An introduction to cattle handling and behaviour

<u>How to complete this activity</u>

You can work through this exercise with a group or as an individual, but each individual must submit a copy of the completed worksheet.

Save a copy of this PDF document on the Desktop of your computer before you start work (or you may lose your data!).

You need to complete each activity sequentially, in the order that they are presented in this file. Do not jump ahead.

This file gives you detailed instructions for completing each activity. Ask your tutor if you have any questions.

For some activities, you will be asked to record your answers to the questions by typing them into this file. You should save this PDF file each time you complete one of these questions, to make sure that your work does not get lost

Name:	
Email:	
Date:	

We have provided some suggested resources to help you answer the questions. Feel free to use other resources as well (and let us know if you find good ones!)

After you have completed the questions in the pdf:

Save your PDF before submitting!

Please submit your assignment on Canvas:

COM_COM_000212 > Assignments > Cattle and Sheep Week 1 Animal Handling

https://canvas.lms.unimelb.edu.au/courses/144383/assignments/271676

There is no specific mark for this assignment, but submitting it will provide evidence that you attended and engaged with the prac class.

Cows are prey animals.

Unlike dogs and cats, cows are prey animals and their behaviour reflects their evolution. They tend not to be territorial, and they don't tend to chase, bite or scratch because they are defending territory.

They will charge at humans if they are frightened for themselves or others, and they may kick out at people if they are within range.

Please watch the following video: https://www.youtube.com/watch?v=d7B2-M14YAs (3 mins)

and then answer the questions below:

Why do cattle tend to keep moving in the same direction as a cow in front of them ?

Why do individual cows pushed in a certain direction tend to want to go back in the direction they were pushed away from?

Do you think a bull is more likely to be dangerous to a human when in a group or on its own? Why?

Flight Zones and Point of Balance

Watch the following videos:

https://www.youtube.com/watch?v=Iwu8NcrI0z0 (4 mins)

https://www.youtube.com/watch?v=TlhfpfKYwmA (2 mins)

And use the following resource:
https://www.safeworkaustralia.gov.au/system/files/documents/1702/general-guide-cattle-handling.pdf

To answer these questions:

What is the flight zone, and what factors affect its size?

What is the point of balance, and why is it useful?

What might happen if you suddenly rush inside the flight zone of

(a) a young calf ?
(b) a dairy cow ?
(c) a beef bull ?

Recognising danger signs in cattle

Cows that are in pain or frightened present an extra danger to humans because they may kick, head butt or charge when a relaxed cow in the same situation would not.

There are signs that we can recognise in cattle that alert us to such dangers.

Check out the resource (especially Section 2) at

https://worksafe.govt.nz/topic-and-industry/agriculture/working-with-animals/working-with-cattle/safe-cattle-handling-guide/#lf-doc-17048

and do your own research to answer the following questions:

Imagine you are at the Werribee cattle yards, and there are 5 cows in a pen. What body language signs might alert you that our (normally friendly) cows are frightened and may be aggressive ?

If there was only one cow in the yard, does this increase or decrease the risk that a cow might become aggressive? Why?

Restraining cattle – the crush

Most cattle will stand quietly when restrained by the neck in a cattle crush.

The Crush is the primary worksite of the veterinarian on many farms. It can also be a dangerous place – injuries from crushing, being kicked, or being knocked by fast moving bits of the crush are well documented.

Choosing an appropriate crush will involve consideration of the stock to be restrained, the procedures to be performed, staffing levels and experience, and cost. A facility that is entirely appropriate for vaccinating calves may be entirely inappropriate for performing penile surgery on a bull.

As vets we need to understand the principles of cattle crushes and how to use them. A bit like being able to drive different models of cars.

Use the following resource:

https://mycattlevet.com.au/cattle-crushes/ and the publication at the bottom of the page
https://mycattlevet.com.au/wp-content/uploads/2016/01/Crush-Design-and-Safety-WEBSITE-FINAL.pdf

to answer the following questions:

What are the major parts that are common to most cattle crushes?

List some important hazards you would be careful of when restraining a dairy cow in a cattle crush?

Restraining cattle – techniques for individual restraint

When a cow is restrained in a crush, or in a small yard, we need the cow to be still enough to perform procedures on it.

Watch the following video https://www.youtube.com/watch?v=k5CQ83YHwbM (10 mins) and use your google skills to answer the following questions:

What restraint techniques might you use to examine a cow's eye?

What restraint techniques might you use to avoid being kicked whilst examining a cow's udder ?

An Introduction to Sheep Behaviour and Handling

Sheep behaviour

Sheep are prey animals, their main defences being to flock together or to flee. Their behaviour reflects their evolution. They are usually docile although in certain circumstances they may charge. This is especially true of rams, ewes with a lamb at foot and any animal that is agitated and unable to flee. It is safest to assume that every ram will act aggressively and unpredictably.

Task 1

Use document *MLA Sheep Husbandry Practices Guide.pdf* located on the assignment page and the following resource to answer the questions below:

https://sksheep.com/download/understanding-sheep-behavior/

Question 1

List three aspects of sheep behaviour that influence their interactions with human handlers.

Question 2

A Merino ewe is being kept alone in a large pen. When compared to ewes run in a small flock will she be:
  1. More or less likely to be experiencing distress or agitation?
  2. Easier or more difficult to move and restrain?
  3. More or less dangerous to handlers?

Further reading: *Understanding the natural behaviour of sheep*, Hinch GN. In: Ferguson DM, Lee C, Fisher A, editors. Advances in Sheep Welfare: Woodhead Publishing; 2017. p. 1-15.

Moving sheep – flight zones and points of balance

Task 2

Watch the following video:

https://www.youtube.com/watch?v=JIm_suD265g (7 mins)

And use the following resource:

https://worksafe.govt.nz/topic-and-industry/agriculture/working-with-animals/working-with-sheep/safe-sheep-handling-gpg/#lf-doc-22069

in addition to those in the previous section to answer these questions:

Question 3

Which of the sheep's senses are handlers relying on most to encourage them to move in the desired direction?

Question 4

How would you encourage sheep in a race to move forward? How could you attempt to make them move faster or slower?

Question 5

You have a small flock in large yard. How could you make it easier to catch and restrain one sheep from that mob?

Restraining sheep

IMPORTANT: Never catch a sheep by its wool as this may pull and hurt the sheep, blemish the skin, and bruise the carcass (reducing carcass value).

The following section describes restraint methods for sheep. Please read through them and complete the questions in Task 3. Please also review these notes prior to your live animal sessions as you will be using these techniques.

Standing restraint

— Stand the sheep against the side of the pen or fence and hold it with your knees

— Aim for one knee to rest against the shoulder and one knee against the thigh of the sheep, depending on frame size. Place one hand under its jaw and hold the fence with the other

— Keep the head elevated to reduce the sheep's 'pushing power'

— For further restraint:

o back the sheep into a corner and/or

o use two handlers, one to hold the forequarters and one to hold the hindquarters

— Do not attempt to keep a sheep from moving by pulling on its head or horns as it will resist this. Use gentle pressure around the neck and rump.
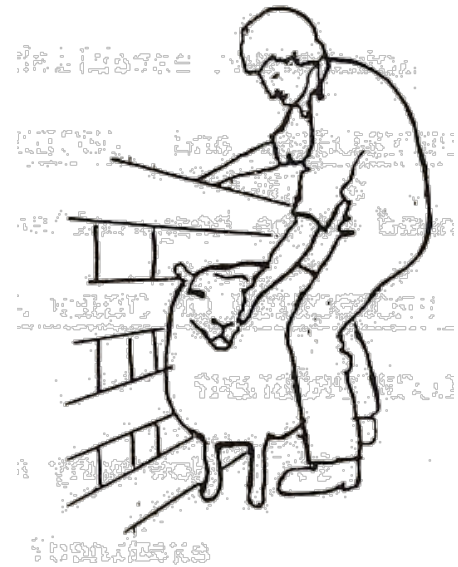

Figure 1 Safe restraint of sheep against a fence.

Sitting restraint

The method chosen for tipping (sitting or lying it down) a sheep usually depends upon the size and weight of the animal. Light sheep can be tipped by the 'lift method' and heavier sheep by unbalancing the hindquarters. The lift method may also be an option if there are two (smaller) operators and a heavier sheep.

Lift method

Stand on the left side of the sheep with legs close together and behind the shoulder. Put left arm under and around the sheep's neck (near the point of the shoulder) pass the right hand over the sheep's back and grasp the skin of the flank. Lift the sheep off the ground. A nudge with the knees at the same time prevents the sheep bracing its left hind leg. Place sheep in a sitting position. If more comfortable or appropriate in a given setting, substitute left for right above.
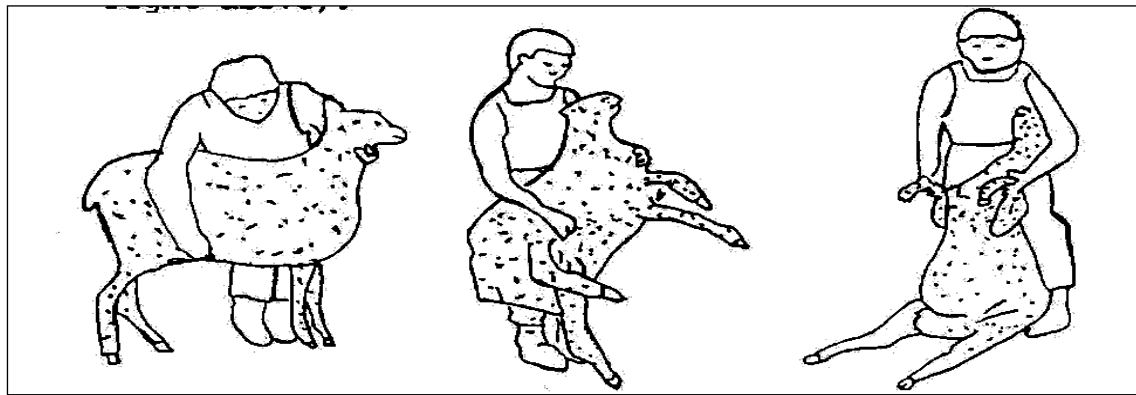

Figure 2 Three step process to tip a sheep by the 'lift method'

Unbalancing the hindquarters (method 1)

Place one hand on the lateral aspect of the rump of the sheep (see Fig.3) and the other under the jaw. Turn the head towards the flank whilst at the same time exerting pressure on the rump and take a step backwards. The hindquarters should drop to a sitting position. Bring the fore-end up so that the sheep is tilted back towards the holder. Allow the sheep's head to drop to one side, in a 'crutching' position.
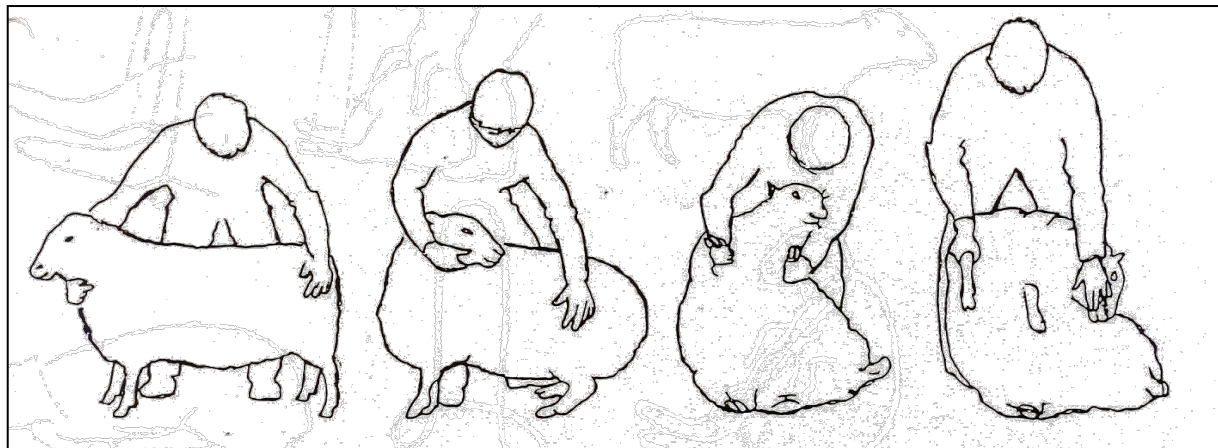

Figure 3 Four step process to tip a sheep by unbalancing the hindquarters

Unbalancing the hindquarters (method 2)

Place one hand under the jaw and turn the head towards the flank (away from yourself). At the same time fold the near hind leg under the body. The sheep should drop to a sitting position.
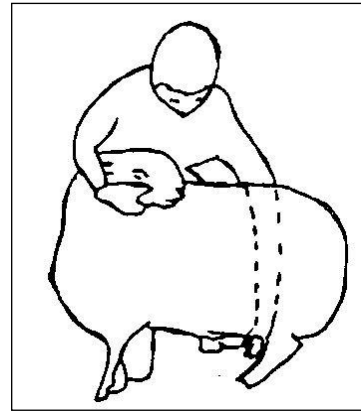

Figure 4 Unbalancing the hindquarters, method two.

Task 3

Question 5

Where on the sheep's body do the terms "rump" and "flank" describe?

Question 6

During your live animal sheep handling prac you are asked to restrain a wether in a sitting position. He has been estimated to be 60kg in weight. Which method of tipping would you choose? How else could you make tipping this animal safer?

Question 7

After successfully tipping the above animal you want to release him. Drawing on your knowledge of sheep behaviour, what is he likely to do immediately that he is released? What might you therefore consider before releasing him?

Sheep breeds

Use the document: Breeds-of-Sheep-in-Australia.pdf which can be found on the Assignment page to learn about the breeds of sheep found in Australia.

There is an extensive list of breeds with further details at: https://breeds.okstate.edu/sheep/

Use the above resources and any others you find to answer the following questions:

Task 4

Question 8

Choose three breeds and briefly describe some of their characteristics. Are they known for meat production, wool or both?

Question 9

Are there any differences between breeds in the way that they behave? Or the way they should be handled?

Sheep identification

All sheep in Australia are required to be fitted with an approved, whole-of-life ear tag (in either ear) that identifies their property of birth, via a unique property identification code (PIC), prior to movement from a property. In Victoria, electronic radio-frequency identification (RFID) tags are now required. To identify an individual sheep:

1. **Record the numbers on the ear tag and the ear the tag is in** (L or R): number may only be a PIC, but an RFID or visual ID (VID) number should also be present on Victorian sheep
2. **Record the colour of the tag:** there is a standardised NLIS (National Livestock Identification Scheme) colour code for tags that correspond to the year of birth (see below) NB: it is worthwhile enquiring as to whether a producer is tagging according to this system before relying on it to age a sheep.

Year	Year	Colour	
2008	2016	black	
2009	2017	white	
2010	2018	orange	pink tag =
2011	2019	light green	
2012	2020	purple	post-breeder tags must be pink.
2013	2021	yellow	
2014	2022	red	
2015	2023	sky blue	

Figure 5. NLIS tag colours and corresponding year of birth

There may also be a stamp on the ear tag e.g. Ⓥ if vaccinated with specific vaccines like OJD Gudair® vaccine.

Task 5

Use the information on the NLIS website (https://www.integritysystems.com.au/identification--traceability/national-livestock-identification-system/) to answer the following question:

Question 9

What is the purpose of the NLIS and what advantages does this provide to the Australian livestock industry?

Condition scoring of sheep

Condition scoring is a semi-quantitative way to assess and describe the condition of sheep in a standard, clear language. This can help in routine feeding and management and in grading for sale and slaughter. The ability to condition score is a useful skill to enable clear communication about the condition an animal is in, and the potential disease risks it may face due to that condition.

The system most widely used in Australia is based on a 1 to 5 scale palpated over the short ribs (Figure 6).
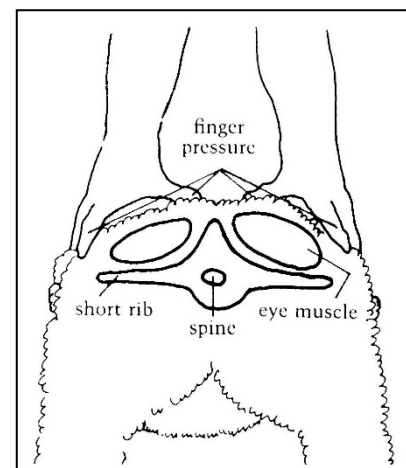

Figure 6   Palpating over the short ribs of a sheep to condition score

	Backbone	Short Ribs
1	The bones form a sharp narrow ridge. Each vertebra can be easily felt as a bone under the skin . There is only a very small eye muscle. The sheep is quite thin (virtually unsaleable)	The ends of the short ribs are very obvious. It is easy to feel the squarish shape of the ends. Using fingers spread 1 cm apart, it feels like the fingernail under the skin with practically no covering
2	The bones form a narrow ridge but the points are rounded with muscle. It is easy to press between each bone. There is a reasonable eye muscle. Store condition- ideal for wethers and lean meat.	The ends of the short ribs are rounded but it is easy to press between them. Using fingers spread 0.5cms apart, the ends feel rounded like finger ends. They are covered with flesh but it is easy to press under and between them.
3	The vertebrae are only slightly elevated above a full eye muscle. It is possible to feel each rounded bone but not to press between them. (Forward store condition ideal for most lamb markets now. No excess fat).	The ends of short ribs are well rounded and filled in with muscle. Using 4 fingers pressed tightly together, it is possible to feel the rounded ends but not between them. They are well covered and filled in with muscle.
4	It is possible to feel most vertebrae with pressure. The back bone is a smooth slightly raised ridge above full eye muscles and the skin floats over it.	It is only possible to feel or sense one or two short ribs and only possible to press under them with difficulty. It feels like the side of the palm, where maybe one end can just be sensed.
5	The spine may only be felt (if at all) by pressing down firmly between the fat covered eye muscles. A bustle of fat may appear over the tail (wasteful and uneconomic).	It is virtually impossible to feel under the ends as the triangle formed by the long ribs and hip bone is filled with meat and fat. The short rib ends cannot be felt.

Figure 7   Condition scoring grades used in Australian sheep (lifetimewool.com)

Notes:

- You must palpate the sheep in the correct place to CS: wool is a fantastic disguise
- Practice is core to confidence and accuracy in condition scoring: you will practice this in the live animal handling prac
- Condition scoring can be done without any equipment other than your hands, so it is very practical. However we often need to estimate liveweight for dose calculations
    - Degree of liveweight change with CS change depends on breed and line of sheep
    - Liveweight estimation takes practice: corroborate with scales where possible!
    - This will be covered in later classes
- <u>Condition</u> scoring is different to <u>fat</u> scoring, which assesses fat & muscle cover over the rib cage. Condition scoring is better for differentiating sheep that are skinnier (most important for performance of reproducing ewes), whereas fat scoring differentiates fattened animals better, which is suitable for drafting off 'finished' animals ready for slaughter

Task 6

Watch this video from the WA Department of Primary Industries and Regional Development:

https://www.youtube.com/watch?v=1F5V-GcG1Qk (6min)

And use information here and on this website: http://www.lifetimewool.com.au

To answer the following questions:

Question 10

What practical information does condition scoring provide? What aspects of management can it inform?

Question 11

Condition scoring gives useful information about individuals and the mob as a whole. When assessing a mob how many sheep should be scored and how should they be chosen?

Aging sheep

Temporary incisor teeth:

- Usually no temporary incisors are present at birth, central and middle appear within 1 week
- Transition from lamb to two tooth is important in marketing 'lamb'

Permanent incisor teeth:

- Incisors erupt from central to lateral (see figure below)
- Considerable individual/breed variation in the times of eruption of the permanent teeth
- Hard to age a sheep when only temporary teeth present → cannot compare size of temporary and permanent teeth side by side: permanent incisors are larger, broader and more square in shape; temporary incisors are shorter and more 'triangular'
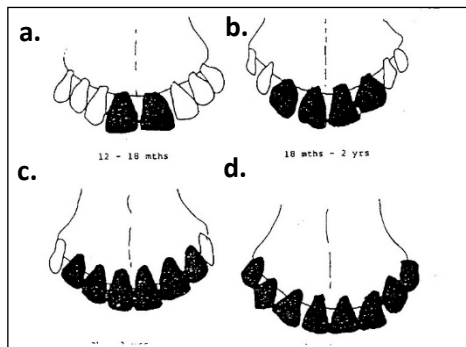

	Terminology	*Permanent* incisors 'erupted'	Avg. eruption time (years)
a.	2 tooth	2 central incisors	1-1.5
b.	4 tooth	above + 2 medial	1.5- 2
c.	6 tooth	above + 2 lateral	2.5-3
d.	Full mouth	above + 2 corner	3.5-4

Task 7

Using the above diagram and table estimate the ages of the sheep whose mouths are pictured below (there's a hint in picture A):

A [   ]   B [   ]   C [   ]

Picture: http://www.infovets.com/books

Picture: http://www.infovets.com/books
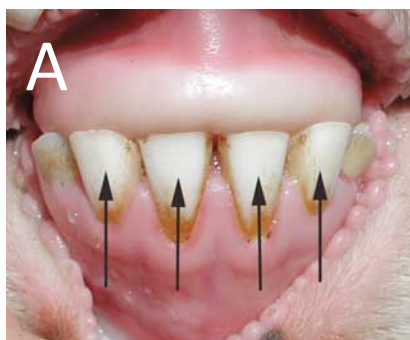
Enterprise Safety

Task 8

Take a tour around the virtual farm at the following link:

https://4dfarms.vet.unimelb.edu.au/mederberrin/tour/index.html

Question 12

List 5 things you notice during your tour that may pose a risk to human health and safety on this farm. Comment briefly on how you might manage these risks.

Instructions for submitting this worksheet:

Congratulations – you have reached the end!

Save your PDF before submitting!

Please submit your assignment on Canvas:

MERGE_2023_0200 > Assignments > Assignments> Cattle and Sheep Handling Workshop Assignment

https://canvas.lms.unimelb.edu.au/courses/173550/assignments/361350