They stick to the reproduction basics

Commitment, compliance and cow people all enabled these herds to achieve top reproductive outcomes. It also helped them win top honors in the Dairy Cattle Reproduction Council competition.

FIVE dairies sort to the top of judges' ballots in this year's Dairy Cattle Reproduction Council's (DCRC) awards program. In a very competitive fourth year, the program received 47 nominations from dairies across the continent. Read on to learn more details regarding how these herds approach reproduction.

Prebreeding — When do you begin breeding?

Curtin Dairy: Breeding starts after our farm's voluntary waiting period (VWP) of 71 days, regardless of lactation. Our heifers are raised by a grower in Pennsylvania and breeding starts at 775 pounds or roughly 12.5 months of age.

Dunlea Dairy: Our voluntary waiting period is 72 days. We start breeding heifers at 12 months.

New Dawn Dairy: The voluntary waiting period is 60 days for cows and first-calf heifers. We begin breeding heifers at 13 months of age.

Schilling Farms: We have a 70-day VWP for mature cows and an 80-day VWP for first-calf heifers. Most cows are bred using the ovsynch protocol on first service. Occasionally a cow may be cherry picked if seen in estrus before that. Virgin heifers are bred starting at 14 months of age.

University of Missouri Southwest Center Dairy (UMSCD): The Southwest Center Dairy is a seasonal pasture based dairy operation. The herd freshens from February 1 to April 1. We dry off all cows around December 15.

As a seasonal dairy operation, the dairy does not have a mandatory voluntary waiting period. We begin to breed all cows on or around May 1. All cows, regardless of milk production or age, are expected to fall within these parameters or they are culled.

Prebreeding — Do you utilize any presynchronization programs?

Curtin Dairy: Our presynch starts at 35 days in milk (DIM). We use a two-dose Lutalyse (prostaglandin) program. Cows then continue into the ovsynch protocol to be bred on first service at 71 to 76 DIM. We keep it simple.

Dunlea Dairy: Our presynch program starts 34 days postfresh when we give Lutalyse (prostaglandin). That is followed by prostaglandin on Day 48 and Day 62.

New Dawn Dairy: We use a presynch program. All cows are enrolled at 32 DIM with prostaglandin; 46 DIM, prostaglandin and 60 DIM.

Schilling Farms: Every animal is given prostaglandin at 21 to 24 DIM to help clean up any metritis or endometritis. We carry this out on Tuesdays and Saturdays. We don't use a formal presynchronization program.

UMSCD: In the past, we utilized a two-step prostaglandin (PGF) program to "set-up" cows for breeding on May 1. Cows that did not respond to this program received a CIDR on the third Monday (10 days before breeding). The CIDR was removed seven days later and PGF was given. The majority of cows would exhibit heat around the planned start of breeding.

This program served us well for many years. However, we realized the need to frontload or tighten the calving window which would gain additional days in milk since all cows are dried off at once. To compensate, we are now utilizing timed mating.

Synchronization — Do you use ovulation or heat synchronization programs?

Curtin Dairy: We use a presynch-ovsynch program on all cows. After our presynch, discussed in the second question, we move into ovsynch to get all cows serviced 71 to 76 DIM. This has worked well. Our herdsmen have achieved a 50 percent first-service conception rate and have 85 percent of the herd pregnant at 150 DIM.

Dunlea Dairy: All cows are put on a prebreeding presynch program for the first service. That is followed by ovsynch which includes GnRH; Day 69, prostaglandin; Day 71, GnRH at 6 p.m.; Day 72, timed A.I. (TAI) at 10 a.m. After being checked open Friday, cows are put back on ovsynch Monday. All cows are checked with ultrasound at 28 days.

New Dawn Dairy: We use a presynch program, described in the second question, then move to ovsynch. The ovsynch includes GnRH; 67 DIM, prostaglandin; 69 DIM, GnRH2 (morning); 69 DIM breed (afternoon); 70 DIM rebreed (morning). We have a 61 percent synchronization success rate. All open cows at the time of vet check are enrolled back into the presynch/ovsynch program. This is the only program utilized on the farm. Virgin heifers are only bred using natural heats.

Schilling Farms: Lactating cows are all bred using ovsynch on the first service. All mature cows are started on ovsynch at 60 DIM and first-lactation cows at 70 DIM. GnRH (Cystorelin) is given Tuesday morning, prostaglandin (Lutalyse) is given seven days later on Tuesday morning, and GnRH2 is given 48 hours later on Thursday morning. Breeding is done Thursday, eight hours after the morning GnRH.

Cows determined to be open at herd health check are resynched with a similar program. If a corpus luteum (CL) is present, ovsynch is started. If a CL is not present, GnRH is given and ovsynch ensues seven days later.

Our overall pregnancy rate with these methods currently runs 37 percent with a 52 percent conception rate overall. Approximately 57 percent of our breedings are synchronized with a 51 percent conception rate. Overall, 23 percent of cows are found in standing heat with a 52 percent conception rate. Meanwhile 20 percent are found in heat based on chalk. Those chalk breedings run a 53 percent conception rate.

Heifers are moved into the breeding pen at 13 months of age and are bred by visual inspection of the Estrotect patch by the Genex team. Most heifers go unserviced until 14 months, even if they are detected in heat. Heifers are ultrasounded at 28 days postinsemination and, if found open with a corpus luteum, are given a shot of prostaglandin.

UMSCD: We started using a timed breeding

Heat detection drives a good repro program, get heat detection done right, advised the Curtin Dairy team which manages 3,000 Holstein cows that average a 97-pound tank average. "Keep it simple, and make sure everyone involved understands why they are doing a task," noted Dennis Yousey, farm manager, and Greg Shaw, lead herdsman, when discussing reproduction. "Make sure cow comfort is more than adequate. Comfortable cows are happy cows. They milk and breed well," stated the Cassville, N.Y., dairy team. "Provide sound nutrition for dry and prefresh cows. These cows are the future of the dairy. Make them a priority," they went on to say. Shown above are key members of the Curtin Dairy team (L to R): Greg Shaw, Jim Zike, Darvin Ixlaj, Joe Nolan, Raymundo Juarez and Tom Van Houten.

Try to do all jobs correctly as there is no silver bullet, stated Roger and Kerry Dunn of Dunlea Dairy. However, among all the items discussed in the Round Table, the Dunns of Coudersport, Pa., do single out compliance and people as two important factors. "Always remember 100 percent compliance on all synch programs. None work without it. All work reasonably well when protocols get followed," stated the dairy farmers who milk 620 Holsteins which average 27,500 pounds of milk. "Without good people, it is impossible to reach good outcomes," the Dunns said. "It is all about the person doing the job for you." Kerry and Roger Dunn are shown above (L to R) with children Kyle, Laura, Cal and Guy. Two key farm advisers that play a major role on the dairy are Andy Morley and Cory Miles.

Keep the program simple, but practical, was the advice Henk Knevelbaard shared with us on his herd's award-winning reproductive performance. "Hire and train quality people who are dedicated to your operation,"said the owner of New Dawn Dairy in Huntington, Ind. "Commitment is key," explained the dairyman who has a herd of 1,500 crossbred cows mainly with a Holstein, Montbeliarde and Swedish Red crossing system. "The synchronization protocols should be delivered by the people who are in charge of the breedings," Knevelbaard added. Overall, the herd averages 27,000 pounds of milk with a 75,000 SCC. Shown above are (L to R): Alejandro Zaualeta, assistant herdsman; Jose Crozalba, mechanic manager; Marcelo Oberto, nutritionist; Henk Knevelbaard, owner; and Jose Luis Zavaleta, herdsman.

The only back-to-back-winner was Schilling Farms owned by Bill Schilling and sons Brian and Andy of Darlington, Wis. "We feel cow comfort, foot health, cooling, nutrition and fresh cow care are all essential to a successful reproductive program," said the Schillings who milk 625 cows that average 29,000 pounds of milk with a 85,000 SCC. "All factors depend on each other for a successful breeding program." Shown above are members of the farm team (L to R): Tim Heiring, Genex technician; Bill, Brian and Andy Schilling; Mike Van Schyndle, Spensley Feed Sales nutritionist; Luke Risser, herd assistant; B.J. Jones, D.V.M.; and John Wienkes, Vita Plus nutritionist. "Another reason for our herd's reproductive success is the fact we don't overcrowd. We try to keep our stocking density close to a 1-to-1 ratio," they said.

(TAI) program on all our heifers in 2010 and on cows the following year. All cows and heifers are enrolled in this program in order to frontload the calving window.

CIDRs are inserted into cows for a 14-day period. At 19 days after CIDR removal, cows are treated with prostaglandin and 56 hours later each cow is given GnRH and then bred 16 hours afterwards.

Heifers are similar except we shrink the interval from CIDR to PGF to 16 days (compared to 19 for cows). Heifers also receive GnRH at breeding (66 hours after PGF) rather than 16 hours in advance.

Our heifer success rate runs between 70 to 75 percent pregnant to TAI, while cows range from 55 to 62 percent. These are similar pregnancy rates compared to our past prebreeding program. However, we now have more cows freshen in the calving window's first week with the TAI.

This year we compared the 14d CIDR TAI program to a 7d CIDR TAI. Results were comparable with both around 61 percent to TAI.

Heat detection — How are cows observed for heat?

Curtin Dairy: All cows are visually observed for heat detection by our herdsmen. All pens that have cows eligible for breeding are "walked" about every two hours.

Dunlea Dairy: All employees who work in the barn have a pen and paper to record observed heats. Tail paint is checked in the morning prior to the A.I. technician coming to our farm. All cows are repainted every afternoon.

New Dawn Dairy: We use visual heat detection with paint sticks up to 200 DIM. Herdsmen walk pens once in the morning and once in the afternoon to check for heats. Paint is applied at both walk throughs. About 10 minutes is spent per pen in the a.m. and p.m. Heat detection rate is 75 percent. Herdsmen also look for heats throughout the day while performing their regular duties.

Schilling Farms: Cows are tail painted with Reveal paint and "walked" every day by the Genex technician team. Nonlactating heifers have Estrotect heat detection patches applied prebreeding and then they are painted when confirmed pregnant. The heifers are also "walked" while restrained in headlocks once per day.

Determine your herd's goals and develop a program to meet them, stated Stacey Hamilton, state dairy specialist, and Scott Poock, Extension veterinarian, both with the University of Missouri. These two specialists help manage the Southwest Center Dairy located in Mount Vernon, Mo. After reading its protocols, one would quickly conclude they developed a protocol to fit with its seasonal calving dairy. The herd calves from February 1 to April 1, and all cows are dried off around December 15. Since implementing timed A.I. (TAI) on the milking herd in 2011, the herd has achieved a 99 percent average submission rate and an 83 percent six-week pregnancy rate. The 90-cow herd consists of Holstein, Kiwi Friesian, Kiwi Cross and Jersey animals. The herd is striving to have one-third of the cows with a high percentage of New Zealand genetics and the remaining two-thirds with American genetics.

UMSCD: Before we utilized timed mating, we were dependent on good heat detection for a successful breeding season. A number of heat detection aids were utilized to some extent. However, we feel visual detection is the gold standard and heat detection aids serve to assist in making this job easier.

When we heat detect, a dairy staff member is assigned to look for active cows 30 to 60 minutes after the cows have been returned to a pasture after milking. This allows the cow time to graze before she might become more active. This observation is for 20 to 30 minutes.

At the afternoon milking, dairy staff will slowly stir the cows in their paddock before bringing them from the pasture to the milking facility. This again allows a cow that may have been resting time to exhibit estrus. These are the set times, but heat detection informally occurs throughout the day.

Breeding — Who breeds cows and heifers?

Curtin Dairy: Our herdsmen do our A.I. breeding. Thursday is timed-breed day — Greg, Gary and Joe do breeding. When juggling work schedules, we work to ensure there are always two herdsmen working who can breed cows.

Dunlea Dairy: Larry Spencer, from Select SirePower, breeds 90 percent of our animals, while on-farm personnel breed the remaining 10 percent. In most cases, we breed once per day.

New Dawn Dairy: Our herdsmen and the owner do all the A.I. breedings. Herdsmen alternate days off. Breeding is done two times a day. Cows in heat at night (paint rubbed off) are bred in the morning. Cows in heat during the day are bred in the afternoon. Any cow showing extended heats throughout the day are rebred 12 hours later.

Schilling Farms: Cows and heifers are bred once every day by Genex technicians. Once-a-day service is provided by lead technician Tim Heiring. Aaron James, Dakota Bockenhauer and others provide relief for Tim and assist with service on ovsynch breeding days and help with keeping the cows painted.

UMSCD: We need a big team because breeding occurs in a six-week window. University of Missouri Veterinary Extension faculty as well as Veterinary Medicine and Animal Science students

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breed cows. This provides an excellent opportunity for students to breed a large number of cows. The SWC generally works with several other local seasonal dairies and synchronizes our breeding schedule with theirs so many cows across a few herds can be bred during this week.

Breeding — Describe your handling facilities for breeding.

Curtin Dairy: Cows are bred in palpation rails. They are sorted out in the sort gate using electronic collars after cows are milked and returning to pens.

Dunlea Dairy: We breed all animals in the freestall barn — either in the stall, between gates or in headlocks.

New Dawn Dairy: All breeding is done in headlocks. Heifers are bred in a cattle chute.

Schilling Farms: Cows are bred in headlocks on a daily basis, while heifers are bred in outdoor headlocks.

UMSCD: The handling facilities are very basic. As cows exit the dairy barn, up to 10 cows can be diverted into the palpation rail where either breeding, an ultrasound preg check or administration of the synch products can be carried out.

Heifers are handled in an alley way with a headgate squeeze chute for administration of the synch products. Heifers are inseminated in a portable breeding box (Larges' Portable A.I. Breeding Barn) where two animals can be held at once.

Breeding — Do you use sexed semen?

Curtin Dairy: We use sexed semen on the top 20 percent of our herd to capitalize on the genetically superior cows. Heifers are bred up to two times with sexed semen and then bred with conventional semen. It takes 2.1 services for conception using sexed semen in heifers. First-lactation cows are bred one time with sexed semen.

Dunlea Dairy: We use sexed semen on the first three services of heifers and on the first service of first-lactation cows. Sexed semen on first-lactation cows run about 41 percent conception versus 52 percent for conventional semen. Sexed semen on heifers is about 44 percent conception versus 55 percent for conventional.

New Dawn Dairy: We don't use sexed semen on our herd.

Schilling Farms: We use 90 percent sexed female semen on virgin heifers for the first two services. For services third and greater, we use conventional semen. Sexed semen isn't used on cows. Conception rates with sexed semen runs about 48 percent on heifers while conventional semen is 64 percent.

As feed costs have crept up, we have started using 75 percent sex-sorted female semen for a second service on heifers to reduce semen costs. For the last year we used half 90 percent sexed female and half 75 percent sexed female semen. Conventional semen is used on third and greater services.

UMSCD: We do not use sexed semen now but have used it in the past with mixed results. Our main decision to no longer use sexed semen was based on the fact we have surplus heifers and cows.

Pregnancy/open check — How do you confirm pregnant or open cows?

Curtin Dairy: Preg check day is every Tuesday and cows are palpated by a veterinarian. We start preg checks at 42 days postbreeding.

Dunlea Dairy: Rob McNeil, D.V.M., from the Lalend Veterinary Service visits weekly. He ultrasounds cows for pregnancy at Days 29 to 35. We also recheck at 60 days and again at 180 days. Suspect aborts are reported on DairyComp and confirmed the following herd check. We encourage our herdsmen to put cows on vet check if there are any abnormalities suspected or observed.

New Dawn Dairy: Cows are checked every week by the herd vet. Cows 35 to 42 days postbred are presented for preg checks. Ultrasound is used to confirm fetal heartbeat, embryo quality and to access ovarian structures.

Schilling Farms: Cows are ultrasounded at 33 days carried calf to determine pregnancy status. Open cows with a CL are resynched with the ovsynch protocol. Open cows without a CL (corpus luteum) are given 2cc GnRH and resynched seven days later with ovsynch. Pregnant cows are reultrasounded at 60 days carried calf to confirm pregnancy, determine fetal sex and to check for twins.

UMSCD: Cows are pregnancy diagnosed with ultrasound by veterinary extension faculty specialists. Cows are scanned starting 30 to 32 days after their second possible heat/breeding. This allows the technician to determine if they are pregnant to the first A.I. (TAI) 51 to 53 days pregnant or to the second (30 to 32 days). We have also used blood/milk testing for pregnancy associated glycoproteins (IDEXX) with good results when compared to the ultrasound.

Cows are scanned again in August to confirm cows are pregnant, fetal sex and to find additional cows that are pregnant, as well. A third exam in mid-November, generally manual palpation, to verify cows we plan retaining are still pregnant before cows that will calve outside our calving window are sold.

Breeding — How do you deal with problem cows?

Curtin Dairy: Problem cows are given GnRH at breeding time. Cows open at vet check are given a CIDR. We give up on cows when they reach production levels that are not profitable. We don't use natural service bulls.

Dunlea Dairy: All cows follow the same protocols. We try to keep no-breeds below 10 percent of the herd. There are no set rules for when to give up on a problem cow and we don't have a bull on the farm.

New Dawn Dairy: Cystic cows are examined by the veterinarian and given a CIDR. No bulls are on the farm. Any cows more than 200 DIM are placed on a do not breed list and culling is ultimately determined by milk production.

Schilling Farms: In general, we use high Semen Conception Rate (SCR) bulls of which a majority are high reliability. This gives us a fertility boost. On problem breeding cows we use lower-priced, high-conception bulls for fifth service and higher. CIDR synch is occasionally used on chronic cystic cows. No natural service is used on the farm.

Cows are considered for a "do not breed" classification when they are open over 200 DIM, and have lower milk production. When a DNB cow's milk production falls under 70 pounds she is considered for culling. Cows may be classified DNB earlier in lactation based on age, production or feet and leg concerns.

UMSCD: Problem cows have not been much of a worry. In general, the dairy has only 5 to 7 percent of the cows open at the end of the lactation. Cows now get one opportunity to become pregnant via A.I. With greater than 60 percent success rate at TAI, this provides the dairy adequate A.I. sired replacement heifers. Bulls are now used to cleanup the nonpregnant cows and are left with the herd the rest of the lactation. Cows that do not fit the calving window are sold at dry off.

Breeding — What positive changes have you implemented?

Curtin Dairy: The main emphasis in our breeding program is heat detection and 100 percent compliance in that program. Two summers ago, we started bringing half a pen of cows to the parlor at a time. This has reduced standing time to no more than 30 minutes at one time. It also has reduced overcrowding. This move has worked very well.

Dunlea Dairy: We have put up permanent sun blocks on the east side of the north-south barn and see greater outside stall use in that area. Also, Tyler Wagner with Alta Genetics has customized a herd index for all cows to maximize sire selection. We feel the resulting replacements will better serve our needs. Tyler is very familiar with our DairyComp program and is responsive to trends in repro and helpful with management solutions.

New Dawn Dairy: We now double breed long interval heats and synchronized cows. We have also added fans and water. Sprinklers are found in the cow pens, the holding pen and a shower bath in the return alley during the summer months. Fans are over feed alleys and freestall beds. Also, we installed ample fans in the holding pen and parlor. These all have been definite improvements in heat abatement by improving water application and wind speed.

Schilling Farms: We feel cow cooling is critical to maintain conception rates during the summer. Our conception rate for July 2013 was 51 percent with a 33 percent pregnancy rate. As for changes we have made to improve cow cooling: adding three rows of fans per pen over each row of freestalls, feed line water sprinklers and additional water sprinklers in the holding area.

We also utilize dry cow cooling with fans over the freestalls. Shade cloth has been added for the outside feeding areas in dry cow housing to help keep them cool. We feel that the improved cooling of our dry cows has produced healthier follicles which has led to higher first-service conception rates.

To accommodate the additions, a third well was added recently to help maintain water pressure demand for the sprinklers and waterers.

We feel the exceptional cow comfort from sand bedding with adequately sized freestalls has also been critical to minimize lameness and allow maximal heat expression.

This spring we added headlocks to all milk pens which replaced our palpation rail. This has allowed for easier estrous detection and more accurate tail paint reading. It has also caused less standing for herd check cows and improved rest times.

UMSCD: Our best adjustment has been TAI. This has allowed the dairy to have more cows calving earlier in the calving season and reduced our labor for heat detection and breeding.

From 2006 to 2010, the average submission rate and six-week pregnancy rate were 92 percent and 64 percent, respectively. With the transition to the TAI programs, the submission rate is 99 percent with an 83 percent six-week pregnancy rate.

Additional DCRC Award winners

Gold

Kloppe Dairy Farm, New Haven, Mo.
More-To-Do Farm, Durand, Wis.
Seidl's Mountain View Dairy, Luxemburg, Wis.
Shultz Hillside Dairy, Danville, Pa.
Sunburst Dairy, Belleville, Wis.

Silver

Green Mountain Dairy, Highgate Center, Vt.
Rock Bottom Dairy, Rock Rapids, Iowa
Synergy LLC, Wyoming, N.Y.

Honorable Mention

Harrison Dairy, Loudon, Tenn.
Pagel's Ponderosa, Kewaunee, Wis.
Willowbend, Clifton Springs, N.Y.