 <b>University of British Columbia</b> <b>Centre for Dairy Education and Research</b>	<b>Document Number</b>	<b>SOP-CALF-005</b>
	<b>Revision Number</b>	<b>000</b>
	<b>Effective Date</b>	<b>December 1, 2020</b>
<b>CALF WEANING</b>		

## 1. PURPOSE

- 1.1. This Standard Operating Procedure (SOP) instructs farm staff and students on the humane and proper methods of weaning calves from milk at the UBC Dairy Education and Research Centre.

## 2. SCOPE

- 2.1. This SOP will describe the methods and procedures used for care and feeding of calves during the weaning transition at the UBC Dairy. This document will provide information pertinent to the health and humane care of a calf.

## 3. RESPONSIBILITY

- 3.1. The Operations Manager is responsible for reviewing and updating this procedure when required.
- 3.2. The Operations Manager is responsible for ensuring all staff are trained in this procedure and that training is documented.
- 3.1. Personnel who work with newborn calves are responsible for reading, adhering to and understanding the procedures outlined in this SOP.

## 4. DEFINITIONS


- 4.1. Weaning- The process of transitioning calves from milk to solid feed. This process should be done gradually to reduce stress (Khan et.al., 2007).

## 5. TRAINING

- 5.1. Training will include SOP overview, animal handling, equipment instruction and cleaning. See SOP-General-006 Calf Barn and Equipment Cleaning.

## 6. SAFETY PRECAUTIONS

- 6.1. Personnel handling calves and equipment will follow routine health and safety procedures to protect against human and animal injury see SOP-Cow-006 Moving & Chasing Cattle and SOP-Cow-023 Handling Cattle.

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- 6.2. To limit the spread of contagion, the calf barn should always be entered before entering other barns on site.
- 6.3. All personnel entering the calf barn will need to rinse boots off with hot water. Dedicated facility footwear is to be worn when working with calves. When working with newborns, gloves are recommended.
- 6.4. Always thoroughly wash hands with hot soap and water when entering and exiting the calf barn.

## 7. GENERAL

- 7.1. The UBC Dairy follows best management practices for weaning as determined by research outcomes at the dairy centre.
- 7.2. The calves are weaned in a ‘step-down’ process where the amount of milk offered is gradually reduced to allow the calf to gradually eat more solids as their digestive system matures. (Bennetton et al., 2019)


## 8. MATERIALS AND EQUIPMENT

- 8.1. DeLaval Automatic Milk Feeders
- 8.2. DeLaval Automatic Grain Feeders
- 8.3. Insentec Automatic Water bins
- 8.4. Insentec Automatic Feeder bins

## 9. PROCEDURES

### 9.1. Weaning

- 9.1.1. Upon entry into the group pen at age 5 days, calves are offered up to 12L of milk per day via the DeLaval Automatic Milk Feeders until age 35 days.
  - 9.1.1.1. Throughout the calf rearing stage calves are offered ad libitum hay, calf starter, and water (See SOP-Calf-003 Calf Housing).
- 9.1.2. Starting at age 35 days, milk is gradually reduced by 1L per day until age 40 days. At age 40 days calves are offered 6L of milk per day until age 65 days.

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9.1.3. At 65 days of age, milk is gradually reduced by 1L per day until age 70 days. Calves are weaned completely off milk at age 70 days.

9.1.4. After weaning the calves stay in the calf barn for 2 weeks prior to being moved to the heifer barn. This is to uncouple the stress of weaning from the stress of moving to a new barn.

9.1.5. Calves are kept in stable groups of 10 calves for the first 4 to 5 months of life (well past weaning).


## 10. REFERENCES

- 10.1. Benneton, J.B. et al. 2019. Automatic weaning based on individual solid feed intake : effects on behavior and performance of dairy calves. *Journal of Dairy Science*. 102:5475-5491
- 10.2. CCAC Guide to the Care and Use of Experimental Animals. Volume 1, Second Edition.
- 10.3. CCAC Guidelines on the Care and Use of Farm Animals in Research, Teaching and Testing. 2009
- 10.4. Code of Practice for the Care and Handling of Dairy Cattle. National Farm Animal Council. 2009.
- 10.5. Khan, M.A., H.J. Lee, W.S. Lee, H.S. Kim, K.S. Ki, T.Y. Hur, G.H. Suh, S.J. Kang, Y.J. Choi. Pre- and postweaning performance on Holstein female calves fed milk through step-down and conventional methods. *Journal of Dairy Science*. 90:876-885.

## 11. REFERENCE SOPs

- 11.1. SOP-Calf-003 Calf Housing
- 11.2. SOP-Gen-006 Calf Barn and Equipment Cleaning
- 11.3. SOP-Cow-006 Moving and Chasing Cattle
- 11.4. SOP-Cow-023 Handling Cattle

## 12. APPROVAL AND REVISION HISTORY

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<b>Author/Approver</b>	<b>Date</b>	<b>Signature</b>

**History**

<b>Document #</b>	<b>Revision #</b>	<b>Changes</b>