Automated Calf Feeders

By Ryan Leiterman, D.V.M.

Automated calf feeding systems have generated a lot of interest in the last year. Many operations are considering converting existing calf barns with individual pens to group housing with automated calf feeding systems. Often times producers focus on choosing the particular brand of feeder; thinking it is the most important part of the automated feeding system decision. *While each brand of feeder has its unique features, the success of an automated calf feeding system is less dependent on the particular brand of feeder and more on the post sale service and support of your machine, barn ventilation system and pen configuration.* Removing calves from individual pens has obvious benefits such as earlier herd socialization, more efficient feed delivery and easier bedding management; but it also increases the risk of respiratory disease. When planning a calf barn remodel to accommodate an automated feeding system, consider the following points:

Post Sale Service and Support

When considering the various brands of automated calf feeders, it is important to consider the strength of the post sale service and support. These machines contain advanced operational software and it can take some time to become familiar with the operating system. Purchasing a machine from a manufacturer with a sales rep that is dedicated to providing the necessary training after the purchase is an important consideration. Remember that these are machines and like any other machine on the farm, they will have parts break and need occasional service, recalibrations or software updates. It is important to have a strong working relationship with a sales rep that is knowledgeable about their product and dedicated to providing excellent support when deciding on the brand of feeder to purchase.

Barn Ventilation

Designing a ventilation system that provides adequate airflow is the most important part of getting your barn ready for automated feeders. Delivering the appropriate amount of fresh, outside air to the calf without creating a draft is the basic goal of any properly designed ventilation system. See the article on the cover of this newsletter for more information on the new calf barn ventilation services now offered by Crystal Creek®.

Pen Layout and Design

How many individual pens do I need?

It is common for producers to keep a section of individual calf pens in the barn for newborn calves that have not yet been introduced to the automated feeder. Many of the automated feeder companies have formal recommendations of waiting until calves are around a week of age before introducing them to the group pen and feeder.

To determine the appropriate number of pens needed first you must decide on how long you will bottle feed calves before introducing them to the machine. Then apply these equations:

30 ÷ (Days bottle fed) = A

(Average number of calvings per month ÷ A) x 1.4 = **Number of individual pens needed**

Example: A dairy wants to bottle feed their calves for 10 days before introducing them to the automated feeder. They average 20 calvings per month and they keep all their bull calves.

30 ÷ 10 = 3

(20 ÷ 3) x 1.4 = 9.3 pens. This dairy would need 10 individual calf pens to accommodate seasonal calving fluctuations.

Group Pen Sizing and Calf Movement

How do I determine pen size based on my calf movement plan?

Each group pen should be designed to provide a minimum of 35-40 square feet per calf. The pen should be sized to accommodate seasonal irregularities in herd's calving cycle. *It is important to note that most automated calf feeder companies do not recommend having over 25 calves per feeding station, as it increases competition for feed.* To determine pen size you must first determine how long calves will stay in each pen before being moved. Then apply these equations:

30 ÷ (Days in the pen) = A

B = 1 if you raise your bull calves

B = 0.5 if you sell your bull calves soon after birth

(Average number of calvings per month ÷ A) x B x 1.4 = **Number of calves in that pen**

Example: A dairy wants to bottle feed their calves for 10 days before introducing them to the automated feeder. They average 20 calvings per month and they keep all their bull calves. They plan on the pen rotation described below:

Calf Movement Schedule

Days of Age: 0-10 bottle fed in individual pens
Days of Age: 11-35 moved to pen 1 to be introduced to the automated feeder
Days of Age: 36-56 moved to pen 2 with similar age/size calves
Days of Age: 56+ moved to weaned pen

Time in pen 1: 24 days A = (30 ÷ 24) = 1.25
Time in pen 2: 20 days A = (30 ÷ 20) = 1.5

*Size of pen 1: (20 ÷ 1.25) x 1 x 1.4 = **22 calves** x 40 sq ft per calf = **880 sq ft***
*Size of pen 2: (20 ÷ 1.5) x 1 x 1.4 = **19 calves** x 40 sq ft per calf = **760 sq ft***

In conclusion, the success of an automated calf feeding system is based on more than the brand of feeder purchased. Consider the impact that barn ventilation and pen layout can have on the success of your automated calf feeding operation. If you have any questions regarding automated calf feeders or calf barn ventilation technology feel free to call Crystal Creek®.

Calf Barn Ventilation

(Continued from the Cover)

manufacturing techniques help ensure a draft free ventilation system.

How long can the ventilation tube be?
Experience has shown a practical operating length of 200 feet for a single fan system. Longer runs can be accomplished but will require specialized fan equipment and advanced design considerations. In most situations, a tube can ventilate a width of 20-25 feet.

Are there any drawbacks or limitations to positive pressure ventilation systems?
Positive pressure ventilation systems do not deliver the volume of air necessary for heat abatement during periods of hot weather. Additional fans, commonly in the form of high velocity basket fans, are used to supplement positive pressure tube systems during the summer months.

Are these systems easy to install?
Yes! The positive pressure tube system comes complete with the hardware necessary for installation along with an installation diagram. The tube system is suspended from the ceiling with heavy duty metal snaps along a suspended cable.

I am interested in putting a ventilation system in my calf barn. How do I get started?
Call Crystal Creek® and request a Calf Barn Ventilation Design Packet. This packet is free and is mailed directly to your farm.