 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		

1. PURPOSE

- 1.1. This Standard Operating Procedure (SOP) instructs farm staff and students on the methods to safely handle cattle at the UBC Dairy Education & Research Centre.

2. SCOPE

- 2.1. This SOP will describe the methods used for handling and restraining cattle when required to do so for the purposes of weighing the animals, administering vaccinations, medical treatments, pregnancy checks, and other procedures. This document will also provide a general overview of important points which impact the welfare of the animal to remember.

3. RESPONSIBILITY

- 3.1. The Operations Manager is responsible for reviewing and updating this SOP as required
- 3.2. The Operations Manager is responsible for ensuring all staff are trained in these procedures.
- 3.3. Farm staff and students are responsible for reading and following the information provided in this SOP.

4. TRAINING

- 4.1. Training in how to safely move cows is needed prior to carrying out this SOP. Two in-house training modules on Cattle Handling are located in Rm 205 of the office/lab building. See SOPs on Student Training, and Moving & Chasing Cattle.

5. DEFINITIONS

- 5.1. Flight zone: the area surrounding an animal that if encroached upon by a potential predator or threat, including humans, will cause alarm and escape behavior (Wikipedia). Herd animals usually turn and face a potential threat when it is outside of their flight zone, but when it enters the flight zone, the animal turns and moves away (Science Direct). An approximation of the flight zone can be made by approaching the animal and noting at what distance the animal moves away. The



HANDLING CATTLE

size of the flight zone will gradually diminish if they are handled calmly and have frequent contact with people (ADSA).

- 5.2. Point of balance: is a factor related to flight zone, and working with a cow's point of balance will also help you move a cow more safely. The point of balance is located at the cow's shoulder.
- 5.3. To move a cow forward, you should be positioned behind its shoulder. See Fig 1.

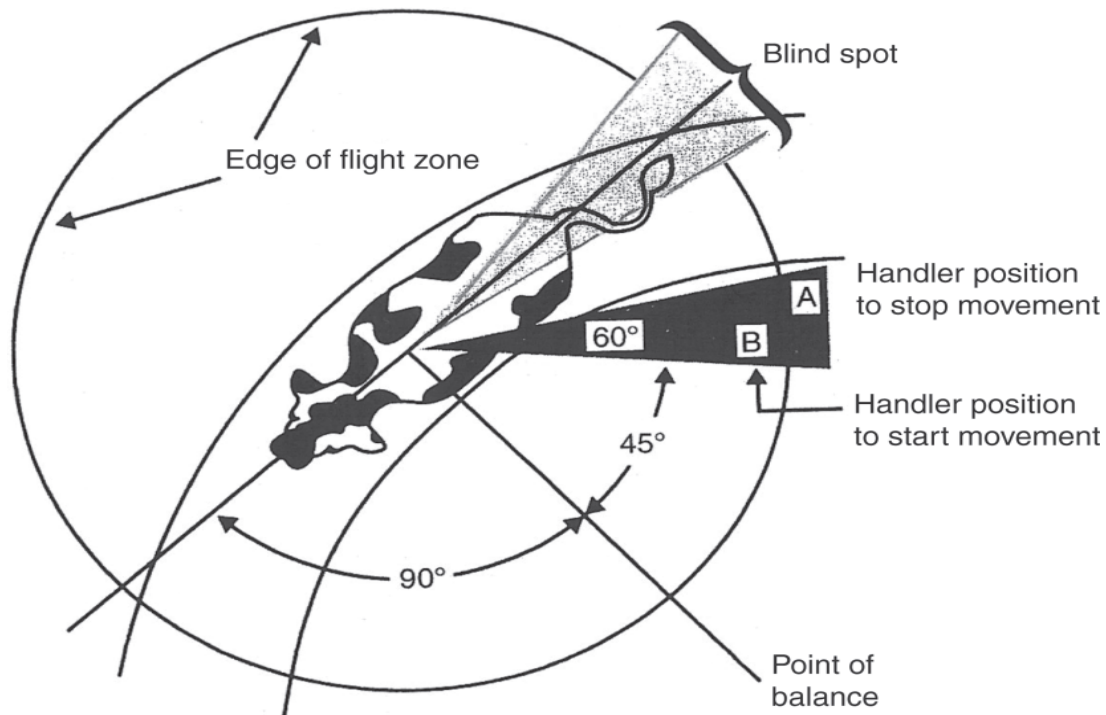



Figure 1. Flight zone diagram showing the most effective handle positions for moving an animal forward

6. SAFETY PRECAUTIONS

- 6.1. All personnel entering the cattle holding area will wear personal protective equipment. Coveralls, and appropriate footwear are worn to enter the animal facilities. Latex gloves should be worn when handling animals.
- 6.2. Clean boots with hot water (available in pasteurization room of calf barn) before and after entering the heifer barn to prevent transmission of disease.

 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		

- 6.3. NB. The heifer barn should only be entered after staff have completed all work in the other barns for the day. This will help prevent the spread of pathogens from the heifer barn to the calf and main barns.
- 6.4. Stay within the animal's field of vision, and at its point of balance.
- 6.5. Create a flight path for cattle. Do not stand in their way, or too close to them as they may move quickly.
- 6.6. Move slowly and quietly around the cows, and give them plenty of room. The cows are used to being moved, and will usually go quietly along the path you create for them.
- 6.7. If animals are in headlocks, gently stroke and talk softly to them so they know you're behind them.
- 6.8. Make note of the exit points from each pen. These are openings in the corners of the pens that a person, but not a cow, can get through.
- 6.9. Work in pairs, or within sight of another person.
- 6.10. Thoroughly wash your hands with soap and water after leaving the barn area.

7. GENERAL

- 7.1. All animals on the dairy are occasionally weighed to track their growth and determine their weight prior to treatments. They are often weighed as part of research protocols.
- 7.2. The scale in the heifer barn is a platform scale located on the floor of a chute which has locking gates on either end. It is situated at the end of a narrow alley here the animals can be contained before being herded individually onto the scale.



HANDLING CATTLE




Scale display.

Area for holding heifers ;
Entrance to scale

Fig 1. Platform scale in heifer barn

- 7.3. The weigh scale in the main barn is a platform scale located in a chute with locking gates on either end. It is located in a narrow alley off the North side of the milking parlour. Animals to be weighed are diverted through this alley when

 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		

leaving the milking parlour. After being weighed, they are released to return to their pen with other animals from the parlour.

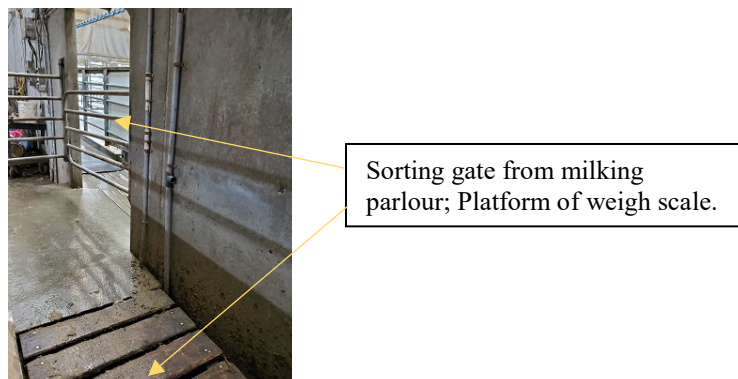



Fig 2. Platform scale at the exit from the milking parlour

- 7.4. Always identify the animal to be moved or treated prior to moving the animal. Double check the ear tag number before proceeding.

8. PROCEDURE

8.1. Weighing Dry Heifers

- 8.1.1. The heifers may need to be moved across the barn to the weigh scale. At a minimum, they need to be moved from their pen to the weigh scale area. Refer to the SOP Moving & Chasing Cattle for information on how to safely move cattle between pens.
- 8.1.2. Once the heifers are out of their pen, lock the gate and calmly and quietly follow the animals along the created pathway to the alley area adjacent to the scale.
- 8.1.3. Ensure both the entrance and exit gates to the scale are closed, and tare off the scale.
- 8.1.4. Using the gates, one person keep the heifers at the end of the alley while a 2nd person opens the entrance gate to the scale, and herds the animals one by one into the scale chute. Once the heifer enters the scale, quickly close the entrance gate.
- 8.1.5. Allow the heifer time to settle down in order to get an accurate weight. Manually record the weight of the heifer. Once recorded, open the exit gate and

 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		

release the heifer into the alley area which is opposite the unweighed heifers. Retare scale.

8.1.6. Repeat steps 8.1.3 - 8.1.5 for all of the heifers to be weighed.

8.1.7. When all the animals are weighed, return them to their pen along the previously created pathway.

8.2. **Sorting Cows & Fresh Heifers**

8.2.1. Animals housed in the main and intake barns (lactating or dry) can be ‘sorted’ for management tasks such as weighing, vet checks etc as they leave the milking parlour.

8.2.2. Enter the numbers of the selected animals to be sorted into the computer located in the vet room (see below). This must be done before milking starts for the day.

8.2.2.1. Click on Smart Dairy icon at bottom of computer screen see Fig 3.

8.2.2.2. Click utilities

8.2.2.3. Click diagnostics

8.2.2.4. Click Cow sorts

8.2.2.5. To sort cows:

8.2.2.5.1. For current milking:

8.2.2.5.1.1 Sort counter 1

8.2.2.5.1.2 Enter cow numbers


8.2.2.5.1.3 Done

8.2.2.5.1.4 OK

8.2.2.5.2. For the next milking

8.2.2.5.2.1 Sort counter 2

8.2.2.5.2.2 Enter cow numbers

 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		

8.2.2.5.2.3 Done

8.2.2.5.2.4 OK

8.2.2.6.To unsort cows:

8.2.2.6.1.1 Set sort counter 0

8.2.2.6.1.2 Enter cow #s

8.2.2.6.1.3 Done

8.2.2.6.1.4 OK

8.2.2.7. Don't forget to leave a note in the day book that you sorted cows. If no note is made, your cows will be returned to their pen.

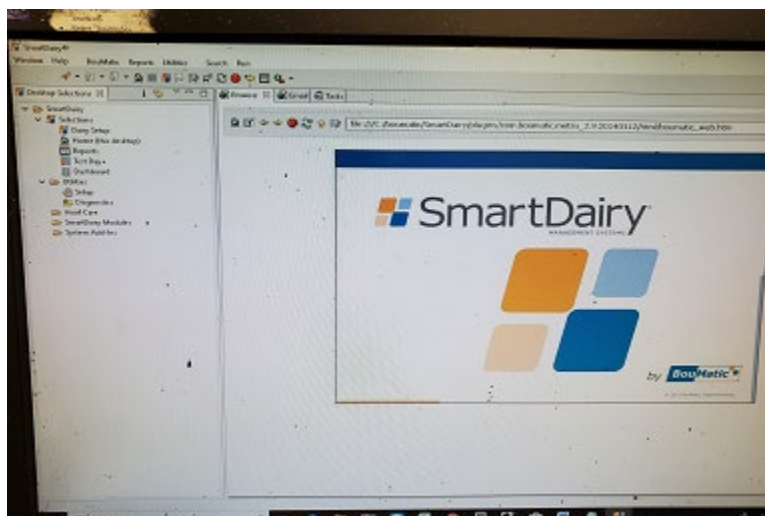



Fig 3. Smart Dairy Opening Screen

8.2.3. Make sure the sort gate and scale are turned on. See Fig. 4&5

8.2.4. Tare off the scale. See Fig 4&5

8.2.5. As the animal exits the milking parlour, a reader located at the entrance gate to the scale reads the cow's ankle bracelet and opens the gate to divert the animal into the scale chute. The gate closes once the animal passes through the gate.

 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		


- 8.2.6. One person stands at the entrance gate to the weigh scale to ensure a second animal doesn't squeeze in.
- 8.2.7. The animal's weight will be displayed on the screen. A 2nd person records the weight, and then opens the exit gate for the animal to leave the chute and join the other animals returning to their pen.



Fig 4&5. Control panels for platform scale, and gate control

8.3. Restraining Animals with Headlocks

- 8.3.1. If necessary, move animals to the sorting area, which is equipped with headlocks. Some pens are also equipped with headlocks so it is not always necessary to move the animals to the sorting area.
- 8.3.2. Set the 'lock' on the stanchion rails so that when the animals put their head through the opening, the metal rail will close. If desired, every other location can be manually locked closed so it is unavailable to the animal, allowing more space to work between those restrained.
- 8.3.3. Place feed on the alley side of the stanchion, and move away from the area. This will encourage the animals to 'lock up' by putting their heads through the

 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		

available head locks, which will then close and hold the animal in position. See Fig 6.

- 8.3.4. Retrieve any needed supplies while the animals are locking up.




Fig 6. Cow feeding while restrained in a headlock. Animals are able to lift and lower their heads while locked up.

- 8.3.5. Treat animals as required, then go outside of the pen and release the headlocks when standing by the animal's head. Do not release the headlocks from inside the pen as the cows may back up quickly and knock you over.
- 8.3.6. Do not leave animals headlocked for longer than required to perform the required treatment(s).

8.4. **Taking temperature of animals**

- 8.4.1. Ensure animal is restrained in a headlock.
- 8.4.2. Retrieve a clean thermometer from the vet room.
- 8.4.3. Talk to the animal while approaching from behind, stroke her so she knows you are there.
- 8.4.4. Stand in close to the animal to avoid being kicked, and lift her tail with one hand.
- 8.4.5. Gently insert the thermometer into the rectum until it beeps.
- 8.4.6. Remove thermometer, wipe clean and read.

 University of British Columbia Centre for Dairy Education and Research	Document Number	SOP-Cow-023
	Revision Number	000
	Effective Date	October 26, 2020
HANDLING CATTLE		

8.4.7. Clean the thermometer with an isopropyl wipe before returning it to the vet room.

9. REFERENCES

- 9.1. CCAC Guidelines on the Care and Use of Farm Animals in Research, Teaching and Testing. CCAC. 2009
- 9.2. Code of Practice for the Care and Use of Dairy Cattle. National Farm Animal Care Council. 2009.

10. REFERENCED SOPS

- 10.1. SOP-General-001 Student Training
- 10.2. SOP-Cow-006 Moving & Chasing Cattle

11. APPROVAL AND REVISION HISTORY

Author/Approver	Date	Signature
History		
Document #	Revision #	Changes