Pasture Play

A student role play game

Created by Lauren Roberts

This game is an interactive way for students to gain an understanding of animal behaviour and how that affects management decisions around pasture management and animal health.

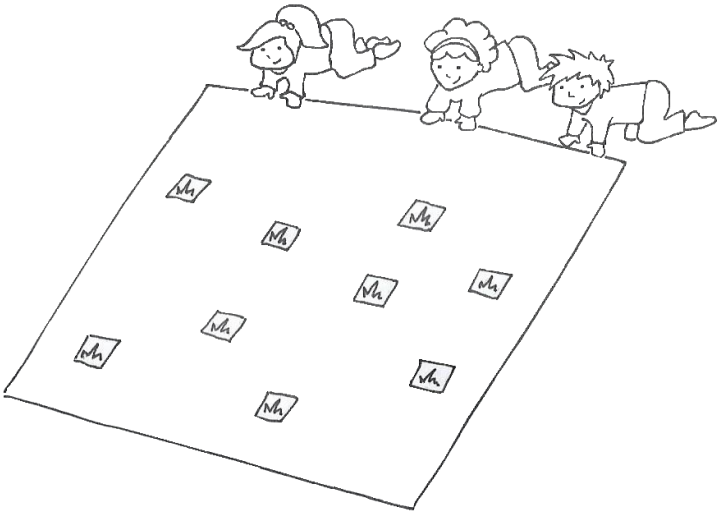
Please note: *This game is part of the* ***Lincoln University Year 11 Dairy Workshops****. If attending please refrain from using it.*

Resources

- A clear playing area that can represent a paddock. It can either be in the classroom or outside.
- 6-8 students who will be role playing stock/ animals. You can change the students for each round.
- 24-30 laminated grass cards. These represent food that students need to forage for. The cards get a lot of handling so laminating or having spares is helpful. Alternatively to make it more difficult you can paint some stones and spread them around outside in a grassed area. Just ensure that the paddock area is marked out clearly.
- Brightly coloured rope or a poly wire reel for break fencing.

Instructions

- Choose 6-8 students who will act as stock/animals.
- Allocate **3 grass cards per student** (do not tell students that this is how much they need). This is to represent the amount of feed for animal growth/ production.
- Place the grass cards around the paddock. Remind students that we cannot eat endlessly because our stomachs get full, so the maximum number of cards they can get is double their feed requirements (6 cards).
- Instruct them to “go get food” and provide no other information.



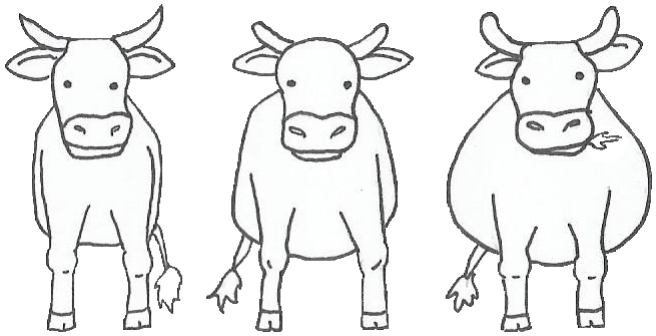
Grass card templates are located at the end of this document

Round 1: Natural Variation

Students who are observing stand outside the paddock boundaries and students who are role playing stock are at one end of the paddock. Ideally they will be on their hands and knees because they are representing animals and it takes them longer to forage the food, however, the game will still work if they walk.

Once all the food is eaten divide the students into three categories…

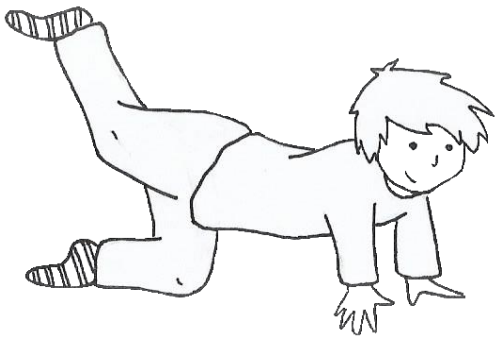
- those that **got 3 grass** cards
- those that got **more than 3**
- those that got **less than 3**



Students should be able to see that although we planned for each animal to only have 3 grass cards some are better at foraging than others. You can discuss why this might be (competition/ dominance/ hierarchy/ knowledge of the paddock/ faster eaters/ feed preference/ genetics) and how we might manage stock in the future (preferential feeding, good forager so will do well on average pasture, separate mobs, heavier animals sent to the works earlier).

Round 2: Sore Feet

Place the grass cards back out onto the paddock. Students should all be at one end of the paddock. Pick 2-3 students who are having some foot problems (lameness, footrot etc.). Choosing the two most successful players in the last round to have sore feet can demonstrate the impact this can have. They need to raise their back leg into the air and are not allowed to use it. If students walked in the last round then they will be hopping. Open up the paddock and tell them to **go get food**.



Once all the food is eaten divide the students into the three categories and see if the majority of students with foot problems ended up getting less feed.

Ask the students who had foot problems how they found it.

You can also explain that you are more likely to find lame stock at the back of the mob when shifting them so managers should pay particular attention to the animals at the back.

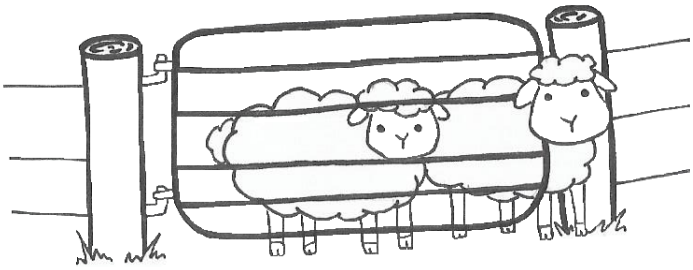
Students should understand that those with sore feet did not do as well and stock can lose a lot of condition/ weight and the issue can get worse over the long term. This is a good opportunity to introduce or recap weighing and body condition scoring.

Stock losing weight is an issue as total feed is not utilised effectively over the long term. For every kilogram (kg) that is lost it takes 3.8 times as much energy to put that kilogram (kg) back on.

"Each kg of ewe liveweight lost is equal to 17MJME (megajoules of metabolised energy) but it takes 65 MJME to put one kg of weight back on." (Beef + Lamb).

This is why farmers and livestock managers are so pedantic about animal's feet.

Round 3: Farm Gates



Place the grass cards back out onto the paddock. The foot issues have been sorted so no students should be limping.

All students should be at one end of the paddock, and this time they need to go through a 'gate', (use two markers to define the gate opening).

This is a good opportunity to get the observing students to predict who is likely to get the most food. Often there will be some good natured pushing and shoving by students to try and get in front. This is good modelling around how stock are also aware of their position and how some animals will plan how to get themselves near the front.

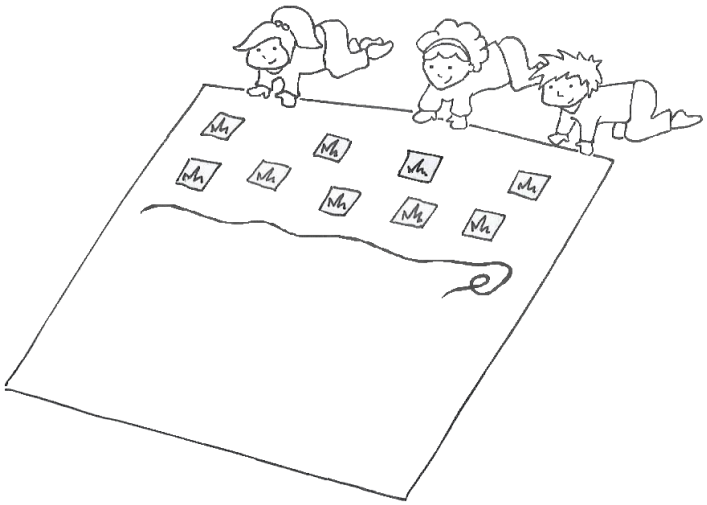
Open up the paddock and tell them to **go get food**. Once all the food is eaten divide the students into the three categories.

Discuss who was advantaged and disadvantaged, was there any pushing or shoving. The animals that are more likely to be up the front are dominant, food focused, and experienced animals that can learn systems and remember good feed locations.

You can also ask students if they had a strategy, such as an opportunistic approach (just go for any feed that was nearby) or did they choose to rush to the back of the paddock because there was less competition.

Also a great time to mention pugging around gates and how that can affect grass growth.

Round 4: Break Fencing.



Either role play or discuss depending of students engagement levels.

Use a rope to represent the break feeding fences that farmers use. This round is to demonstrate how the set-up of breaks is important for feed and for the environment.

Poor practice: Set the strip up so **the width of the break is short and it is very deep.**

Students should be crowded and ideally they will need to walk over 'feed' to access all the feed. This is considered poor practice as feed is destroyed by stock trampling it to access more food.

Lots of animals are walking over the same area so pugging and soil damage is more likely to occur. It puts more stress on the animals as they feel they need to compete and work their way through a crowd to access feed.

Best practice: Set the strip up so **the break is long and the depth is shallow**. Students should be spread out so they are in one line and all of them have direct access to the feed so there is less feed wastage. Because the stock are more dispersed, there is also less damage to the soil.

Break fences = Long and narrow is better than short and wide.

Technology making things easier: Halter is a new technology that that uses collars to guide animal grazing and was recently developed in New Zealand. The collars use vibrations and sounds to make virtual fences. This can be beneficial for cows because break fencing can be implemented easily with less labour and all cows can access the pasture at the same time. It is also useful for excluding areas of the paddock that are more prone to pugging in winter or need a longer break.

Next Steps…

This game can lead into how we measure the amount of feed available (pasture meter, pasture sticks, satellite and Dry Matter), and some of the different types of pasture species found in paddocks.

Feed cards are available that cover some of the main feed types for dairy cows. The cards have the cost per kg of dry matter ($/kgDM) and the energy of feed (MJME). It is important to note that these values are for pastures managed under intensive farm systems.

Animals that have high feed needs (due to lactating or growth) need to consume between 3-4% of their body weight. You can get students to calculate out how much it costs to feed a single cow or a herd of 500 lactating dairy cows when they consume on average 15 kgDM/day. Or how much it costs to feed a 40kg weaned lamb who needs 1.3 kgDM/day.

You could also print off and use the ryegrass feed cards used in “Ryegrass Tag”. It has ryegrass at different stages of growth and with different feed values. This will change some strategies as some students may purposefully seek high value food, demonstrating feed preference. It is also a soft introduction to the energy of feed (MJME).

If you have any questions please email lauren.roberts@lincoln.ac.nz

Grass playing cards on the next page can be used to play this game.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