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Housing the future herd

Dairy farms in Ontario display a variety of calf housing systems. A voluntary study conducted in 2015 revealed that of Canadian Dairy farms; 40% used individual indoor pen housing, 34% implemented group housing (mostly pairs), and 21% had individual hutches.

As public concern for animal welfare grows regarding animal health, painful experiences, and ability to express normal behaviours, recommendations for calf housing and management may change as new research continues to be published.

As a starting point for all housing systems, let's remind ourselves of the current recommendations from the Code of Practice (2009) for dairy cattle:

- Calves must be provided with warm, dry and comfortable bedding
- Calves must have enough space to stand, turn and lie down
- If housed in a group, all calves must have space to lay down at the same time
- A calf must be able to see other calves

Each system has unique benefits and drawbacks, we will evaluate them below to help you determine which strategies can be best implemented on your farm.

Individual Pens & Calf Hutches

Historically, individual and/or hutch housing has been considered the “gold-standard” in disease prevention. This method allows for individual attention and feeding, with typically decreased morbidity (illness) and mortality (death) rates. Individual housing prevents competition, cross-suckling, and allows calves of different ages to be managed uniquely, especially on dairies with fewer annual calvings. To optimize use of hutches it is suggested to orient them facing south and away from harsh winds. In the summer they should be in a shaded area. To prevent disease transmission, hutches should be situated away from older animals. They should be cleaned, disinfected and relocated between uses, and placed on a base of gravel or sand to allow for drainage.

A disadvantage to individual housing includes increased labour demands. Additionally, individual housing is losing favour in the public eye - in one study youth and adults were asked to choose their preferred calf housing system based on photos. 75.8% of adults and 80.1% of youth chose group housing, as it appeared to enhance socialization and space for the calf to express normal behaviours. Individual housing may inhibit a calf's social skills, and research indicates individual housing prior to weaning makes it more difficult for them to adjust to new experiences as they grow and mature.

Pair Housing

A compromise to individual housing minimizing change to current infrastructure includes pair housing. If individual pens are used, dividers between pairs can be removed at after five days of age. For calf hutches, a common “yard” can be created between two hutches with fencing, or a buddy hutch could be adopted for pairs.

Research has shown benefits to pair housing. It allows calves to develop social skills making them more adaptable to novel experiences such as changes in diet, pen location, group changes, a new milking system and has shown calves to be less fearful in human interactions. Pair housing improves calf socialization and

play, which improves public perception. Research has also shown that calves housed in pairs will spend on average 3.3 hours longer per day resting.

When we start talking dollars and cents, calves housed in groups or pairs have increased feed intakes prior to weaning compared to their individually housed counterparts. Calves housed in pairs have a 0.15 kg greater Average Daily Gain (ADG) than individually housed calves and are approximately 7.1 kg heavier at weaning. A theory for this is that calves learn from other animals, and they will mimic other animals eating. This becomes particularly noticeable with their increased intake in calf grower at a younger age. Pair housing may reduce labour for feeding and cleaning compared to individual housing, but still will likely have more labour than if they were housed in larger groups.

Group Housing

Group housing may sound scary when for years it has been stressed that individual housing is the best for calf health, however research has shown that it is large group size and not group housing itself that leads to higher rates of illness and death. It is therefore suggested to keep group sizes to <10 calves and to allocate groups based on age. Pneumonia is not consistently associated with group housing, however inadequate ventilation can affect the quality of group housing, and individual housing as well! Our vets are always happy to discuss ventilation problems and solutions for specific set-ups. Group housing can decrease labour inputs, especially with the introduction of automated feeders. Like pair housing, group housing has the same benefits of improved ADG, better socialization, decreased stress in calves, and improved public perception.

Tips to make group housing successful include feeding through a teat compared to a bucket, fulfilling the calves innate need to suck and prevent cross suckling. In addition, if using a multi feeder to allow one teat per calf, have a barrier at each teat, and ensure a small ratio of calves per feeder station. The space should be large enough to allow all calves to rest at the same time, aiming for 32 sq feet per calf minimum.

If you have more questions about calf housing and health, start a discussion with your herd vet on how you can optimize calf health on your farm.

As we are approaching the depths of winter, here are a few key cold weather reminders for caring for calves

- Dry off newborn calves
- Calf jackets can help to maintain body heat and limit energy used to thermoregulate
- Aim for a nesting score of 3! The calf's legs should be covered by 3 inches of straw when lying down
- Calves require more food to stay warm when it is cold outside! Increase volume of milk feedings when the temperature drops

Dr. Melanie Thompson

Dairy Day is Back!

We are happy to announce that we will once again be hosting our annual dairy producer meeting for 2023! Save the date for March 22, 2023. More details to follow.