# Tocal Farms picture books.

Activities to support the use of the Tocal Farms picture books Bosley and Bruce, Charlotte and Freda in delivering Stage 1 and Early Stage 1 outcomes.

Thank you for bringing our picture books and food and fibre learning into your classroom!

Our picture books are written to share information about Australian agriculture with young children and students. In the back of each book there is a page describing the agricultural knowledge that the story shares. Messages of kindness, inclusion and difference are also overlaid onto the story and the animal characters. We don't really know if there is a chicken that prefers to be alone or a milking cow that was anxious their first time in the dairy. Providing for the needs of animals means that the farm staff allow enough room for chickens (or cows) that need more space or for chickens and cows to learn where their food, water and shelter are to be found.

The activity sheets in this set help students working towards the following outcomes:

### Science and Technology

STe-3LW-ST explores the characteristics, needs and uses of living things

ST1-4LW-S describes observable features of living things and their environments

ST1-5LW-T identifies how plants and animals are used for food and fibre products

### Geography

GE1-1 describes features of places and the connections people have with places

You may choose to explain some concepts and realities to your students depending on their level of understanding (and their questions!) including the fact that Bosley is a steer and cannot actually father any of the breeds shown on activity sheet – but if he could there is one that is most like him! If you are not sure why not, read the information in the back of the Bosley and Bruce book 😊. Students may ask why Freda has an udder but Bosley doesn't – we know though that only cows have udders right? Bulls and steers don't – and therefore cannot provide milk.

These books and discussions may also raise the concept that we farm animals for meat, some of your younger students may not have made the connection between chickens and chicken or cows and steers and beef. Be prepared to talk about this and the fact that some people choose not to eat meat (for a range of reasons) and some people choose to eat some meats and not others and some choose to accept that this is a part of feeding people. Always talk about this in a positive way, allowing for and respecting people's choices about their own lifestyle and diet.

There are some other details in the books and the activity sheets that might need more explanation. Including:

- Most cows, sheep and horses shelter under trees. There are often stands of trees in their paddocks that they sleep under or rest in the shade. In fine weather they may sleep in the open. Some animals will be given access to artificial shelter including sheds and shade structures if there is not sufficient natural shelter or if the farm manager feels they need extra protection – this can include stud animals that are valuable breeding stock.
- Being smaller, chickens are more vulnerable to weather and attack from dogs and cats (feral or pets) and so chickens are usually locked in a shed for shelter at night. In free range farms there is also a requirement to provide access to shade from trees or shade structures during the day.
- Dairy cows require a higher level of nutrition per day than most beef cows. Producing milk requires a lot of energy and the dairy industry relies on cows producing a regular amount of milk while maintain the health of the animal. The supplementary feed provided to cows during milking can include grain, cottonseed meal, cornmeal (a by-product of corn oil) and pellets.

## Hands-on activities

If you would like to extend your work with the picture books, we suggest the following activities.

### Bosley and Bruce

Grow a grass head.

There is a range of instructions available online but you can simply put some potting mix in a recycled container with some grass seed or wheat. Draw a face on the container and watch as the 'hair' grows.

Two options for instructions:

https://www.yates.com.au/ideas-plans/project-guides-articles/all/grow-a-funny-grass-head and https://www.pre-kpages.com/planting-and-growing-grass-in-preschool/.

At some point you will need to trim the grass, just like the cattle eating the pasture. Watch as it regrows over the next week or so.

To incorporate working scientifically into this activity have students identify the needs of the grass to grow (soil/nutrients, water and light). Then set up an experiment where some of the grass heads get water and light, some get less water and some get less light. Measure or document how this impacts the growth of the grass.

This is the same issue that farmers deal with when ensuring there is enough water and soil nutrients to grow the amount of pasture needed to feed their livestock.

## Charlotte

Make bird seed balls or use a bird feeder.

Again, there are instructions for this online. Note this recommendation on their instructions for a bird bell (or seed ball) from the Homes to Love website 'The idea of a bird bell is to entice birds to visit your garden, but not to provide so much feed that they depend upon it. Feeding wild birds is discouraged in many local council areas, so be sure to check with yours before you get started.' Their instructions and these notes are located at https://www.homestolove.com.au/how-to-make-a-birdseed-bell-8768.

Also make sure that you choose a bird seed that is appropriate for your area – native bird mix, small bird mix or parrot mix depending on the types of birds you see around your school grounds.

Place the seed where you can see it from your classroom but somewhere it is out of reach of rodents and less likely to get wet if it rains (or you might end up growing a grass head rather than attracting birds!).

Chickens are allowed space to range and scratch about in the grass and dirt where they may eat insects and seeds. They are also provided with pellet mix that provides protein, carbohydrates, fats, vitamins, and minerals needed for the health of the chickens. The image below is an example of a pellet mix that is fed to the chickens.

### Freda

Replicate the cream and milk separating process.

You can use oil and water to demonstrate to students the way that cream and milk are separated. Pouring water and cooking oil into a jar, the oil will rise to the top the same way that cream will rise and sit on top of milk. If you shake the jar the oil breaks up and is dispersed through the water – demonstrating why you can't see the cream when milk is first collected from cows.

The Belgenny Farm Creamery education resources includes a set of videos about different milking processes (from hand milking to robotic rotary dairies), cream skimming and butter churning as well as a diagram of the way that milk is produced, collected, processed and distributed. These resources can help young students understand the place of milking and dairies like the Tocal dairy in the provision of milk, cream, butter and other dairy products. These resources are available from https://www.belgennyfarm.com.au/education/creamery

## Discussion questions

These questions are also on a worksheet for students to complete if you choose to use it.

### Bosley and Bruce

What is it about Bosley that makes him good for student training?

What effect does Bosley have on other cattle?

How do you think Bruce knew that Bosley would be good with crowds?

Do you know people who make you feel calm? Or someone who makes you excited and energetic?

### Charlotte

Why do you think Charlotte does not want to be with the other chickens?

What do the other chickens think about Charlotte?

Why do you think Charlotte is happy at the end of the book?

Do you like to be with lots of people in a crowd?

### Freda

Why doesn't Freda understand how to use the dairy?

Do you think Mat and Ursula did the right thing in helping Freda to learn how about the dairy?

Why?

Freda is worried by the noises of the other cows and the milking machines. Do loud noises ever bother you that way?

What can you do to help people who are bothered by loud noises like Freda is?

## Auslan videos

There are Auslan interpreted readings of the picture books available on the NSW DPI Schools Program YouTube channel (https://www.youtube.com/playlist?list=PLCw_zxSFv4qdLd7ko_uWaTdiVIWbZhPrd). Show these videos to the class. Discuss the place of Auslan as the language of the Deaf community. Ask students to think of a word to describe either the story or the character in the book. Look up this word on Auslan Signbank for students to learn and share with each other.

## Farm Spaces

The Tocal property is arranged the way that it is for a few different reasons.

The original section of the property runs east-west and is located close to the town of Paterson. The main road between Maitland and Paterson runs through the eastern end of the property and the Homestead (where the families who owned the property lived) is near the main road. It makes sense that the Homestead site was maintained close to the major transport route of the road and the rail line. However, when you consider that the Homestead is on the site chosen by James Webber in 1822 – long before road and rail in the area – we see that there is more to the decision to establish the Homestead here.

We believe this site has been an important site for Aboriginal people for thousands of years before the arrival of James Webber and probably for the same reason that Webber chose it for his home. This area is located near the freshwater in Webbers Creek, the lagoon and the wetlands. It is on a rise – out of reach of floods and where the residents are able to see into the distance and over the surrounding farm land. In the time that Webber arrived there would have been some open forest on the surrounding undulating land which would have been a much more welcoming environment than the steep rugged slopes of forest or the tangle of rainforest. The range of ecosystems nearby – including wetland, open forest, grasslands, rainforest and rivers - also provides for a range of resources and food. The publication 'Aboriginal land use at Tocal' provides more detail about the use of the area by the Wonnarua people.

This explains the placement of the Homestead, the farms are a different matter. For many years following the arrival of Webber, agriculture focussed on cattle and horse breeding. There was also pigs, chicken, sheep, dairying and horticulture in the immediate Homestead area to provide for the residents and staff on the property.

This enterprise was managed from the Homestead site and the many buildings surrounding the Homestead are indicative of a busy farm – including a dairy building, hay shed, bull barn, stables, barracks accommodation, black smith shop, barn and gardens.

Today beef and horse breeding continue in the area to the west of the Homestead. In these areas cattle and horses are managed by using paddock fences to control where they move and feed. They graze in areas of native grasses as well as areas that have had some introduced species of grass to boost the amount of food available. Cattle have access to water in farm dams and water toughs and they shelter under trees in the paddock.

Since the establishment of the College on the rise to the south of the Homestead, farming on Tocal has expanded to include the dairy to the east of the road. This area was purchased in 1966 as an established dairy called Glendarra and is still run as a separate enterprise to the Tocal beef section. Establishing and maintaining a productive dairy requires highly productive pastures which the beautiful rich river flats in this area provide. In recent years irrigation has been expanded on the dairy to enable a more reliable cropping program. Fodder crops are a more expensive way of providing feed for cattle than grazing native pastures but it also provides the cows the nutrition required to produce 20-25 litres of milk each day. Fodder cropping on the dairy is a more intensive production system and for management of the pastures the paddocks on the dairy are smaller and grazed in rotation. Water is provided in most of the dairy paddocks by troughs.

The area to the north of the Homestead called Bona Vista was also purchased separately in 1974. This property is home to the small sheep enterprise established for student training purposes. This is where the shearing shed and sheep yards are located. The sheep graze the grass from the paddocks on this property and have access to water in the farm dams and water troughs.

In 1981 Numeralla on the north western side of the property was also purchased as an established farm producing broiler chickens. Numeralla was subsequently converted to free range egg production in 2015. Its location made it a convenient addition to the training opportunities for the College as well as a profitable business. Importantly it is located close to a road that allows access for the trucks that bring the chicken feed and collect the eggs. The map shows the five sheds that house chickens as well as the fenced runs that keep chickens safe while they are outside. The sheds provide shelter for chickens at night and shade during the day and it is also where most of their food and water are provided (they also have access to forage for food and water in the yards).

When seen through the history of the property the arrangement of the spaces on Tocal can be more clearly understood. The map included with the farm spaces

worksheet sets out the areas in a simplified format. A more detailed and interactive map is available online at https://arcg.is/1HGXn1. This map is part of the Tocal Virtual Farm (https://www.tocal.nsw.edu.au/farm-and-facilities/tocal-farms/tocal-virtual-farm-navigation) where you will also find VR videos and images to support your in-class activities.

You may choose to print the worksheets and have students colour code the different sections or complete some information about each of the sections and the way that the needs of people and animals are met in these spaces. Or you may choose to use it as a conversation starter about the way that farms are arranged. Note that this map is not to scale, the buildings are larger to make them more obvious and the property is not as close to Paterson as it appears here.

You can also have students draw the layout of a farm – one they know or one that dream up – and discuss with them why they decided to place features where they did. Alternatively, they can have a go at mapping the school grounds and see if they can understand why different features are in different locations.

For more resources to support student learning about food and fibre production in Australia go to: https://www.dpi.nsw.gov.au/education-and-training/school-resources.