Auto-Feeders in Group-Housed Calf Systems

Fernando Soberon, Ph.D.
Shur-Gain U.S.A.
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Fernando.soberon@nutreco.ca

Outline of the talk

- Is group housing right for you?
- Practical questions to determine barn design, pen numbers, size, and what machine is best for you
- The specifics of auto-feeders
  - What can they do?
  - Recommended plans and settings
  - Troubleshooting

Why are you interested in group housing?

- To reduce labor in the calf barn
- To avoid feeding calves outdoors in the winter
- To have a better excuse of why calves are dying
  - To increase labor efficiency
  - To improve their welfare and social interactions
  - To have a smoother transition
  - To maximize the growth potential of the calves
  - To positively influence their future performance

Are you ready for group housing?

- How much milk/milk replacer do you feed your calves?
  - How much are you willing to feed them?
- Do you have a standardized method to detect sick calves?
  - Is this method dependent upon manure consistency?
  - Is it dependent upon aggressiveness at feed time?
- Is your colostrum program bulletproof/laborproof?
- How many calves do you raise per month?
What is the right group housing plan for you?

- Are you retro-fitting existing facilities?
- Are you building new?

You decided to use an auto-feeder...

- Determine the flow of calves through the pens: all-in/all-out or continuous flow?
- How much space do you have/need per pen?
- At what age will the calves join the group pen?
- When are you planning on weaning?
- Are you feeding milk or milk replacer?
- Do you need/want bells and whistles?

Determine the flow of calves through the pens: all-in/all-out or continuous flow?

Just like any other decision taken within a dairy, there is no one answer that fits all. Let’s consider:

- Number of calves going through the system every month
- Total number of pens/nipples available
- Bedding and cleaning of pens
- Disease control

All in/all out

- Easier to control disease
- Uniform groups
- Reduces competition
- Easier to clean/sanitize
- Requires larger number of calves
- Requires more pens/nipples and machines

Continuous flow

- Easier to implement with low # calves/pens
- Older calves teach younger calves
- Design pens for small and large calves
- Pens are never empty for cleaning/bedding
- Competition has to be managed, specially around weaning
- Disease outbreaks have to be dealt with promptly
How much space do you have/need per pen?

Standard recommendation is:
25 sq ft bedded, 35 sq ft total area per calf

- These numbers are dependent on:
  - Pen design
  - Frequency of cleaning
  - Type, amount and frequency of bedding

At what age will the calves join the group pen?

- The earlier they go in the pen, the faster they enjoy the benefits of group housing
- Dependent on age differences among calves

When are you planning on weaning?

- The weaning process should be designed to encourage solid feed intake
- Age differences among calves should be considered when designing a weaning strategy
- Weaning after 56 to 58 days requires more nipple space per calf

Are you feeding milk or milk replacer?

- If you have enough waste milk, there are areas of opportunity within the dairy
- You can choose to pull milk from the tank, but this should still be pasteurized
- Some machines can handle both sources of milk while some can only handle one
- If you are using a combination, feed milk replacer to the younger calves and waste milk to older calves
Do you need/want bells and whistles?

- It is nice to have the machine that can do it all...
- Do you need it?
- Is this the best use of resources?
- What do you give up when getting the bells and whistles?

Let’s get into the specifics...

- Auto-feeders allow "individual" management within groups
- They still require management
- Many different options in the market:
  - DeLaval, Lely, Westfalia, Holm & Laue, Urban, etc.
- Auto-feeders generate a lot of data
  - Focus on what is practical on a day to day basis
  - Consumption, drinking speed, visits and breaks

Machine plans

- Account for the age of the calf at the time it is registered to the machine
- Multiple feedings are good, but there is such a thing as too many...
- Don’t start a feeding plan lower than what the calves are receiving with the bottles
- Concentration and allowance per visit is more important than total volume
- Keep it simple

### Period Days Start quantity Final quantity
1 14 6 liters 10 liters
2 23 10 liters 10 liters
3 2 10 liters 5 liters
4 9 5 liters 3 liters
**Total** 48

### Quantity

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<th>Days</th>
<th>Start quantity</th>
<th>Final quantity</th>
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<tr>
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<td><strong>Total</strong></td>
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### Limitation

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<tr>
<td>2</td>
<td>34</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
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### Concentration

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<tbody>
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<td>150 grams</td>
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Common problems

- Calibration is incorrect (hasn’t been done or caking in the dispenser)
- Solids too high
- The hoses to the nipples are frozen
- Lack of water, powder or electricity
- Upper allowance limit too low
- Too many calves of different ages
- Cleaning cycle, using the wrong soap
- Facilities and management do not match expectations

Another management tool...