for price per ton up front, and negotiate price.

C. *Does the farm have a marketing plan? Please describe.* We don't have a fancy marketing plan. We will ship our milk to our cooperative, via an annual contract.

Challenges and Opportunities:

D. *If the farm incorporated new risk management plans into your business model, did you overcome any challenges to implementation? Please describe.* No major challenges, although during the process, we learned that riding the wave of price fluctuations is much different with 60 cows, as compared to 250 cows. It's not as easy to bounce back from a mistake, and risk management tools give us more cushion. For us, it's been a whole new way of managing our business.

Actions:

E. *What communication was necessary with the farm's ag lender and what were their requirements for additional ag protection through risk management to move the project forward? Please describe.* Life insurance was a stipulation to our project's loan. Every year, our loan officer likes to review our risk management plan to make sure we are exploring our options and being progressive in our business model. We also work with our insurance agent to make sure everything on the farm is properly insured. Over time, we've learned to be proactive and ask questions.

Risk Management...*continued*

Results:

F. *Can the farm quantify the change in business profitability attributed to implementation of new risk management tools? Please describe.* Yes. Milk contracting was a huge benefit to our business in the spring and summer of 2013, although we did lose a little money the last three months of the year. Our feed is locked in and we are in a good comfort zone.

Life insurance also gives us comfort as we manage this new, larger business.

Resources and Contact Information...*continued*

Contacts:

Please call the Center for Dairy Excellence to make contact with any of these individuals or organizations to learn more about their role in successfully completing this project.

Mike Hosterman, AgChoice Farm Credit

Jeff Ainslie, Red Barn Consultants

Troy Veterinary Clinic

CENTER FOR DairyEXCELLENCE

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