

## COW HEIGHT AND HOOK BONE WIDTH

**Objective:** Measure height, length and hip width of the 40 cows

**Where:** Tiestall

**When:** Morning of the first visit

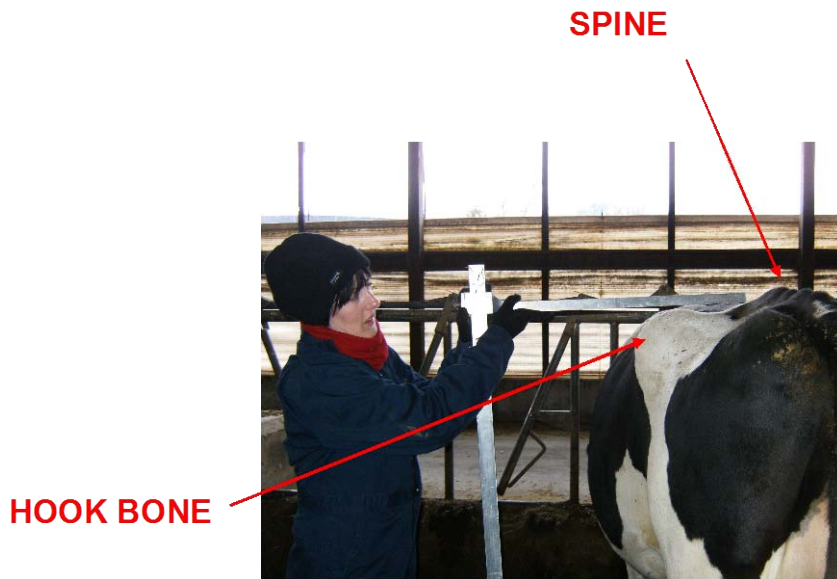
**What you need:**

- Both technicians will work together
- Rump height and hook bone width data recording sheet

**Background:** The rump height and hook bone width of the cows will be recorded to allow us to calculate if the stalls are an appropriate size for the cows. In order to do this we will test the dimensions of the stalls against measures of cow weight.

### Protocol

1. Encourage the cow to rise in her stall
2. Using the height stick measure cow height from the ground to the spine parallel to the hook bone (Fig 1), record in cm.
3. Using a flexible measuring tape measure cow width between the points of the two hook bones (Fig 2), record in cm.
4. Using a measuring tape measure stall width as shown in Fig 3, record in cm.
5. Using a measuring tape measure the lunge space available to the cow. Record if an obstruction is present 76cm from the brisket board in a forward and to both left and right direction. If no If no brisket board, measure horizontally below neck rail but 10 cm above stall surface. If no neck rail, measure 127 cm from curb and 10cm above stall surface. Record (1) if no obstruction in lunge space and record (0) if there is an obstruction in lunge space.
6. Using a flexible measuring tape measure the chain length from the tie rail to the cow's neck, record in cm.
7. Using a measuring tape measure the vertical distance of the trainer from the end of the trainer to the chine of the cow, record in cm.
8. Using a measuring tape, measure the horizontal distance of the trainer from the trainer to the outside edge of the curb, record in cm.
9. Check the functioning of the water bowls available to all 40 focal cows by releasing water for 5 seconds. Record the functioning as working correctly (1=water flows) or not working correctly (0=water does not flow) in the data recording sheet.
10. Record all data in the data recording sheet (**Table 1**).
11. Repeat for all 40 focal cows.
12. Once you have finished scoring all of the cows, input the data into the 'cow based measure + debrief' excel spreadsheet. The excel spreadsheet is set up so it will automatically calculate the number of cows that fit in their stall.



**FIGURE 1. USING THE HEIGHT STICK MEASURE THE HEIGHT OF THE COW FROM THE GROUND TO THE SPINE PARALLEL TO THE HOOK BONE**



**FIGURE 2. USING A FLEXIBLE MEASURING TAPE MEASURE THE WIDTH OF THE COW BETWEEN THE POINTS OF THE TWO HOOK BONES**



**FIGURE 3. STALL WIDTH**

**TABLE 1. AN EXAMPLE OF DATA RECORDING SHEET**

	Cow ID	Row No.	Stall Rank (from shortest)	Cow Height (cm)	Hook Bone Width (cm)	Stall Width (cm)	Lunge (1/0)	Chain Length (cm)	Trainer position (cm)		Water (1 or 0)
									Vert.	Horiz	
1											
2											
3											
4											