These herds achieve remarkable reproduction

Breeding cows back makes the difference in a successful dairy, and these farms make sure they capitalize on that.

THERE is no one best way to run a dairy farm. Likewise, there is no best way to manage dairy cattle reproduction, as evidenced by the Platinum winners in this year's Excellence in Dairy Reproduction Awards that are highlighted in this article. These farms use a combination of technology and great people, synchronization and visual heat detection, and beef and dairy semen. This is the 17th year these awards have been presented by the Dairy Cattle Reproduction Council (DCRC), and 75 entries came in from eight countries around the world and 14 U.S. states. Thank you to everyone who nominated a herd! If you are someone who works with a dairy that achieves outstanding reproduction, we hope you will consider nominating them for next year's awards when they open at the end of February. Nomination information will be available in *Hoard's Dairyman* and at www.dcrcouncil.org.

Initially, nominators submit general herd statistics around a farm's reproduction program, such as calving interval, days to first breeding, reproductive culling rate, and average pregnancy rate. A panel of judges blindly evaluates those nominations and selects roughly half of the herds to move on to a second round, where they submit an offload from their herd management software for more detailed analysis of metrics such as breeding intervals, heat detection, conception rates by season and lactation, and more. From those rankings, the 24 top herds are recognized as Platinum, Gold, Silver, and Bronze winners. All of those farms are listed on page 610 and honored at the DCRC Annual Meeting, held this year from November 12 to 14, 2024, in Arlington, Texas. In this round table article, we hear how this year's six Platinum award winners achieve outstanding reproductive performance.

What are your herd goals? Who helps you achieve them?

Crosswind Jerseys: Our herd goals are to obtain high production while maintaining good health. We also want to get cows pregnant as quickly as possible after they pass our 60-day voluntary waiting period (VWP) while keeping the program simple and producing the right amount of high-quality Jersey females.

We work with our vet and nutritionist to reach our goals. Besides milk production and reproduction metrics, we also monitor death loss, displaced abomasums, ketosis, lameness, metritis, pneumonia, and retained placentas. These metrics are checked monthly.

Diamond J Dairy: Our main goal is to improve our herd's health through the use of genomic testing. We will evaluate our herd standing at least four times a year.

Felling Dairy: We provide quality milk and meat. We focus on a variety of benchmarks to ensure our herd remains healthy. There is a high focus on quality forages with our nutritionists, Nelson Dairy Consultants. Some of the items we monitor weekly include breeding, somatic cell count, mastitis, cow calvings, cull rate, expenses, and income. We also meet at least quarterly with Andrew Krause, our STgenetics adviser, to ensure that our breeding program is where we want it to be.

NuStar Farms: Our herd goals are simple: do the basic work correctly and consistently every day. We work with a handful of dairy "insultants" who will tell us where we can improve and have weekly evaluations with the on-farm team.

Ryzebol Dairy: Our reproduction goals are to get as many cows pregnant as possible and do it as soon as possible. We work with our employee team to meet these goals and evaluate our progress once a week.

Windulan Holsteins: Our reproduction goals are to get cows in calf as close to the VWP as possible. We establish a number for the VWP that we think is most beneficial to the herd productivity. We strive to ensure cows produce to their utmost potential while keeping their health costs to a minimum. Cow comfort, health, and nutrition are constantly being evaluated to see where improvement can be made.

We work closely with Genex to pick bulls that match our goals and selection criteria. We work with our entire family to ensure all of our farm goals are met. Each member works in a different area to bring information to the table. We rely heavily on employees to help us reach these goals. We try to reevaluate places of improvement on a monthly basis.

What is your ideal age at first calving? How do you detect heifer heats?

Crosswind: Our ideal age at first calving is 21 months old. We start breeding heifers at 340 days of age. If they are smaller, we hold them back for one cycle before breeding for the first time. We have more recently implemented the CowManager system for heat detection in heifers.

Diamond J: We want heifers to calve at 21 to 22 months of age. To know when to breed for the first time, we focus on size. Heat detection is done with tail chalk.

Felling: We begin breeding heifers at 415 days old. We detect cow and heifer heats with a tail chalking program and visual heat detection. The same herdsmen team that breeds the cows does the heat detection. It is crucial the herdsmen team pays close attention to the details. For example, if a heifer is too small at 415 days, it will not automatically be bred; the team will use their own judgment. All employees are trained to let the herdsmen team know if they see a cow or heifer in heat.

NuStar: We want animals to calve in at 22 to 23 months of age. We start breeding based on age and heat detect heifers with tail chalk.

Ryzebol: Our ideal age at first calving is 20 months. We determine when to start breeding by heifer age and use visual heat detection.

Windulan: Our ideal age at first calving is 22 months. Heifers get bred no earlier than 13 months old; all heifers become eligible after 13 months of age. Heifers are heat detected by the CowScout program from GEA.

Making the right number of high-quality females is a priority at Crosswind Jerseys in Elkton, S.D. Each month, managing partner Stefan Temperli calculates the number of sexed semen services they need to reach their replacement target for the herd of 3,800 Jerseys. From there, he sets a benchmark for Cheese Merit (CM$) to determine which animals receive sexed semen and which are bred to beef. This is possible because all animals are genomic tested. Crosswind Jerseys is a repeat Platinum winner, having just earned this honor last year. Pictured are those who do the farm's breeding. From left to right, they are supervisor Luis Vasquez, herdsman and hoof trimmer Ever Aguilar, herd manager Rolando Cortez, Temperli, and herdsman Kevin Santos.

Located in sunny Merced, Calif., the best investment Diamond J Dairy has made to improve reproduction has been keeping cows cooled better, says owner Wiebren Jonkman. The dairy milks 1,100 Jerseys that are housed in a drive-through freestall barn, with heifers housed in open lots. The cows are averaging 75 pounds of milk with nearly 5% fat and 3.7% protein. All animals are genomic tested, and that helps the farm tailor their breeding strategy as well as monitor herd progress on health traits, which is the farm's main goal. Jonkman's biggest advice to achieve successful reproduction is to develop a plan and stick with it. The farm synchronizes the milking herd and uses tail chalk in both cows and heifers. Pictured are Jonkman and Oscar Nava.

A culture of quality gives Felling Dairy of Sauk Centre, Minn., another Platinum recognition in these awards after they first achieved the honor in 2022. The third-generation dairy owned by Jason and Marie Felling prioritizes a high level of employee engagement, great forages, and a commitment to genetic improvement to achieve their goals. Most recently, they have started using sexed male beef semen to further refine their mating strategy in the herd of 1,500 Holsteins that is milked in a 28-stall rotary parlor. In front from left to right are members of the breeding team, Simeon Lopez, Nicolas Gomez, Daniel Becerra, David Moreno, Saul Hernandez, and Hilarion Torres. In back are Jason Felling and Andrew Krause of STgenetics.

The team at NuStar Farms in Sibley, Iowa, does not just include owners Anthony and Lori Nunes, their daughters Madison, Maci, and Makinley, and Anthony's parents, Anthony and Dian. To care for the Jersey herd, the Nuneses also rely on their valued employee team and a number of trusted "insultants" to tell them where they can improve, which they feel has made a significant difference in the herd's reproduction. They recognize that cows are creatures of habit and aim to keep their operations as consistent as possible. The use of the SenseHub monitoring system has helped make that possible. Pictured here are Craig Bosma of Select Sires, owner Anthony Nunes, and NuStar Farm's cow care manager and assistant manager.

What is your VWP? How do you detect cow heats?

Crosswind: Our VWP is 60 days, but for the highest producing cows, we will wait until 75 days in milk (DIM). We have used CowManager for heat detection in cows for about six years.

Diamond J: Our VWP is 60 days. We also use tail chalk with the cows.

Felling: Our VWP is 76 DIM for second lactation cows and older. For first lactation cows, it is 90 DIM. We detect cows in heat with a tail chalking program and visual heat detection, the same as our heifers.

NuStar: Our VWP is 60 DIM. To detect heats, we use the SenseHub Dairy monitoring system from Merck.

Ryzebol: Our VWP is 60 days. All cows are visually detected for heat.

Windulan: Our VWP is 85 days. Cows are also heat detected with CowScout.

Do you use any synchronization?

Crosswind: We do not use synchronization on most of the herd; we breed off of heats detected from the CowManager system once cows pass their VWP. For the small majority that do not show a heat, we will enroll them in ovsynch.

Diamond J: We synchronize the cows but do not synchronize heifers. It is a simple ovsynch program with presynchronization.

Felling: We use double ovsynch for the first service then resynch cows if they are open after pregnancy checks. We will breed standing heats after the first service.

NuStar: Yes, we use double ovsynch with a double prostaglandin and GnRH after 16 hours on all first breedings. Animals checked open will be resychronized at pregnancy check.

Ryzebol: Yes, we use a double ovsynch protocol for both presynchronization and any resynchronization.

Windulan: We do not use a synchronization program. Each cow is treated on an individual basis. All open cows are checked at 83 DIM to determine where they are in their cycle. If they are eligible, they will receive prostaglandin. Cows that are not cycling will be rechecked the following week and given the proper treatment.

We do a vet check every week, so a cow that is open would not go longer than a week without being checked again. We find checking these cows more frequently helps us get cows pregnant quicker and more efficiently.

Who works with reproduction? How do you ensure protocol compliance and evaluate success?

Crosswind: Our herd health crew breeds both cows and heifers and administers any reproductive hormones. All of our employees are trained by our herd manager. After training, the herd manager reviews their work every week for a month to make sure they understand the protocols.

Diamond J: Our route breeder does all the breeding. Herdsmen train our outside employees to give the synchronization protocols. Our main method of evaluating performance is looking at the results of our herd check.

Felling: Our breeding is done by an in-house team of primarily five individuals. We train within and with STgenetics as needed. The breeding team takes a high level of pride in their responsibilities and holds each other accountable. We ensure compliance by reviewing team and individual breeding results weekly and providing the time to complete the synchronization on time and have all supplies necessary on hand.

NuStar: We have a breeder on farm and also utilize Select Sires technicians. They all go through Select Sires' training. The Pocket CowCards through DairyComp 305 let us input breeding time and date.

Ryzebol: Our employees Luis and Gualo handle breeding. We monitor weekly pregnancy check results to evaluate success.

Windulan: Gina Portena and Damith Palleyalage handle most of the cow and heifer breedings. They also administer hormones at herd health check, which is completed every Monday. They receive training through Genex. Portena ensures success via DairyComp 305. Each animal and breeding is recorded as well as who breeds. After herd health check, this information in evaluated and improvements are made where necessary.

Do you use sexed and/or beef semen? What about genomic testing?

Crosswind: I run a spreadsheet every month to calculate how many sexed Jersey semen services we need from both cows and heifers to reach our heifer replacement target. We use genomic testing, so I set the Cheese Merit (CM$) limit on our females wherever I need to get the desired amount of sexed semen pregnancies every month. Any animals below that limit receive beef semen. We typically target about 95% of the heifers and 20% of the cows to receive sexed semen.

Diamond J: We genomic test all animals and use that information to determine which cows and heifers will get bred and with what. All replacement animals receive sexed semen, and all other cows and heifers receive beef semen.

Felling: We use beef and sexed dairy semen on our farm. Mating decisions are made with our STgenetics representative, Andrew Krause, and the management team. We evaluate these decisions based on Net Merit (NM$), cow health, and facility availability. Most recently, we started using sexed male beef and synchronizing our heifers. We genomic test our heifers at about 3 months of age.

NuStar: We do not do any genomic testing, but we use the Select Sires Select Mating Service (SMS) to identify which cows get sexed semen or beef semen. Animals will receive sexed semen unless they are on the bottom end of the herd or are on a multiple breeding.

Ryzebol: We do not use any beef or sexed semen, and we do not genomic test.

Windulan: We use sexed semen at first breeding in all heifers. They are all eligible. No genomic testing is completed

How do you decide which service sires to use?

Crosswind: We look for the top Jersey Performance Index (JPI), Jersey Udder Index (JUI), daughter pregnancy rate (DPR), and CM$ Jersey bulls available.

Diamond J: We will look especially at milk, fat, and protein production as well as daughter pregnancy rate (DPR).

Felling: We closely monitor conception rate data. Breeding information and pregnancy check results are entered in DairyComp 305, so Krause and the STgenetic team will pull the information and review the results with Jason Felling and the herdsman team quarterly. The additional selection traits we focus on are always changing slightly, but cow health, moderate size, and low mastitis are a few priority traits.

NuStar: SMS helps us choose our bulls. We focus on CM$, moderate height, and a DPR above zero. We also look at the bull's sire conception rate on the herd level.

Ryzebol: We work with Brandon Thesing from Select Sires to choose sires for our herd of Holsteins, Jerseys, Montbéliarde, and Swedish Red. He evaluates for udder traits, DPR, and stature.

Windulan: We work closely with Genex to determine which bulls are the best suited for our needs. We look at NM$, followed by fat and protein, as well as DPR, for example.

When do you breed following a heat? How do you determine pregnancy?

Crosswind: We breed cows 12 to 20 hours after the onset of heat using the CowManager system.

We pregnancy check cows using ultrasound 30 to 36 days after the last service. On pregnancy check days, cows that are checked open receive GnRH to start ovsynch if they are 30 to 32 days since breeding. Cows that are 33 to 36 days since breeding receive prostaglandin four days later and are bred off of heats.

Diamond J: Breeding is done after our VWP of 60 DIM. Once a cow passes that threshold, it will go on the synchronization program. They will get bred until they are 200 DIM. We have herd check once a week, and we pregnancy check with ultrasound by our vet at 29 days bred.

Felling: We will breed a cow within 24 hours of noticing a heat. This is why it is crucial that the herdsman team pays close attention to all details. We check pregnancy status with our vet each Monday. We check 32, 60, and 200 day pregnancy statuses. If a member of our team notices a cow in heat that has been checked pregnant, we will add it to the upcoming Monday's check as well. A checked cow that is found open is put on our resynch program unless its body is telling us it needs something different.

NuStar: If the SenseHub system detects a heat when the animal is coming through the parlor during the morning milking, it will be sorted out and bred that morning. If any animal comes into heat after the morning milking, it will be bred the following day.

We check pregnancy with a blood test at 29 to 35 days since last heat. It is then confirmed by our vet. If an animal is checked open, we will begin the resychronization process.

Ryzebol: We breed either once or twice immediately following a heat.

Cows are determined pregnant at 35 to 41 days since last heat through ultrasound weekly. Open cows go onto a double ovsynch resynchronization protocol and are bred again off of observed heat. Because we use visual heat detection, we don't recheck cows.

Windulan: We typically breed 12 hours after standing heat. Each case is a little different; however, that is a general rule we aim to follow. The vet checks the cow once they are 26 days bred and they haven't shown a heat since the prior one. If the cow is checked open, the vet determines what stage of the cycle it is in to get the cow bred as quickly as possible again.

Describe your dry cow care.

Crosswind: Cows are vaccinated one week before dry-off. At dry-off, they may receive an antibiotic treatment depending on somatic cell count and milk culture history, and all cows receive an internal teat sealant. All dry cows are housed inside on sand-bedded freestalls in tunnel-ventilated barns.

The maternity area is a big straw bedding pack that is cleaned out every week. We only move cows that will be calving in the next 24 hours to this pen; the rest of the cows remain in the close-up pen.

Diamond J: All cows receive dry cow antibiotics and a teat sealant. Far-off cows are housed in a freestall barn, then close-up cows are moved to a bedded pack. This is where they calve.

Felling: Our dry-off protocol is taken seriously so the cow remains healthy and comfortable. We foster a high level of cleanliness, and we treat with quality dry cow tubes. The milking and herdsman team will monitor the cow's performance the week before dry-off to ensure it is ready to be treated. Only a couple of selected employees complete the dry-off protocol to ensure attention to detail.

We have sand-bedded stalls in our far-off pens. For close-up cows, we have comfortable, bedded-pack housing. Our close-up pens are walked hourly to monitor cows calving. We focus our dry cow comfort the same way we would for our milk cows. We have a dedicated fresh cow team that holds each other accountable, and we have established a proper team culture.

NuStar: Cows are dried off at 213 to 220 days carried calf. Far-off cows are fed a maintenance ration, while the close-up cows get a negative dietary cation-anion difference (DCAD) diet for 21 days prepartum.

Ryzebol: Cows are dried off 60 days before calving. Dry cows are housed in sand-bedded stalls and moved to a straw pack one to three days before calving.

Windulan: Cows are pregnancy checked again at dry-off after being hoof trimmed. They are treated accordingly with Spectra-Mast DC followed by a teat sealant. Cows typically are dry for an average of 45 days. They are housed in another barn once they are dried off, which is where they remain until they are three weeks away from calving. Once they are 21 days to calving, they are moved to a straw pack pen where they remain until they calve. The calving pen gets bedded twice a week to ensure cleanliness for all calves being born.

What care do fresh cows receive?

Crosswind: All fresh cows receive a YMCP drench of yeast, magnesium, calcium, potassium, and niacin at calving. Cows that are in their third lactation or greater also receive a calcium bolus. All fresh animals are monitored twice a day with health alerts and treated when necessary. Once a day, all fresh cows are locked up, checked, and given propylene glycol for the first four days after calving. We use both antibiotics (30% use) and natural products (70% use) for metritis.

Fresh cows will stay in the fresh pen for 14 days or until they are eating well and stable. Heifers will stay there for 21 days or until they are eating well. The high-group lactating diet is the base of our fresh cow ration.

Diamond J: Cows will be in the fresh pen for 28 to 32 days on average. This group receives its own high-energy ration. If the cow is in its second lactation or older, it will also receive a calcium bolus at calving.

Felling: Our ration is specific to fresh cow needs. After freshening, cows are housed in a fresh cow pen and closely monitored for three weeks. When milk production is good and overall health metrics are checked off, they are moved to a lactating pen.

NuStar: Fresh cows stay in the fresh pen for

Ryzebol Dairy has found success with using visual heat detection in combination with some use of ovsynch in their herd located in Mantorville, Minn. Brant Ryzebol, who owns the dairy with his wife Maaike, says going all in on visual detection has been their best investment for successful reproduction. The dairy also uses no antibiotics, so cow care is of the utmost important. The herd of Holsteins, Jerseys, Montbéliards, and Swedish Reds is housed in sand-bedded freestalls and milked in double-24 and double-20 parallel parlors. Dry cows are also in sand-bedded freestalls before moving to a straw pack for calving. Pictured here are, from left to right, Walo Murrieta, Luis Salas Hernandez, and Brant Ryzebol.

All cows are handled individually at Windulan Holsteins in Monkton, Ontario. No synchronization is used, and instead, both heifers and cows are bred based on information from their CowScout system. Gina Portena says they aim to reevaluate areas of farm improvement every month with members of the entire family, including owners Mike and Theresa Portena. They then rely on their employees to help them achieve these goals for the herd of 775 cows that is housed at two locations about 15 minutes apart. The Monkton facility uses a 50-stall rotary parlor, while the more recent addition in Walton has a double-12 parallel parlor. Pictured are, from left to right, Gina Portena, Marco Portena, breeder Damith Palleyalage, Ryan Portena, and Lindsay Portena.

the first seven DIM and are closely monitored.

Ryzebol: Fresh cows are housed in sand-bedded freestalls. They receive the same ration and care as the rest of the herd. Should a case of milk fever arise, it is treated with IV calcium. We do not do health checks and use absolutely no antibiotics on the farm.

Windulan: All fresh cows receive a calcium bolus after they calve. They are milked in a hospital parlor separate from the main herd for roughly four days. This allows the cows to be closely monitored should any problems arise. Once they are four days fresh, they are moved to the fresh cow group and milked in the rotary. Their rumination is closely monitored through the CowScout transponder, which allows us to pick up on sick or problem cows very quickly.

Fresh cows do not get checked by a vet until they are 30 DIM. If they are cycling, they are removed from the vet list. Any cows that are not cycling or have issues are placed back on the list to be checked again two weeks later. These cows remain on the list until they are cycling well and have no reproduction issues.

Milking cows all have the same ration that consists of a grain mineral mix, cob meal, corn silage, and haylage. We work closely with Grand Valley Fortifiers to ensure the cows receive the best nutrition.

How do you deal with problem cows?

Crosswind: We label cows as "do not breed" (DNB) if they are lower producing, have significant health problems, are Johnes positive, have tested positive for *Staph. aureus*, or have a very low udder. Occasionally, we will label them as DNB if they reach eight lactations.

Diamond J: If a cow is open after 200 DIM, it will not be bred any more. We walk the fresh pen to look for problems that could lead to cows not breeding back in the next lactation.

Felling: We have created a list of standards based off overall productivity and profitability and use that to determine our DNB criteria. Culling decisions are made by the management team. If a cow is a problem or not meeting our standard checklist, it will be culled.

NuStar: If a cow is open at 200 DIM, it will not be bred. Cowside observations help in determining how to handle problem cows.

Ryzebol: We will never mark a cow "do not breed." We keep breeding because semen is affordable when you do things right.

Windulan: Anything over 225 DIM does not get bred. We also try to limit the maximum number of breedings to four per cow. We ensure cows are in good health to have the best results. A problem cow does not get bred back. We typically milk cows until they no longer produce, and then we sell those animals.

Describe your recordkeeping. What metrics do you monitor most closely?

Crosswind: We use DairyComp 305. We monitor conception rate, pregnancy rate, and individual sire conception rates. We also use it to monitor age at first calving for the heifers.

Diamond J: The main data point we monitor is conception rate.

Felling: Recordkeeping has become a crucial part of our dairy business to help us closely monitor the fine details. We use a variety of systems to ensure all data is properly entered. We currently use Quickbooks, DairyPlan, EZFeed, and DairyComp 305, and within DairyComp, we have two tablets and one wand. Weekly, we review individual reproduction results, number of times bred, and semen type on cows and heifers.

NuStar: We use DairyComp 305 with the SenseHub system. Most frequently, we will look at the "bredsum" report and also MySynch.

Ryzebol: We use DairyComp 305 to keep track of herd data. In regard to reproduction, we most closely watch conception rate, pregnancy rate, days open, and average days in milk.

Windulan: All cows are entered into DairyComp 305 everyday. This ensures the records are all in one place and nothing is ever missed. We also keep a paper copy of breeding and calvings.

We look closely at sires, as well as conception and pregnancy rates. By looking at these numbers, we can try to find areas to improve in.

What investment or change has made the most difference in your reproduction program?

Crosswind: The best investments we have made remains having tunnel ventilation in the majority of our facilities, as well as CowManager. This system has really simplified our reproduction program and almost eliminated our use of hormone treatment.

Diamond J: Being in California, our cow cooling efforts have made the biggest difference in improving reproduction.

Felling: We feel that numerous little things have helped us monumentally in our reproduction program. Take the process seriously and give attention to the detail. Be disciplined on protocols. Having in-house breeders has helped us be able to breed when the cow is ready more often. The in-house breeding team knows our herd best, so we provide ample time for the team to do the breeding responsibilities.

We also align closely with our nutritionist, Nelson Dairy Consultants, focusing on high-quality forages. STgenetics has been great at advising based on our herds needs.

NuStar: In addition to our farm team members, we feel our consultants have made a big impact on our reproduction. We work closely with Marc Etchebarne of Etchebarne Dairy Consulting as our nutritionist, Craig Bosma of Select Sires, Mark Doornink of Parnell, Rick Rocha of VAS, and Scott Metzger from Merck.

Ryzebol: We do not use any technology or tail chalking. Our best investment has been utilizing 100% visual heat detection.

Windulan: The software from GEA has been the best investment when it comes to our reproduction program. We rely heavily on it to tell us optimal breeding times for cows and heifers. We also have hired an additional breeder that has been able to do an incredible job breeding cows.

What advice would you give others?

Crosswind: Keep your reproduction program as simple as possible. Focus on the health of the cows first: provide good forages, cow comfort, and cow care.

Diamond J: Stick to your protocol; don't cherry pick cows for different treatments.

Felling: We would suggest you follow your protocols and be mindful of the little things. Find a nutritionist you closely align with and focus on high-quality forages. Stay disciplined and provide ample time for the team to complete the given tasks. Enjoy what you do.

NuStar: Cows are creatures of habit, and we treat our farm the same way. Keep it simple; keep it consistent.

Ryzebol: Keep it simple. Look at your herd and know your cows.

Windulan: Invest in good technology would be the first piece of advice. Take time to train people, or hire the proper training, to ensure everyone is taught the best way possible. We also find working closely with your nutritionist, vet, semen company, and employees make it possible to have excellent herd reproduction.

Good reproduction results is not just about breeding or technology. All things have to align, and by working together as a team, these goals become achievable.