Case Study 3

Standard Management

Animal welfare

Nutrition

A “mixed bag” week

- Diverse range of topics in extensive livestock production this week

- During case studies questions you are asked may have information direct from notes but in a number of cases you will need to do some online research.
- It is OK to break up tasks within your group if you wish, just make sure everyone knows what they are doing to then put together a final answer
- It normally takes at least a few weeks for groups to work well together

Before we start the case study - Assessment

- Our first quarterly quiz will be following the case study today
- Opens at 5:00 Melbourne time this afternoon
- Closes 5:00 pmMelbourne time tomorrow.
- ¼ of overall short quiz allocation
- Consists of 5 multiple choice questions drawn from a pool of questions
- Please ensure you complete it as I cant provide extensions

Exercise 1

- Comparing a stud and commercial cattle enterprise and management procedures that they would undertake (and when)

Two beef cattle enterprises are situated next door to each other in a 675mm rainfall zone with a typical SE Australia pasture growth rate pattern. Bo farms have a winter stocking rate of 10,000 DSE.

Details of the two farms are shown below:

Description	Stud property: "Beef Hill"	Commercial property: “Nil desperandum”
Breed	Angus beef cattle	Hereford beef cattle
Outputs	Stud Bulls (15 months to 2 years). Stud heifers and cows (only small numbers), CFA cows	Hereford steers – 18 months old, Cull Hereford cows (5-10 years of age), Cull bulls (mixed age).

Produce a calendar comparing the two enterprises with respect to the management procedures that would be undertaken in a normal year on each. You will need to do a little bit of research as to when they might happen and what would happen on each one but can use the content from this week to consider the sorts of things that are likely to happen. You might want to split into smaller subgroups to work on each enterprise or a range of management procedures to consider if they would be used, and if they are, when they would be done.

Month	Stud	Commercial
January		
February		
March		
April		
May		
June		
July		
August		
September		
October		
November		
December		

Month	STUD ANGUS	COMMERCIAL HEREFORD
Jan	Tough year – drench and wean, CS & supp feed (through winter)	Tough year – drench and wean, CS and supp feed (through winter)
Feb	Few castrations of animals that wont be sold as bull	
Mar	Pregnancy diagnosis,sell empty cows	Pregnancy diagnosis, sell empty cows
Apr	Calving begins (two calvings per year)	
May	Freeze branded – calves always weaned by here	Calves always weaned.
Jun	Drench	Drench
Jul	Vaccinate cow	Vaccinate cows
Aug	Calving begins	Calving begins
Sep	Calving finishes, BBSE	Calving finishes, BBSE
Oct	First vaccination (5 in 1, **7 in 1**), NLIS& visual, ear tattoo, ear notch), genomic testing	First vaccination (**5 in 1**, 7 in 1), disbudding, castration, eartag (NLIS, ?visual, ear notch)
Nov	2nd vaccination (5 in 1, **7 in 1**), Joining	2nd vaccination (**5 in 1**, 7 in 1), Joining
Dec	Joining finish	Joining finish

Animal welfare in the news

- As a group collect one article per group member in todays zoom from anywhere on-line regarding extensive animal welfare- any topic/management procedure ie. Each of you should find one article – if two or more of you find the same article search out another one.

1. Who is the organisation that has published the article (eg. is it from a newspaper, welfare organisation, rights organisation, university etc)?
2. What is the background/qualifications of people presenting information in the article (eg. if they are being interviewed. Potentially may just be the single author providing commentary). Detail a short biography if available eg. Name, role, background.
3. What species of animal/s is being discussed?
4. What are the procedures or welfare elements being discussed?
5. What are the listed benefits or welfare impacts of the procedure or elements?
6. Are there any alternatives to improve the particular area that is being discussed?

- Do the above task individually and then come together as a group to discuss each one on your Padlet. Please note that there will be many different opinions on animal welfare and this is a good chance to understand how others may think about animal welfare. It is highly likely that not everyone in the group will agree on each topic as is the case within the community. Please be respectful of each others opinions even though they may differ from your own.

Nutrition

- The first step in any supplementary feeding regime or even knowing what quality pasture is on a property is getting a feed test done.
- Can you find any companies in Victoria offering feedtest services? What samples do they require to be submitted to run a feedtest and how should these be collected?
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- Going back to one of the properties in question 1 that were stocked at 10,000 DSE in winter (just pick one of them). How would you go about working out the change in DSE over the year?
  1. What categories of livestock would you have on the property?
  2. How does their DSE rating change over time?
  3. Try to work out the DSE for each season of the year listing your assumptions as to when stock leave property or change category. Eg how many DSE for each category in Autumn, Winter, Spring, Summer

Lets work with our Hereford commercial enterprise

- 10,000 DSE in winter (from French equation)
- August calving enterprise
- Therefore mid winter = mid/late pregnancy
- 10 month old weaner calves (castrate male and female) – assume 0.9 calves per cow
- 3 % bulls (this ratio could vary but is a useful starting number)
- Use technique from last week (see Week 2 discussion board video)

- Numbers of cows = 563 cows
- We can then use this number to work out weaners and bulls
- Weaners = 0.9* 563 = 507 weaners
- Bulls = 0.03* 563 = 17 bulls
- We can then check our answer by rechecking the ratio is correct

Winter stocking

Production class	Metabolisable energy				Crude protein	
	MJ/d	DSE	MJ/d	DSE		
	Sheep		Cattle		Sheep	Cattle
Weaners/yearlings	8	1	40-60	6-8	12-16%	
Steers			60-80	8-11		6-12%^
Dry or early pregnant	7.7	1*	60	8-9	6%	6-8%
Late pregnant	9–12	1.5	70	10	8%	9%
Lactating (Merino/beef)	18	2.5	84-130	12-17	10-12%	
Milking dairy cow (20 L/d)			170	23		14-20%
Rams / bulls	15	2	100	15		10%

- JULY
- 563 cows (11DSE) & 507 (7 DSE) weaners &
17 bulls (15 DSE)
- Total DSE we know is 10,000

- 3 months later
- Lets say no animals die (unrealistic)
- 563 cows & calves at DSE rating of 15 DSE
- 253 weaners at rating of 8 DSE
- 254 steers at rating of 8 DSE
- 17 bulls at 15 DSE
- TOTAL DSE in October = 563*15 +507*8 + 17*15 = 12,756 DSE (increased compared to winter)

6 months later

- January – at this point we sold all the steers that were 15-18 months old
- We have kept heifers until pregnancy tested
- Still have calves on the cows
- Still have bulls
- Increased DSE for cow/calf units and kept heifers same as have reduce growth a little, although they are bigger
- 563 cows & calves at DSE rating of 16 DSE (this is increased compared to earlier to note increase in size of calves)
- 253 weaners at rating of 8 DSE
- 17 bulls at 15 DSE
- Total DSE = 11287

9 months later

- Calves have been weaned
- Heifers pregnancy tested, only need 100 replacement heifers so join for 3 weeks and get this number, sell remainder as PTIC or empty
- Sold older cows or cull cows – will bring in 2 year old heifers to replace (as we are operating self replacing system we want to get to the same number of pregnancy cows for winter)

- 463 @ 10 DSE cows
- Wean 0.9 calves per cow = 505 calves @ 6 DSE
- 100 PTIC heifers at rating of 10 DSE
- 17 bulls at 15 DSE
- Total DSE = 8915 DSE

How does this look through the year?

Season	DSE
Winter	10000
Spring	12756
Summer	11287
Autumn	8915

Demand versus supply

- This isn't a perfect fit for our pasture supply curve but is a better fit than if we moved it six months earlier to a Jan/Feb calving (see below)

Season	DSE
Winter	11287
Spring	8915
Summer	10000
Autumn	12756