Jerseys: Core of the Waterman Dairy Mission

Editor’s note: This past April, after a period of extensive study, the dairy located on the main campus of The Ohio State University, Columbus, began to transition from a mixed Holstein and Jersey operation to an all-Jersey herd. Ohio State student Stephanie Adams relates the story of how Jerseys are now at the core of the university’s Waterman Dairy Center and its mission of teaching, research and outreach.

My story is quite different when you compare it to a typical student interested in dairy science. While in high school, I was actively involved in 4-H, FFA, and the Madison County Junior Fair Board in London, Ohio. I knew I wanted to attend The Ohio State University since I was four years old. However, not once did I ever think about entering into an agriculture related field. I started my freshman year at Ohio State with a major in anthropology.

During spring quarter, I decided to take the introductory animal sciences course. Labs were part of the curriculum and for the first few weeks we did tours of all the animal facilities. One of the labs took us to The Ohio State University Waterman Dairy Center. I immediately fell in love with the cows. At the time, I was looking for a summer job and it was just my luck that the dairy happened to be hiring. By the end of the summer, I had learned so much about dairying that I was hooked. I wanted to know more. I quickly changed my major to animal sciences with an emphasis on dairy.

Four years later, I am now the Buckeye Dairy Club President, a competitor in the Cargill Dairy Challenge for the past two years, a member of the American Dairy Science Association-Student Affiliation Division, and an intern at USJersey. I do all of this and still have time to milk cows at Waterman. I owe my entire future to Waterman and I can only hope that the Waterman Dairy Center will continue to have an impact on students for generations to come.

Brief History

Anna Waterman managed the Waterman Farm from 1905 until it was sold to The Ohio State University in 1923. Supposedly, she actually settled for less money than the land was worth at the time because she wanted to insure that students would continue to learn about agriculture on the farm for generations to come. While the university had dairy cattle operations, their permanent home at Waterman was not established until 1972. The mission was to teach and do research out at the Waterman Center. Today, outreach has also been added to its mission. This has made the Waterman Dairy Center a unique place for people, from all walks of life, to experience dairy farming through teaching, research and outreach.

Why Jerseys?

Dr. Joseph Hogan, associate chair for the Department of Animal Sciences, became the Waterman Dairy Center faculty advisor in June of 2009. He initiated a series of evaluations to look at profitability, sustainability and fulfillment of department programs. There had been previous plans to possibly move the dairy to another location. Because of this, there was no real effort put into the upkeep of the facilities.

Also, over the past 25 years, Waterman had gone from being the home to five dairy breeds to only Holsteins and Jerseys. Both breeds were housed in the same facilities which had been built for Holsteins in the 1970s. Needless to say, neither breed fit in the facilities.

Dr. Hogan presented his report on the state of Waterman Dairy Center to Dr. James Kinder, chair of the Department of Animal Sciences, and Dr. Bobby D. Moser, dean for the College of Food, Agriculture, and Environmental Sciences. After extensive deliberation and consultations, it was determined that only one breed would continue at Waterman. The decision on which breed proved to be a more difficult decision. Both breeds had positive traits and both would be successful at Waterman. However, the decision at the end of the day came down to Jerseys.

There were three main reasons why Jerseys were chosen. One reason was that the Ohio Agriculture Research and Development Center (OARDC) maintained a herd of Holsteins in Wooster, Ohio. If any faculty member wanted to conduct breed
specific research on Holsteins, they would have access to that herd. Another major reason to continue the herd of Jerseys was based on the size of the breeds. According to Dr. Hogan, “The Jerseys nowadays are about the size of Holsteins in the ’70s, so from a renovation standpoint, it was a lot more feasible to retrofit the stalls for Jerseys than it would be for Holsteins.”

Ultimately, the primary reason to maintain Jerseys is because the Waterman facility is landlocked within the Columbus metropolitan area. The Ohio State University campus sits to the south and east of the Waterman farm property and the city of Upper Arlington, a suburb of Columbus, is adjacent to the north and west.

“At that time in 2009 we had 126 acres to grow forages on,” Dr. Hogan commented. “And that had decreased over the years from about 260 acres. In the past year that I’ve been in charge as faculty advisor of Waterman, there has hardly been a week gone by that I have not either lost an acre or had to fight for an acre of land.” The Waterman farm complex is not just home to the dairy. It is also home to horticulture, crop science, turf grass, forestry, wetland, floriculture, and apiculture research. “The farm is for the college, and you have all those departments who have their laboratories out here,” Dr. Hogan continued. “So we’ve lost little pieces of land for different reasons and they are legitimate and justifiable uses but nevertheless, that’s one less acre of corn.” With the dairy moving in a direction of being more sustainable, it made sense to ultimately choose Jerseys because more of them can be fed using less land as opposed to Holsteins.

What About the Holsteins?

The next question posed was, what is to be done with the Holstein herd? At that same time, the Ohio Department of Rehabilitation and Corrections (ODRC) was looking to expand its herd of Holsteins. All Holsteins would be sold to the ODRC farms. Because it was an internal transfer between different state departments, it saved Waterman from doing a public auction of all the animals that might have caused stress due to the Holsteins’ long history at Waterman. The last group of Holsteins left Waterman in May of this year. Milk from the Jersey herd is also sold to ODRC as Class 1 fluid milk.

Facility Renovations

With the decision made to convert the farm to Jerseys, renovations were needed for the existing facilities. The dairy has both a tie-stall and a freestall barn. The tie-stall barn mainly houses animals on research trials, and hospital pens. The freestall barn houses all milking cows not on special research trials. Renovation began in July of 2009 and the first phase started with the renovation of the tie-stall barn. Among these renovations was to install a new ceiling with better lighting, tear down part of the west wall and install large fans in the east wall to help with cross ventilation. These renovations were done entirely by staff from Wooster and student employees at Waterman.

This past summer, the second phase of renovation took place. This included the retrofitting of the freestall barn, installing new fans, and creating a gravel pad to feed 100% from corn silage bags. The reason to switch from vertical silos to corn silage bags was to make labor more efficient and save on maintenance costs for the aging silos. This phase was just completed in August. Student employees worked tirelessly with the staff to complete both phases before the start of the fall quarter.

Dr. Hogan has many goals for Waterman as he looks at the future of the farm, all built on proper housing to keep the animals healthy and comfortable. “We need to make sure our facilities are well taken care of throughout their lives, all the way from baby calves on up to our mature cows. We want to sustain a healthy herd and we want to maintain facilities that visitors and alumni are proud to come and see.”

Over the past year, somatic cell counts have been significantly reduced and problems with feet and locomotion have been addressed. Some of this was directly due to animals being culled that had been kept on for longer research trials. Another significant improvement has been in reducing teat injuries, a direct impact of the new retrofitted stalls.

According to Dr. Hogan, most people do not realize that Waterman must operate at a profit and not a lot of supplemental funds are available for facility upkeep. The farm’s milk checks go directly back into the operation which helps pay for the labor of the students, staff and maintenance at Waterman. Something new started for Autumn Quarter of 2010 is the implementation of student fees in the Department of Animal Sciences. A large percentage of those fees will go directly into supplementing all of the animal facilities. The students now have a fiscal input into maintaining the facilities.

Research

This transition comes at an exciting time for agricultural research at Ohio State. On March 30, the Governor Ted Strickland and the Ohio Board of Regents designated Ohio State as the state’s Center of Excellence in Agriculture, Food Production and Bioproducts.

The milking herd is enrolled on the AJCA REAP program and ranks in the top 25% for herd average Jersey Performance Index™. The 2009 lactation average on 53 records was 18,193 lbs. milk, 831 lbs. fat and 676 lbs. protein. The herd added 30 bred heifers during May, most due to calve in June and July. The 78 cows tested on August 31 averaged 50.1 lbs. The herd will be maintained at no more than 110 cows. There are 100 freestalls available and the land base available as of now can carry 120 to 130 Jerseys comfortably.

“I think the Jerseys offer many opportunities because of the uniqueness of the breed particularly dealing with components and value-added products,” explains Dr. Hogan. Because Waterman is still in expansion mode and over half of the herd consists of first lactation animals, very little research is being done at this time. “The plans are now to go ahead and fertilize some animals so that they will be able to do some rumen fistulated research here,” he added.

In July, the university received a $194,324 grant from Ohio Environmental Protection Agency and local matching dollars totaling $132,456 to enable the Franklin Soil and Water Conservation District to demonstrate several progressive projects at the Waterman facility.

Reagan Bluel, Waterman farm manager, says that the projects will demonstrate the university’s commitment to be a leader in water quality improvement through effective whole farm management practices. “We’ll enhance crop and livestock production, while demonstrating to our urban neighbors how conservation management can repair damaged watersheds.” (see page 24 for more on the grant.)

To showcase environmental stewardship for students, faculty and urban residents, exclusion fencing along 6,500 feet of stream will be installed along with four livestock stream crossings. A conserva-
Jerseys at Waterman Dairy

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Nurturing and manure management plan will be implemented along with demonstrations on composting and nutrient management. The anaerobic biodegester program will be expanded and cover-crops will be established.

When asked about long-term goals for Waterman, Dr. Hogan let out a laugh and said, “Maintain this facility! There are a thousand reasons not to have a dairy square in the middle of 1.2 million people! Fortunately the neighbors in Upper Arlington seem to want to keep us here. Plus we have administration right now that wants to keep us, and we want to stay here.”

The Student Experience

The students who work at Waterman come from a wide variety of backgrounds. Diversity can create new and exciting learning experiences for not only students completing internships but also the employees who work year round.

The present herd manager at Waterman, John Lemmermen, got his start as a student employee. After working at the dairy for four years, the position for a new herd manager opened up and John was hired. Being a Jersey breeder himself, he was of course happy for the switch to an all Jersey herd.

Megan Lohstroh, a sophomore in animal sciences lives on a beef farm and decided to complete her internship experience at Waterman. “Since I’m from a beef background, I wanted to learn about the different aspects of the cattle industry. And I wanted to learn about nutrition and that’s why I wanted to be the feeder here at Waterman.” Although Megan was only hired as an intern for the summer, she will be continuing employment at Waterman during the school year.

Justin Rawn, a senior in animal sciences, has worked at Waterman for almost two years. Since he grew up around dairy cows, Justin needed to complete an internship in a new area of expertise. So this past summer, his internship focused on biosecurity. “The farm had recently added 30 animals and needed someone to be in charge of managing their quarantine time from the rest of the herd.” Nutrition and reproduction in the dry cow herd were the main focus of his internship.

“I would test the pH of close-up animals to see how it changed and whether the anionic salts in the dry cow ration were affecting their pH.” He concluded that heifers would not show any significant changes in their pH. However, the pH of dry cows would progressively drop the longer they had access to a diet with anionic salts. “By lowering the pH of the dry cows, it decreases their chances of any metabolic problems after they calve such as milk fever.” Justin is continuing his employment at Waterman as one of the student managers during the school year.

Kevin Jacque, a junior in animal sciences, was a student manager at Waterman over the summer. “My personal vacation is going to the farm, and it relaxes me. I’m not so uptight.” Kevin is not new to the dairy industry. He grew up on a dairy farm in upstate New York. Even though he no longer lives on a dairy, Kevin knew that he wanted to work with dairy cows.

“I wanted to learn more about management practices, mastitis control, nutrition, and reproduction, basically anything that would go along with running a dairy farm. I could then apply those to my pursuit to be a veterinarian. I wanted to learn how biosecurity and environmental implications could be worked out by the veterinarian and see how the managers of the farm and the veterinarians work together.”

This summer, Kevin applied and was accepted for the Veterinary Early Commitment Program. This program is designed to cultivate students’ interest in food supply medicine and graduate more veterinarians who have the knowledge and skills to serve modern food producing animals in something I know I can treat, I’ll go ahead and treat them myself first. But most of the time, I like to clear it with the managers in order to make sure we picked the best option for the cow.”

Whatever experience a student may have at Waterman, each is guaranteed to walk away with an experience that they loved the most. For Megan, working with the calves is her favorite experience because she gets to watch them grow and become strong, successful heifers. Justin enjoys the flexibility in hours but still likes the opportunity to come in and work more hours. “They can always find something for you to do. There is always a learning opportunity.” Even though Kevin grew up with Holsteins, he is glad for the opportunity to work with Jerseys. “They are such a wide variety of characters. Most of them are very friendly and sociable. A lot of them are just very curious in nature.”

Dr. Hogan hopes that incoming students share in the same positive experiences. “First and foremost, Waterman needs to be a pleasant and positive experience, and to be able to do that, students have to be able to learn. And they have to be able to apply what they learn on campus and in the classroom to the animal and to management practices on a dairy.”

Teaching

From introductory to upper level dairy herd management courses, Waterman Dairy has something to offer for all students and faculty. “To not use Waterman would be a great tragedy or an error on the part of a teacher,” states Bonnie Ayars, instructor for the Dairy Cattle Evaluation class offered each spring. This class is designed to teach students how to evaluate all breeds of dairy cattle based on form and function. Students start the class by taking weekly field trips to Waterman to learn the basics of evaluation and how to give proper reasons for judging and appraisal. “We have to use that facility as a training ground. When you can just do a hop, skip, and a jump and be in a herd of cattle, it makes for a fantastic opportunity for the students!”

Ayars is not the only instructor with the same enthusiasm for Waterman. Dr. David Zartman has been teaching Management Intensive Grazing since 1999 when he decided to step down as chair of the Department of Animal Sciences and re-enter the world of teaching. Dr. Zartman’s class is unique because it is the only one of its kind in the United States that offers credit

When the decision to switch to Jerseys was made, several Jersey breeders around the state donated heifers to the cause. Other purchases were made through various sales including the National Heifer Sale this past June.
for completing the course. “Proximity is everything when it comes to a course like this because we are in the field every day once the grazing season begins. We need a place that has easy access with a short drive, or walk from campus. How ideal could this be? The Waterman farm is perfect. I don’t know of very many universities, if any, who have a dairy farm with a grazing potential basically in the middle of the campus.”

What is unique about both of these courses is that they are elective, meaning they are not required to graduate. However, attendance in both classes has been steadily increasing over the past few years. This is most likely due to the use of hands-on learning that both classes have embraced. “Last spring we actually maxed out the course at 45 students,” noted Dr. Zartman. “How does that happen with an elective course? Only because it’s attractive and students are getting something of value from it otherwise they would use their credits elsewhere.” Dr. Zartman has also seen many of his students go on to become successful business people after taking his course. “There are just so many examples now of young people with very little capital who went out and bought some land and cows and now they’re in business.”

Outreach

Waterman offers people of all ages a unique opportunity discover not only what milk producers do on the farm, but also why we do the things we do. Bonnie Ayars is also in charge of coordinating tours for the farm alongside Waterman farm manager Reagan Bluel. Thousands of school children and adults visit the farm every year and both Ayars and Bluel are excited to host them. The most important information given out during a group tour is simply where milk comes from and why consuming dairy products is important for one’s health.

“When hosting a tour we have two main goals, first to ensure that the adults gain knowledge about common dairy practices so that they can become an educated consumer and second for the kids to have a fun and safe interaction with the animals,” states Bluel.

Most children and even adults are surprised by what they learn at Waterman. “Each one of them takes away something different that they are surprised about,” says Bonnie Ayars. “Some of them are surprised about how many pounds of feed the cows eat or that they really do drink about a bathtub full of water a day or even how we have round-the-clock care.”

In August a contingency from Bangladesh visited the Waterman facility. The group included: Dr. Khandakar RafiQ Islam, Research Scientist, Soils, Piketon, Ohio, J. Mark Erbaugh, Interim Director of International Programs in Agriculture; Hilton Kumar Shaah, Assistant Personal Secretary to the Minister; and Md. Abdul Latif Biswas, Minister of the Ministry of Fisheries & Livestock, Government of the People’s Republic of Bangladesh. Mr. Biswas headed up a fact-finding mission to the U.S. first week of August in support of the government’s Vision 2021 initiative to improve livestock production in Bangladesh, a country approximately the size of the state of Wisconsin with a population of 160 million people. While in Columbus on August 5 and 6, the group visited Select Sires, the Waterman Dairy at The Ohio State University, the offices of the American Jersey Cattle Association and National All-Jersey Inc., and the Ohio Department of Agriculture.

Buttermaking is also an option available to tours, which are conducted by Ohio State students. Bluel explains, “Students are chosen based on recommendation by faculty or staff. Ideal tour guides possess the ability to communicate, willingness to maintain current, accurate knowledge about the dairy industry and most importantly, they need to enjoy kids.”

Donations Support Herd Expansion

While the news about expansion of the Jersey presence at Waterman Dairy was met with enthusiasm from the Jersey community, the strongest possible statement of support for the University’s move came in the form of donated heifers. As of today, seven heifers have been donated to the Waterman Jersey herd.

Five came from Ohio: Clover Patch Jacinto Liones, from Alan Kozak of Millersburg; Buttercress Jace Fitch, donated by Tom Cooperrider of Croton; Pine Hill Rasmus Red, from Scott Lindsey of New Waterford; Praldo Brown Helki, donated by Douglas and Rhonda Billman, Burbank; and Grazeland Impuls Nayla, given by Thomas and Rosalie Noyes of Wooster. The group average PA Net Merit was $185. John Lemmermen and his father Jerry donated their time to transport the group to Columbus.

The support reflected each donor’s ties with the university and hope to encourage Jersey-specific research. “I spent almost 32 years as Extension Dairy Agent at OSU,” noted Tom Noyes. “Our oldest daughter Cheryl King who with her husband operates our farm is a dairy science graduate of OSU and we presently have two grandchildren attending OSU in the College of Food, Agriculture & Environmental Science. I hope that we will see some really good data on Jerseys in the future that will benefit Jersey producers nationwide.”

At the National Heifer Sale, another group of Ohio State supporters joined forces to purchase, then donate a November, 2009 heifer named Jars of Clay Tbone Belle. Organized by Brian Spahr, Findlay, Ohio, and Michael Hurst of Waynesville, Ohio, this group included Cherie Bayer, Sherry and Neal Smith, Jeff Ziegler, Dale Kaufman, Larry Schirm, and William and Debbie Grammer. As of September, “Belle” ranks 138th among females with a genomic Jersey Performance Index and carries a conditional contract with Semex.

The latest donation to arrive at the farm is GR Hillview Gannon Blumoon-ET, a direct maternal descendant of former National Fat Champion, Hillview Trader Babka, E-92%. She was given to Waterman Dairy by Dan Oberschlake, of Greenville, Wis., in memory of his father, Dwight. “The major influences in my life were my father, Ohio State University, and Jersey cows. It seemed like the ideal donation to honor all three,” said Dr. Oberschlake, a 1976 graduate of the Ohio State University School of Veterinary Medicine.

Everyone—from the farm managers to the students—is so grateful for the support that these individuals have shown towards Waterman Dairy. It is that kind of support that will help insure that Waterman will continue to be a place for research, teaching and outreach for years to come. To that end, the Scarlet & Gray Jersey Investment Fund has been created to provide additional funds for purchase of high genetic merit Jersey foundation females, supporting student training, academic programs, and research at the Waterman Dairy. Anyone can contribute by visiting www.giveto.osu.edu and searching for fund 313419 or by using the search term “Jersey Fund.”