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A BLUEPRINT FOR SUCCESS

Creating socially stable dry cow facilities

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A PRODUCER RECENTLY ASKED me to provide some advice on transition cow housing. Henry was planning the construction of a new facility for 250 milking cows and he wanted to make sure his transition pens were designed properly, with adequate space for his current and future needs. A schematic diagram of his blueprint is displayed in Figure 1.

His goal was to create a socially stable dry cow period, in which cows would remain with a similar group of animals until calving time, after which they were moved to a fresh cow pen with sand-bedded freestalls.

His plan was to build four separate group pens, which he would fill to a maximum of 12 cows and

lose-up heifers. He would add animals weekly until the pen contained 12, at which time he would start filling the next pen. The same 12 animals would remain together for the entire dry period, which averaged 50 days for Henry's cows. He wanted all the animals in a group to be together for a minimum period of 21 days before calving. To calculate his group sizes, he figured out his average weekly calving rate and then multiplied by 140% to give him some leeway during calving spikes (See Table 1). In his calculations, Henry assumed a 12-month calving interval in order to over-estimate the calving rate and provide a further buffer in pen size. In actual fact, his calving interval was 13 months.

The pens would be bedded packs, with new bedding being added daily. A pen would be cleaned out completely after the last cow had calved. The packs would each be 35 feet deep by 40 feet wide, giving a total square footage of 1400.

His decision to choose a bedded pack over freestalls was to eliminate the need to constantly monitor the pen for calvings, especially at night. He didn't want the responsibility of moving a cow to a separate maternity pen, which is often difficult to time perfectly and can lead to an increase in stillbirths if an animal is moved too soon. With a pack system, cows could calve in a familiar environment with a familiar group of animals. Henry understood the risks of calves being born onto a potentially dirty pack, however, his herd had a low-risk Johne's status and his colostrum management was excellent, two factors which would help offset the calf health risks associated with bedded packs. This system would also avoid any pen moves within 10 days of calving, which is a detriment to fresh cow health.

There would be a feed alley and a feed bunk running along all four pens, with self-locking head gates. The feed alley would be 14 feet wide, floored with grooved concrete. A one-group, low energy TMR would be delivered daily. A four-foot water trough was centered in each pen with access from the feed alley in order to prevent splashing into the bedding. Animals would be able to enter the pack from either side of the water bowl, allowing them to escape bullying from dominant cows.

The decision to install head gates instead of a post and rail was to allow for easier

management of dry cow interventions, such as: vaccines, boluses, medications, examinations, and for the occasional use of the Precision Xtra blood ketone test on close-up cows carrying twins or cows deemed to be backing off feed. There would be 19 head gates per pen (for 12 cows) and a linear bunk space of approximately 38 inches per cow. While Henry realized this was slightly more than what would be required under normal calving rates, it provided him the ability to stock a few more cows in the pen if the need were to arise.

Although he planned for all cows to calve in the group pens, he wanted to construct one, single cow maternity pen, for special needs cows. This pen would have a 12' x 12' bedding area and a feed bunk continuous with the other pens. A vet room would also be located close by, with all the equipment needed for obstetrics, colostrum management, and other veterinary procedures.

With future expansion in mind, Henry designed the building so that a series of identical pens could be built adjacent to the existing pens at a later date.

Needless to say, I was very impressed with Henry's forethought and design for this cow-friendly facility. With a copy of the blueprints in hand, I then set out to verify if his transition facility would meet industry standards. The figures in Table 2 provide some comparisons. After a careful review, I was happy to report that Henry's design met or exceeded all current standards. With construction underway, time will tell if his dry cows will transition smoothly into the milking herd, but I have the utmost confidence that this will be the case.

When it comes to planning large capital projects, such as a transition cow facility, the more qualified advice you seek, the more confident you will be in your design. Your veterinarian's stamp of approval should be another item on your blueprint for success!

Memo: Ontario Dairy Farmer April 2013