Recently, the University of Guelph hosted the first annual Dairy Cattle Welfare Symposium which some of our veterinarians had the opportunity to attend. Areas of focus included assessment and guidelines for dairy cattle welfare, dairy cattle feeding and management, management of lameness and other health problems, welfare of feeding, housing and health of calves, and the detection and management of pain in dairy cattle.

In this month's newsletter, we present some of the take-home messages presented in the research pertaining to the health and welfare of dairy calves.

Calf Management

A **teat based system** feeding **lots of milk** to **small and stable groups** of calves with **step down, intake-driven weaning** is the way to go!

Social Skills

Calves housed in pairs from a young age show increased social skills versus calves housed alone (even if they are housed in close proximity to, and where they can see other calves). This is linked to health and production, as pair housed calves took significantly less time to find the feeder and eat starter when placed in group housing after weaning, and showed increased weight gain. Some of the calves previously housed individually took up to 24 hours to eat their first meal. Pair housed calves also had less aggressive social interactions and may have an increased ability to cope with the stress of weaning and regrouping.

Cross Sucking

This can be a big problem for milk fed calves housed in groups. Teat-based systems will decrease the rates of cross sucking, as will increasing milk allowances. Manual systems such as teat buckets or teat feeders can result in stealing from one calf to another, which can be partially reduced by barriers in multiple-nipple feeders. Computerized systems ensure individual calf intakes, but can result in calves staying at the feeder too long after a meal if restrictions are placed on meal size. It was recommended keeping meal sizes at a minimum of 2L. Allowing calves to pattern their own frequency and size of meal helps decrease displacements from the automatic feeder.

Group Size

With computerized feeders, some manufactures recommend up to 24 calves per group. Many researchers feel these groups are too large and can cause health problems. A recent study found that in a 24 calf per feeder group, calves were disturbed or displaced from the feeder 50% of the time they were drinking. In a group of 12 calves per feeder, displacements occurred only 10% of the time. Reducing group size can allow the system to work more smoothly.

Group size also can impact health problems such as pneumonia. Compared with large groups (6-30 calves), smaller groups of 3-8 calves had significantly less respiratory disease, and had no difference when compared to individually housed calves. Of course, many factors including immune and energy status as well as ventilation system have huge influence on patterns of respiratory disease and should not be overlooked.

Weaning

Clearly, increased milk allowances allow for better growth and healthier calves. However, when on a high volume feeding system, it is important to introduce weaning gradually. On a computerized system, a 10% decrease per day for 10 days works well. For a manual system, a two- or three-step reduction in milk volume maintained for several days each could help.

When should calves be weaned? Some interesting research has shown that weaning calves individually, based on starter intake, results in better growth post weaning than by simply weaning at X weeks of age. A study which started to wean calves when they ate 200g of starter per day for three consecutive days showed great results in growth and performance versus age-based weaning. A group which weaned with the bar set at 400g of starter per day showed no difference when compared the 200g group. Interestingly, some calves were ready to wean (and gained quite well) as early as 22 days old! A computerized starter feeder makes weaning calves individually quite easy, while incorporating this method into a manually fed system takes more work. In pair housed calves, weighing a scoop and monitoring how long it takes the pair to eat a specific volume may help give you some idea of when to start weaning.