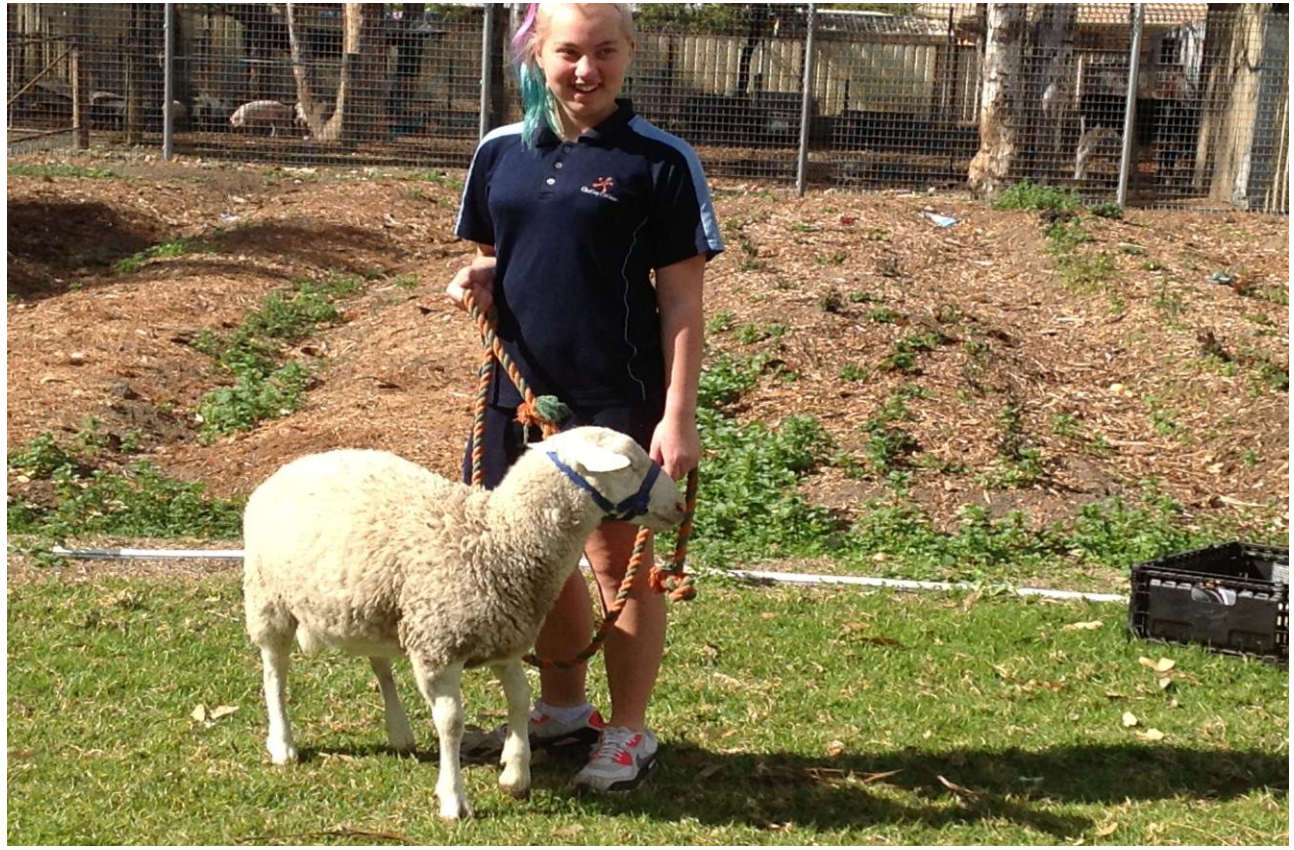
Embedding Sustainability into Agriculture, in a Low SES, Urban Environment. (and on a shoe string budget).



A quick look at Chifley College, Bidwill Campus.

A comprehensive government secondary high school that teacher years 7 to 12.

One of 5 campuses as part of a multi campus school

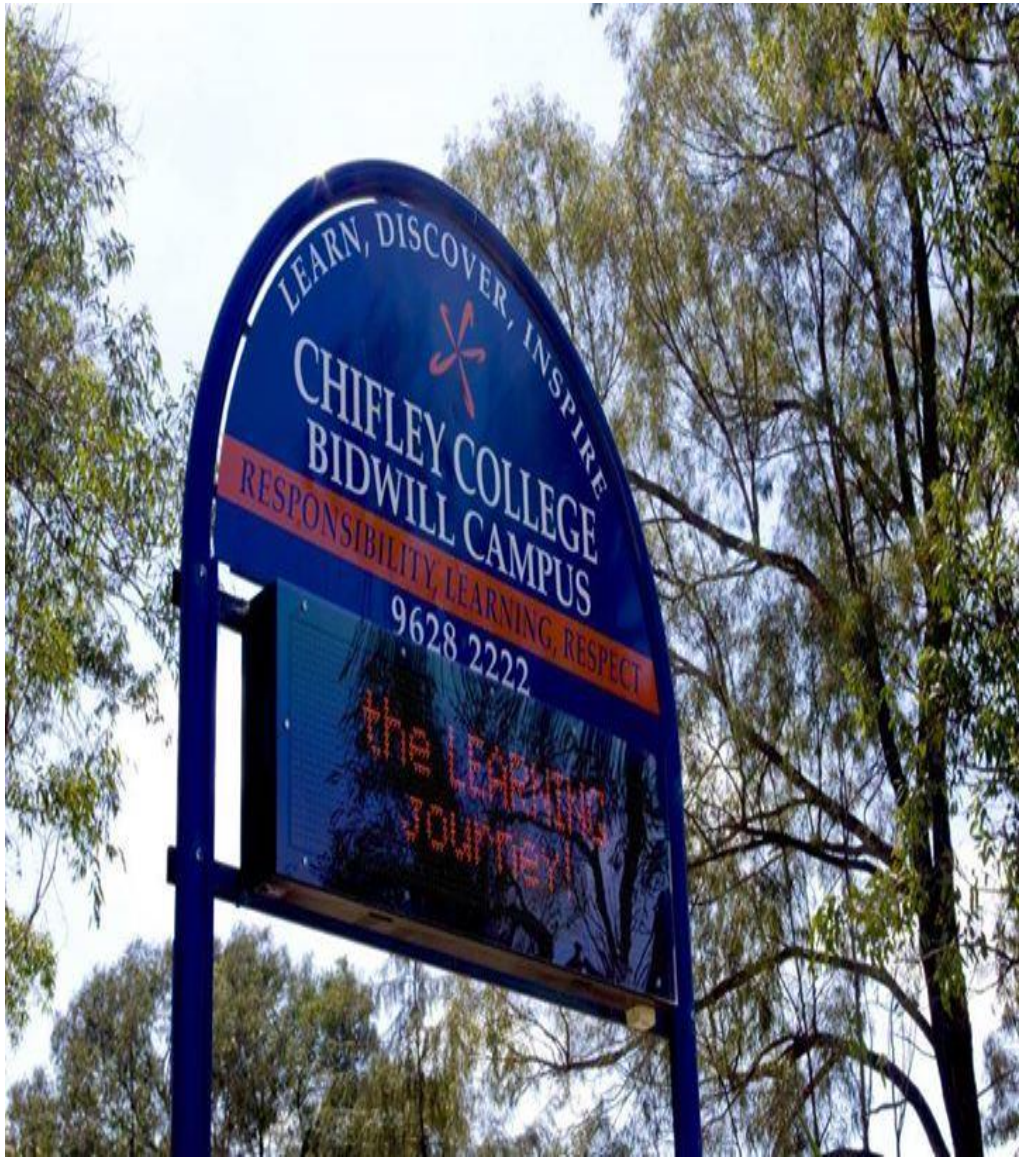
The only Chifley campus that combines both junior and senior students.

The school is located at Bidwill – a suburb that is part of the Mt Druitt public housing area established in the late 1960's.

40% identify as Pacifica (Pacific Island) – mostly from Samoa and Tonga

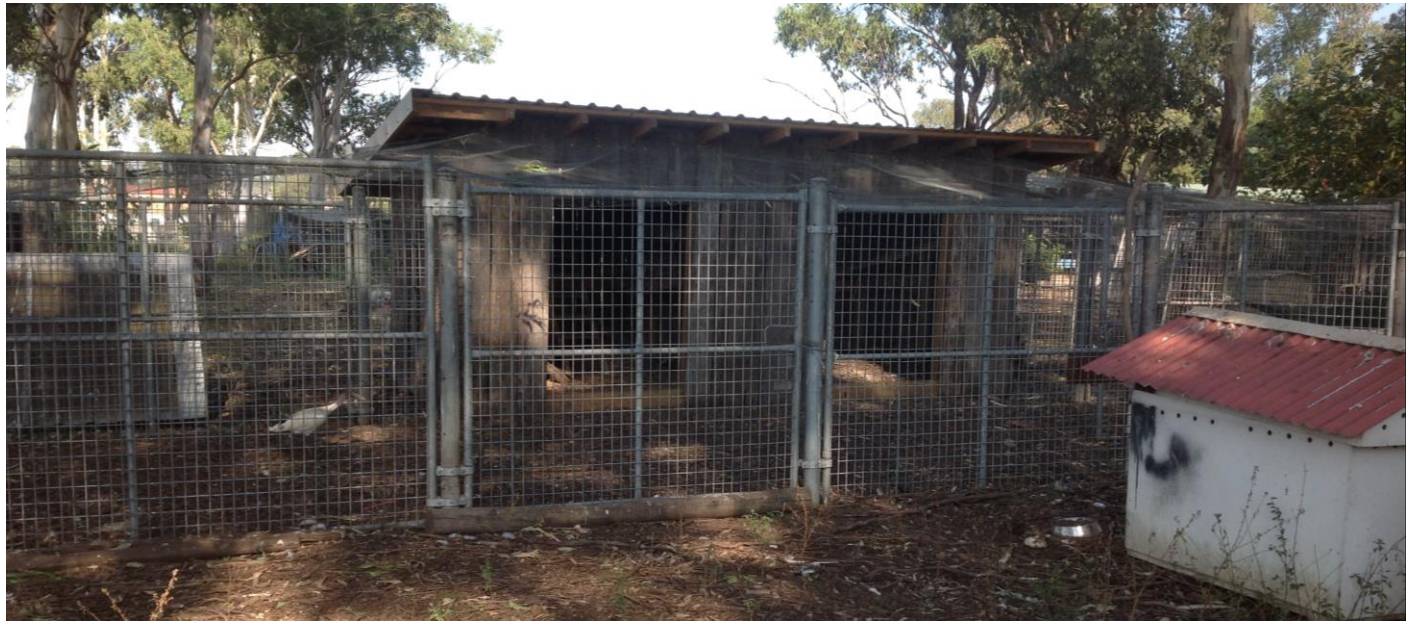
12 % identify as Aboriginal.

We have a IM and IO support unit.



Starting point 2007:

- The farm is a two hectare (five acre) block located across the road from the school.
- It was run down with no significant spending for at least a decade prior to 2007.
- **In addition the soils were depleted and lacking structure**
- Every fence and almost every shed had to be reconstructed or remodelled in order to re-establish an operating learning facility.
- We sought out local council grants to supplement our budget of $3000 per year and incorporated student learning into the reconstruction.
- And put in place a ten year re-building plan.
- Currently generate an additional $5000 to $10,000 per year in sales.



Why do students pick Ag?

We deliver Agriculture as a practical subject – we learn by doing. So most of the time is spent outside on the farm.

We are project focused which means that students are engaged in making or growing a product.

We try to connect students to their food.

We focus on skills and sustainability.

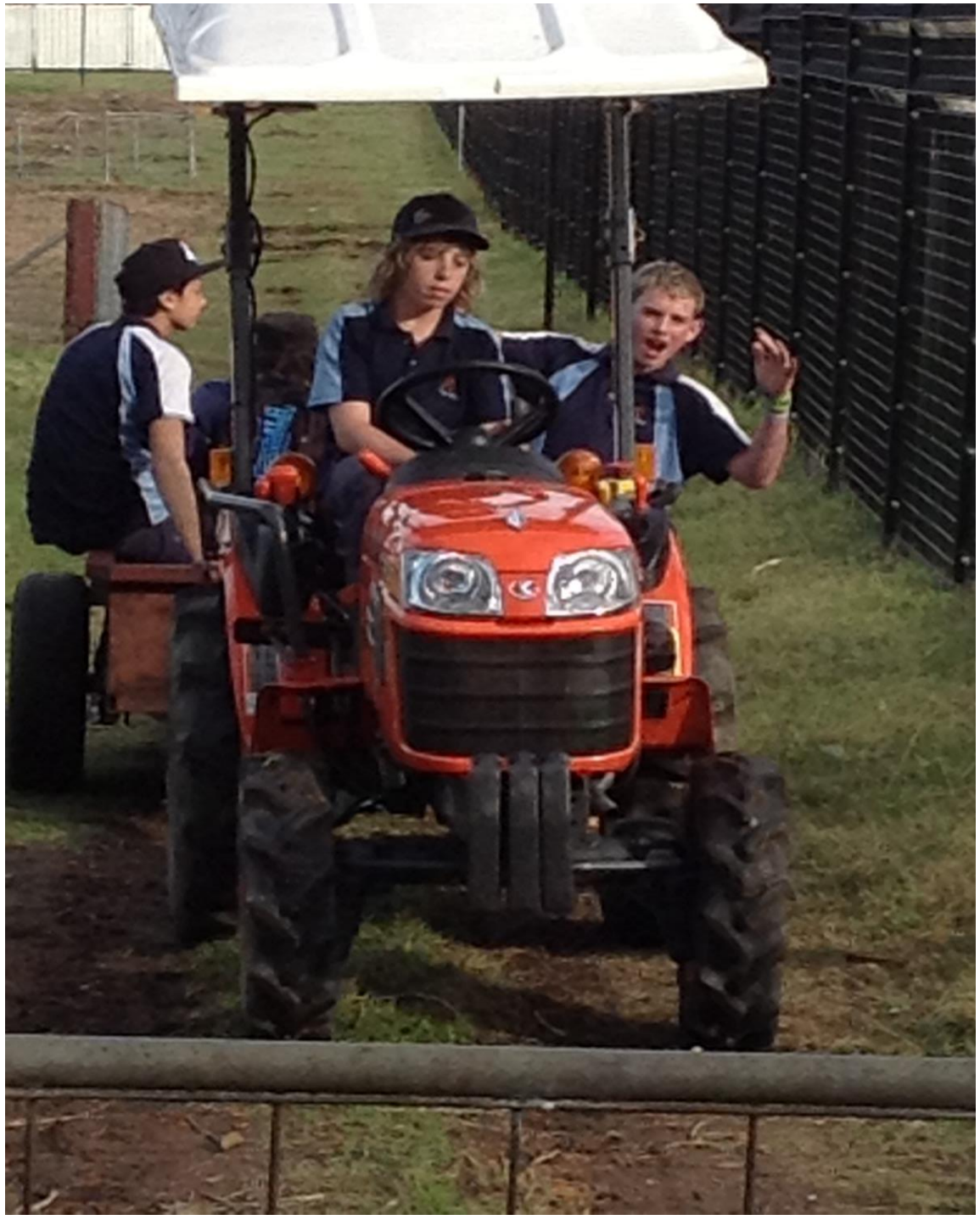
We celebrate student success.

And the students get to drive a tractor!!!!!

Challenges:

The subject has been viewed as an easy fix to behaviourally challenging students.

A significant take up from our life ed unit, so lesson modification is required in order to address literacy ability.



Our strategy:

In agriculture, every time you sell a crop or offload the seasons lambs or calves, you are sending at least 10% of your nutrients out the gate.

Traditionally, farmers replace these nutrients by using fertilizers.

In an urban environment, we have the opportunity to gather both matter and energy from a range of sources.

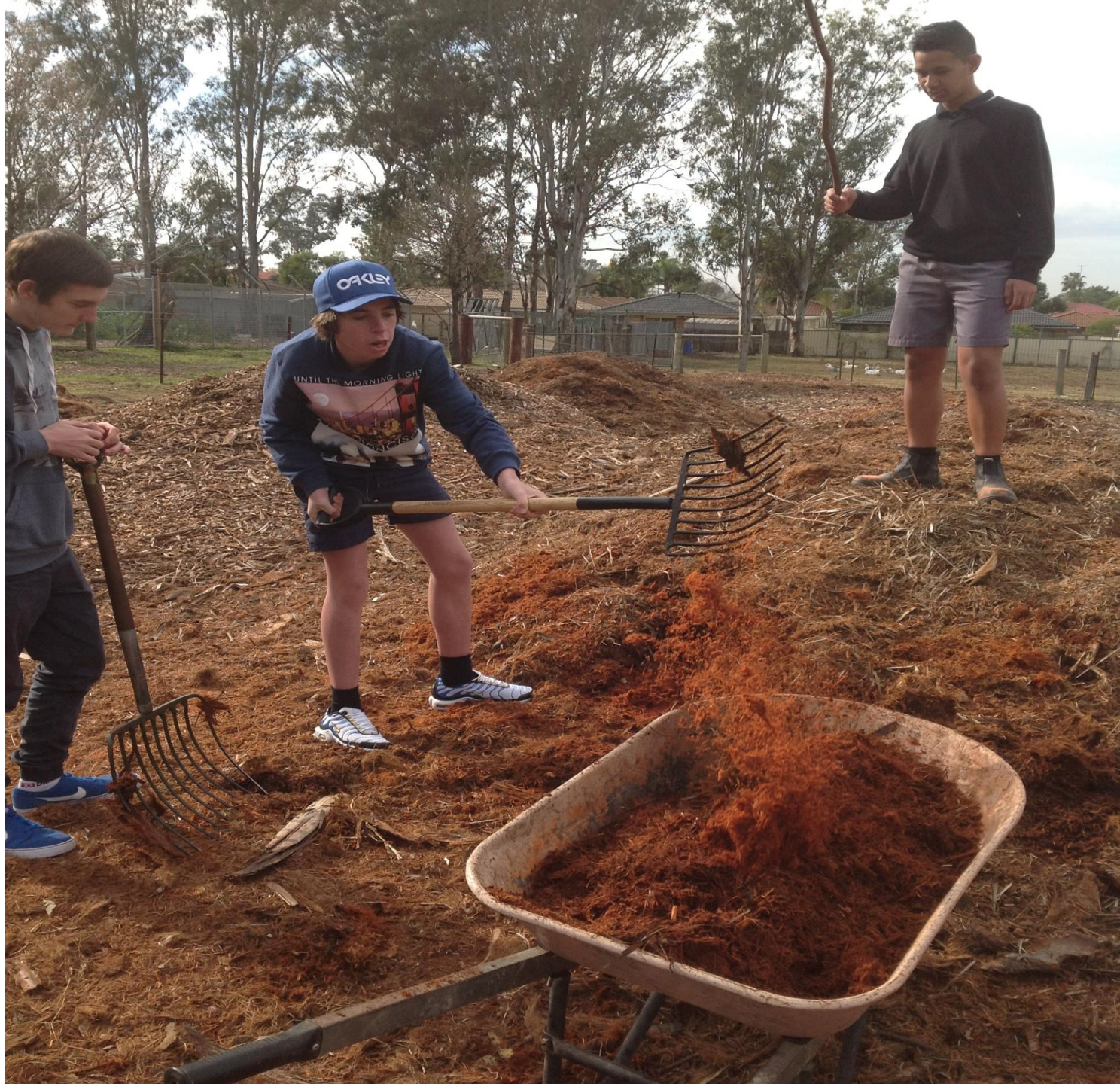
Every project brings in as a minimum, around $1000.

We focus on the:

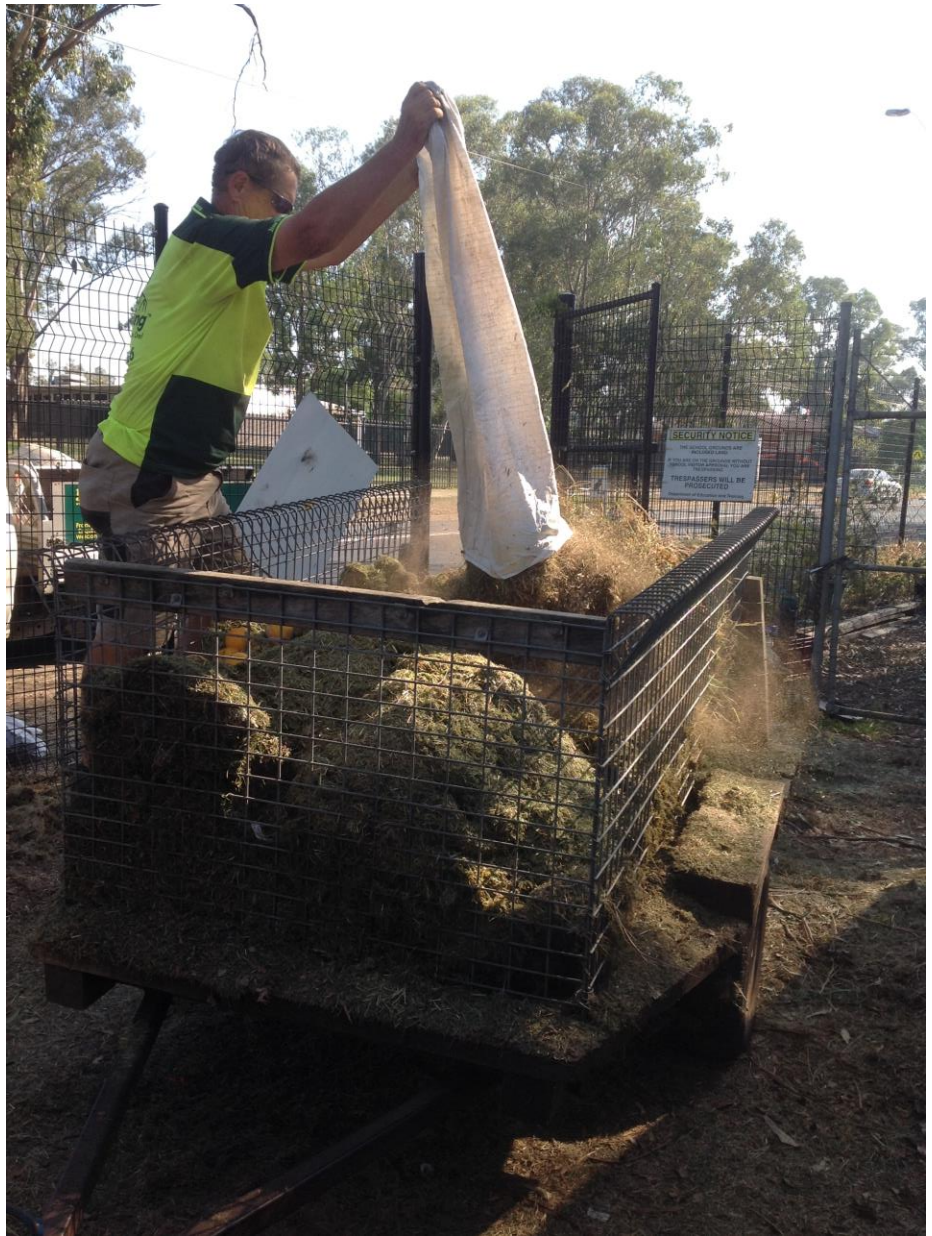
Soil fertility

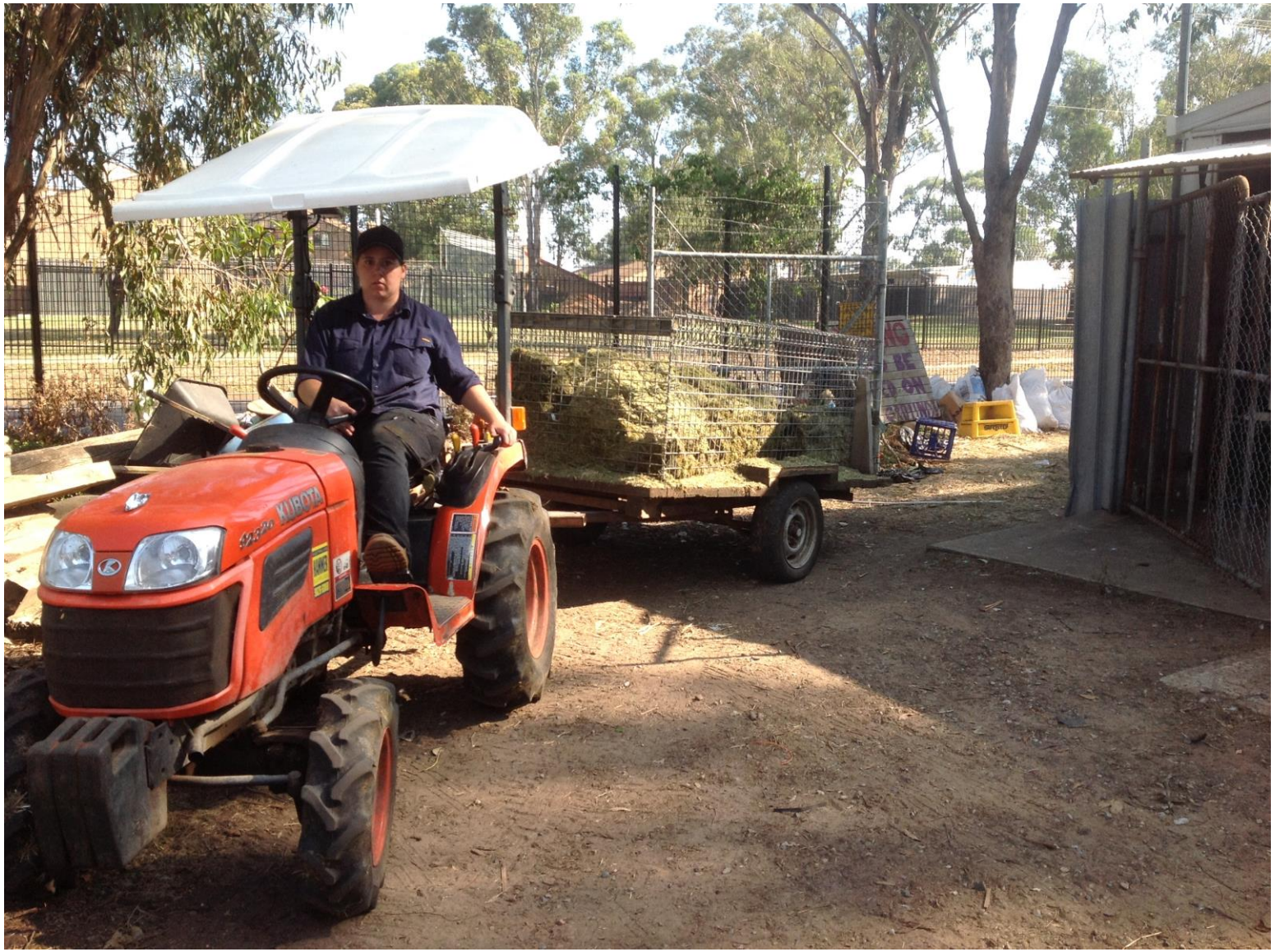
Hard infrastructure

Projects that can ensure success with our students.

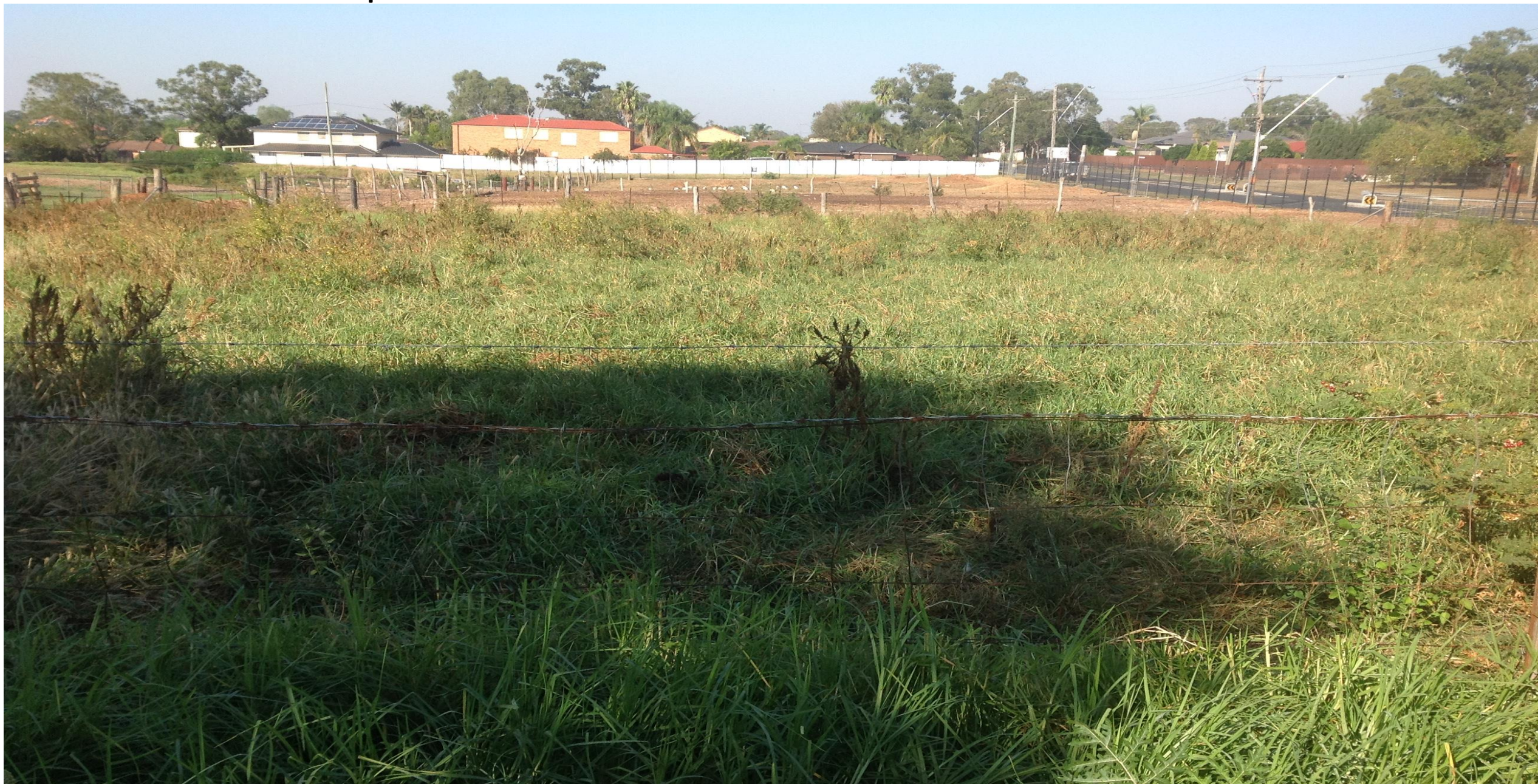


Green waste recycling:

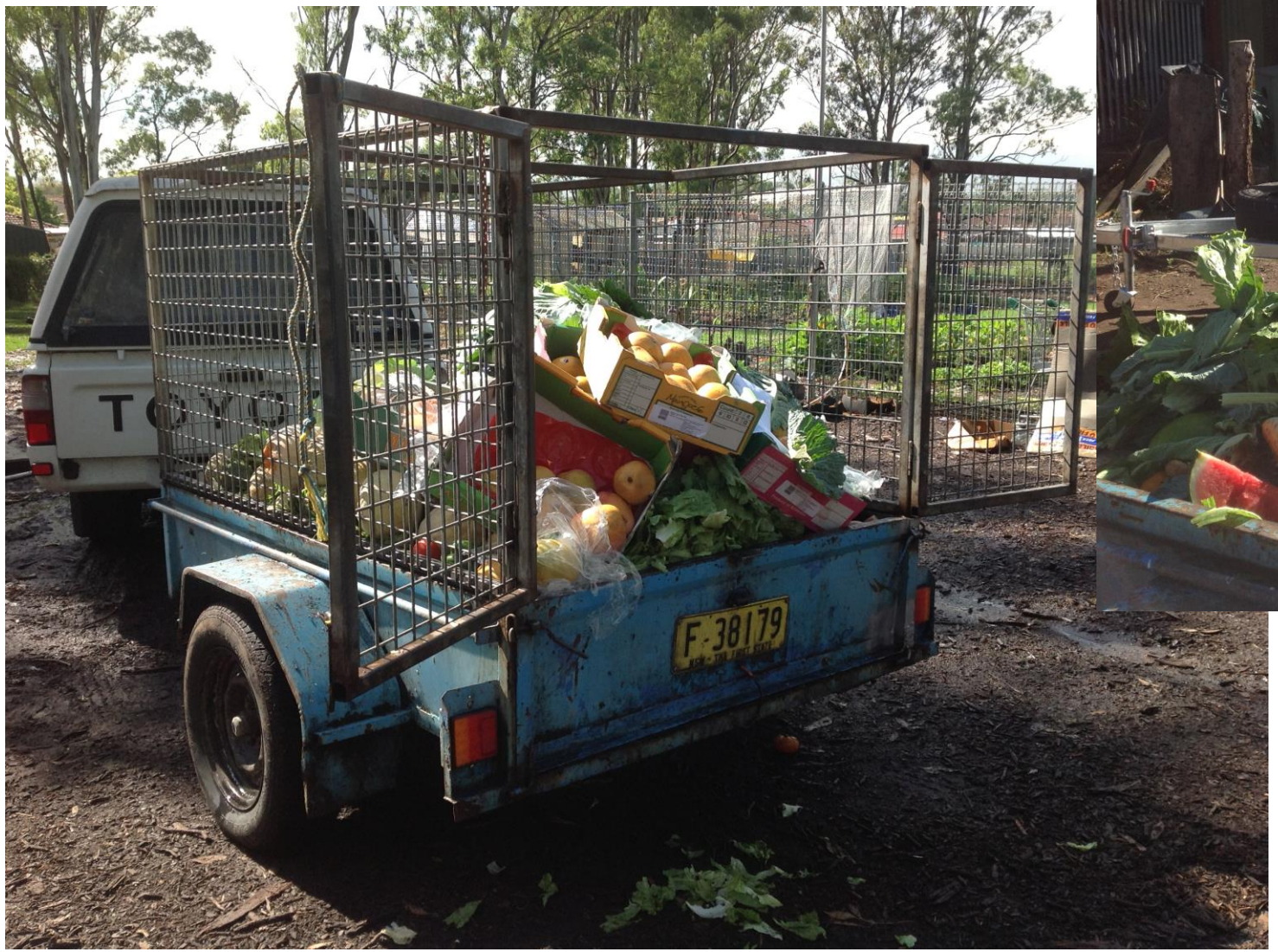


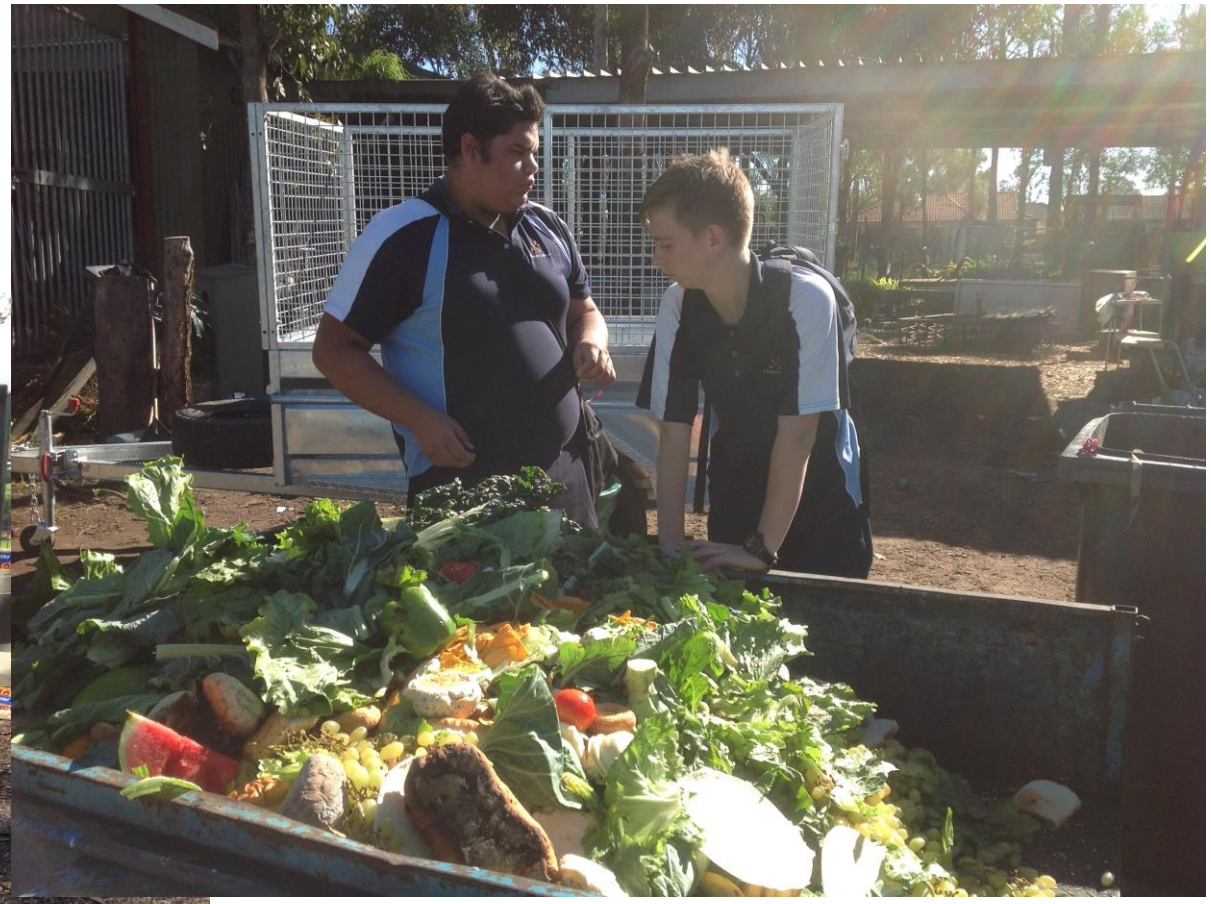


In relation to paddocks:



Woolworths bins:

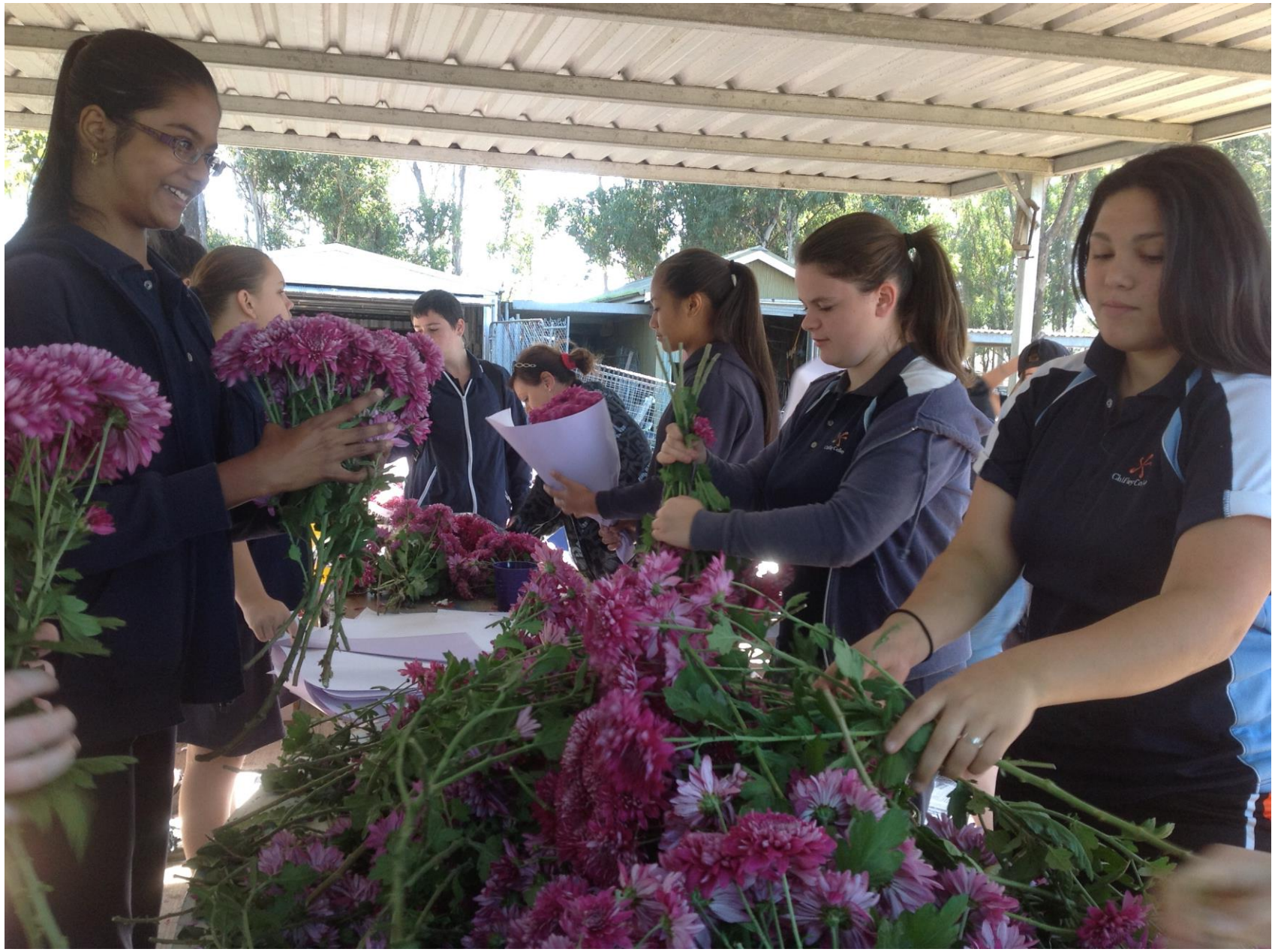


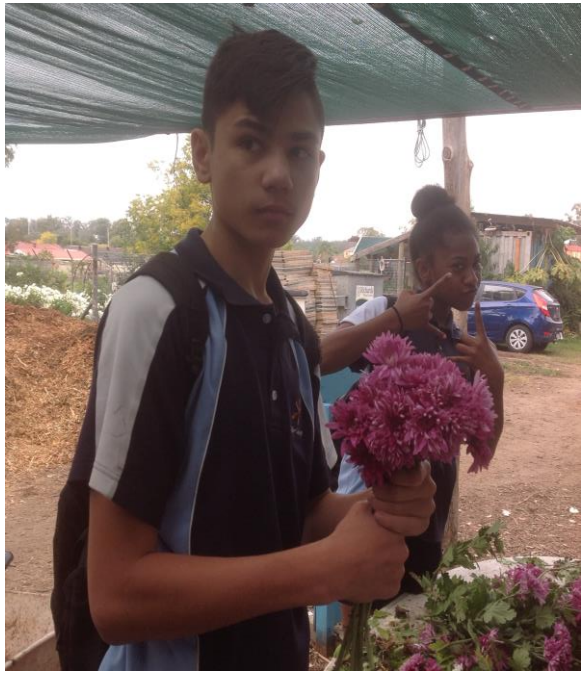


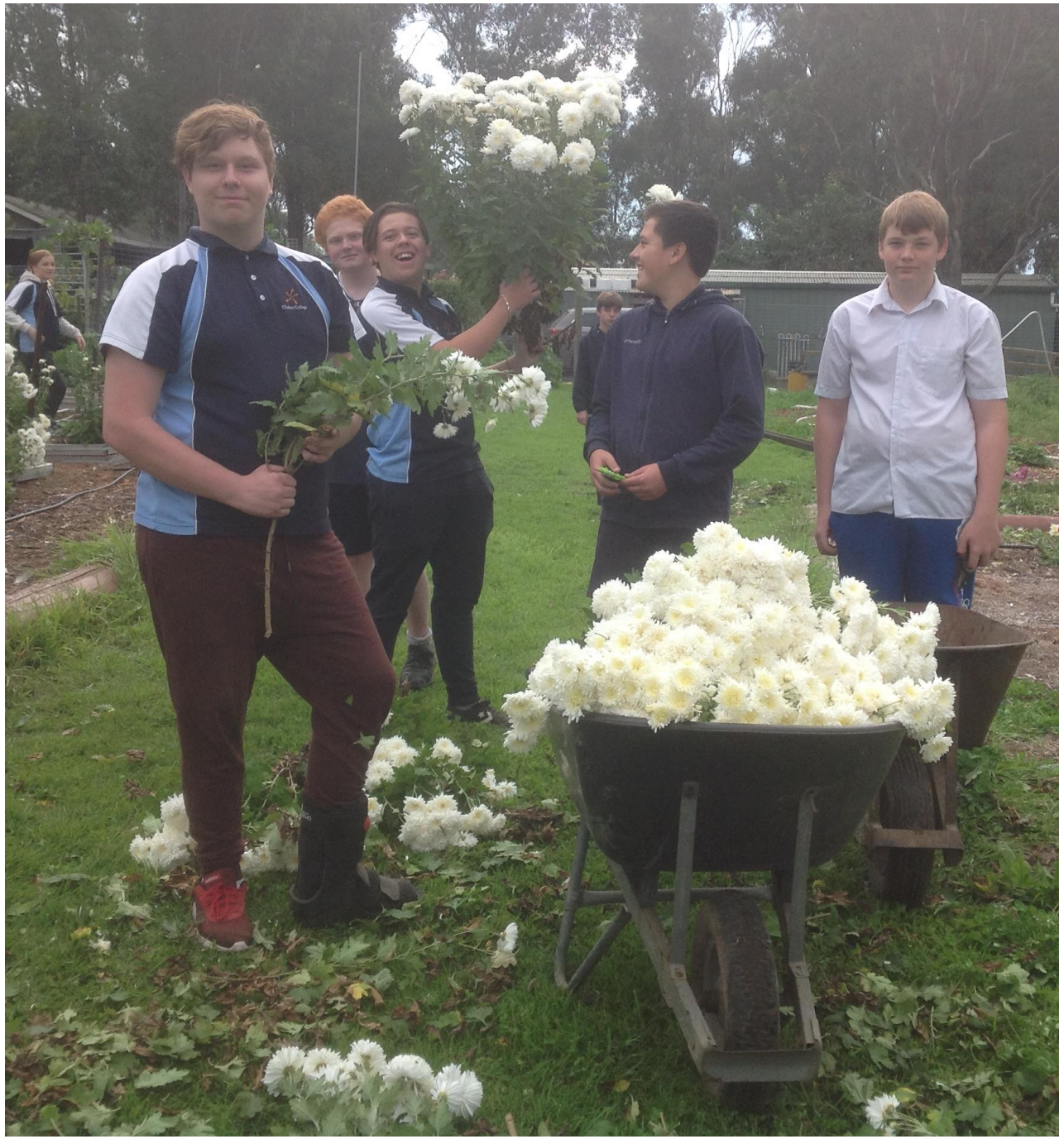
Accessing the waste from Woolworths allows students to explore Sustainability issues, packaging and a range of off farm industries

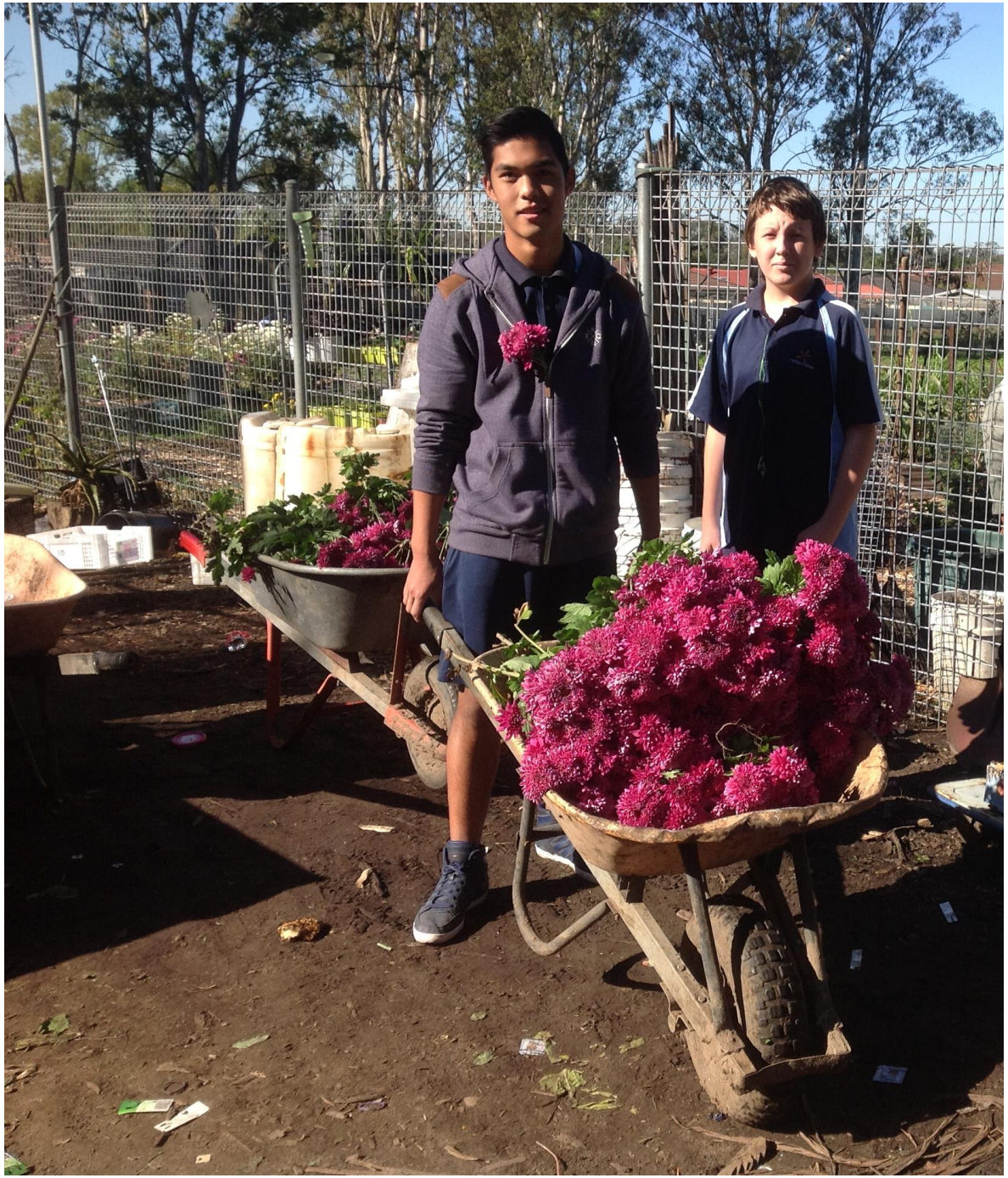
And its a source of supplementary feed.

Chrysanthemums – a project that follows an annual cycle.

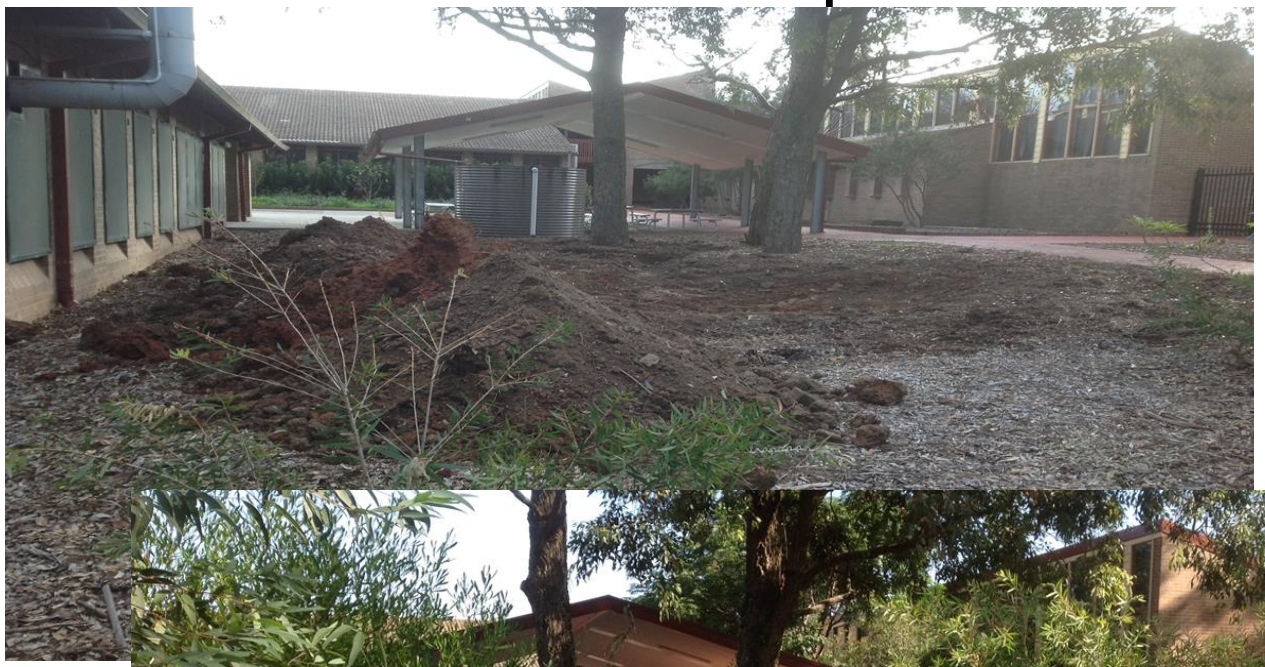


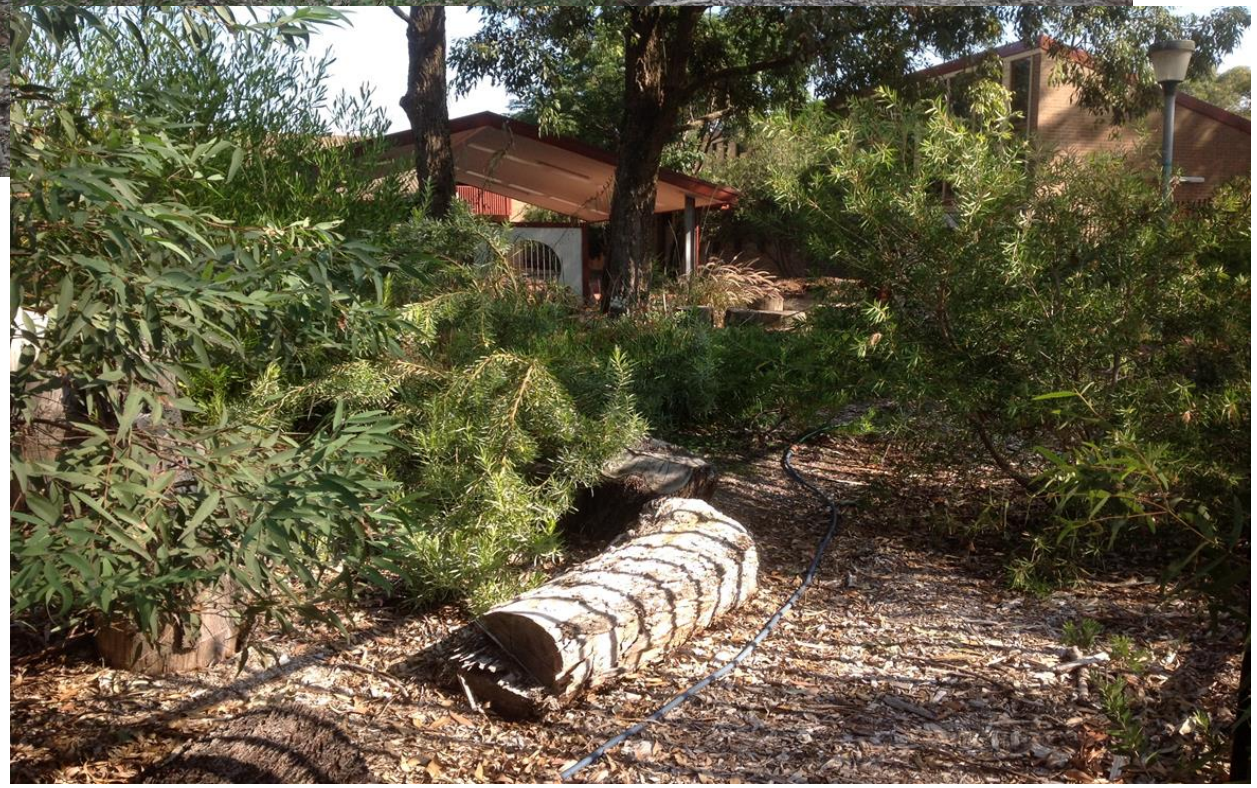


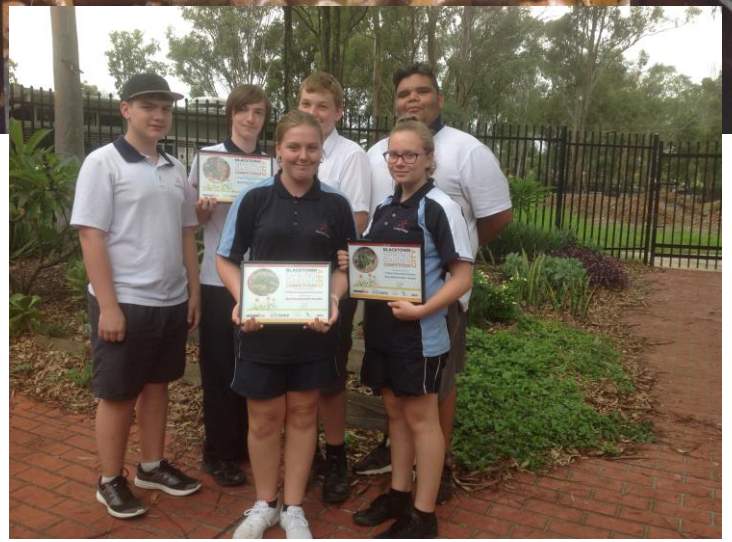


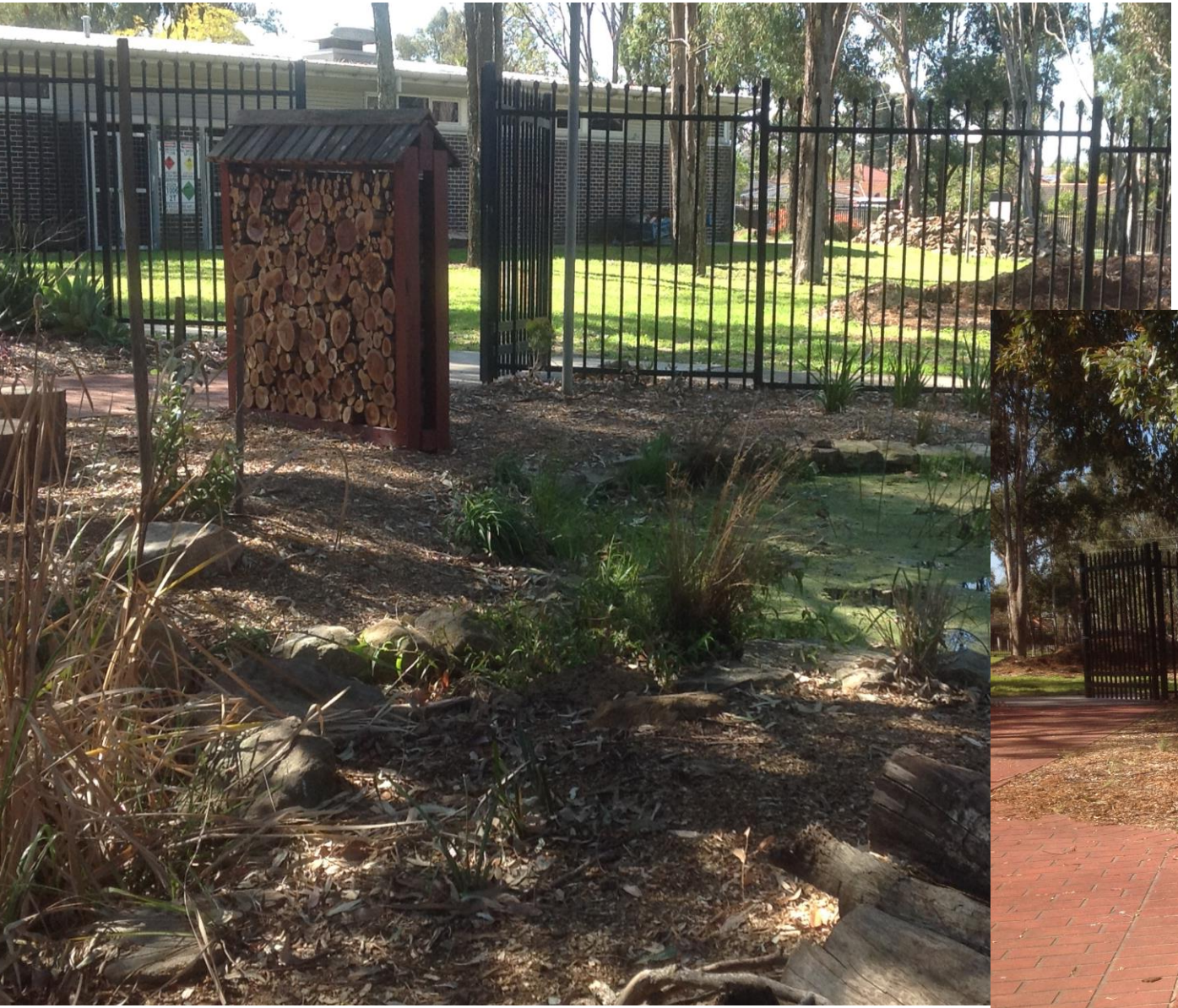


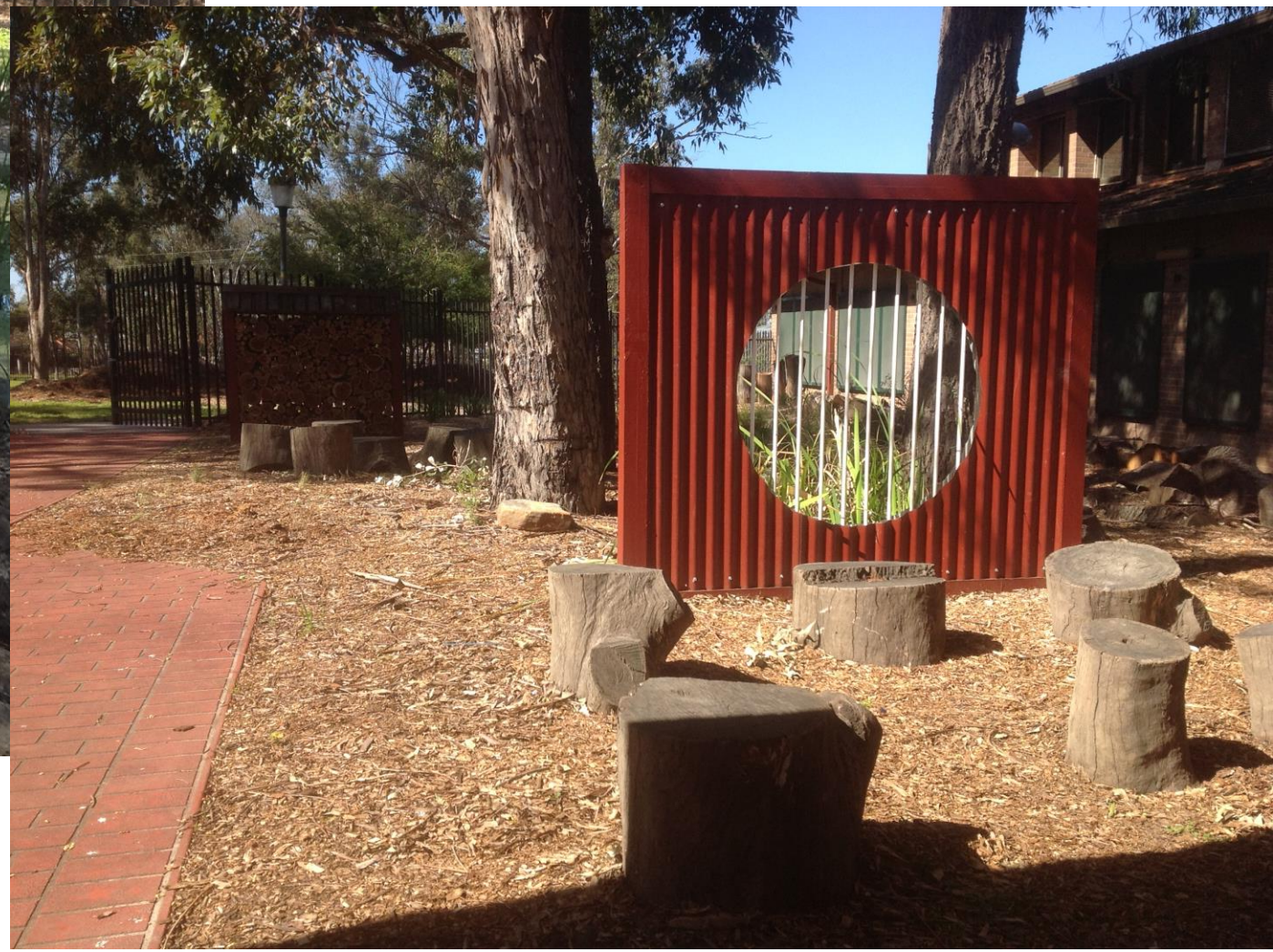
BCC Garden competition:





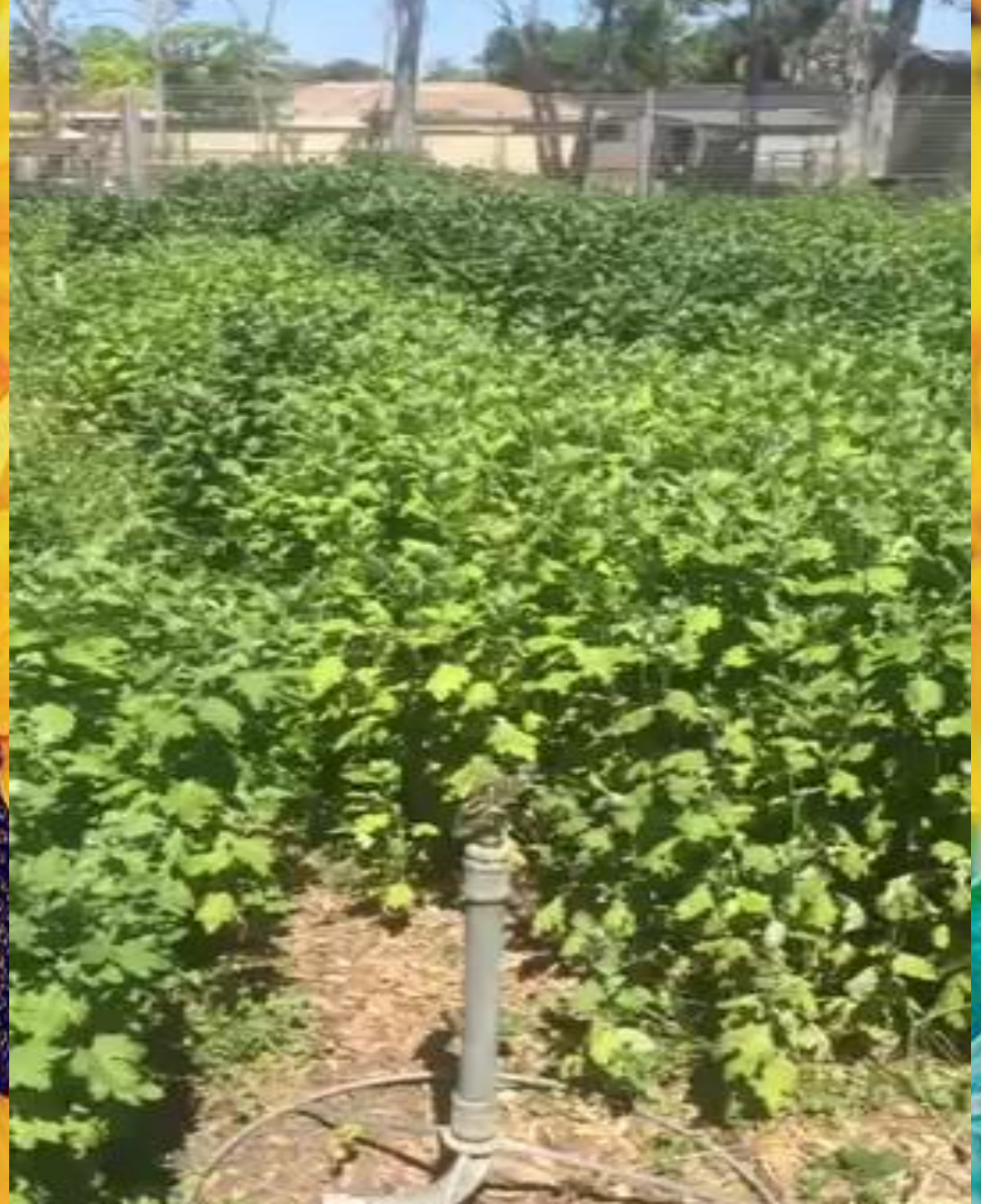






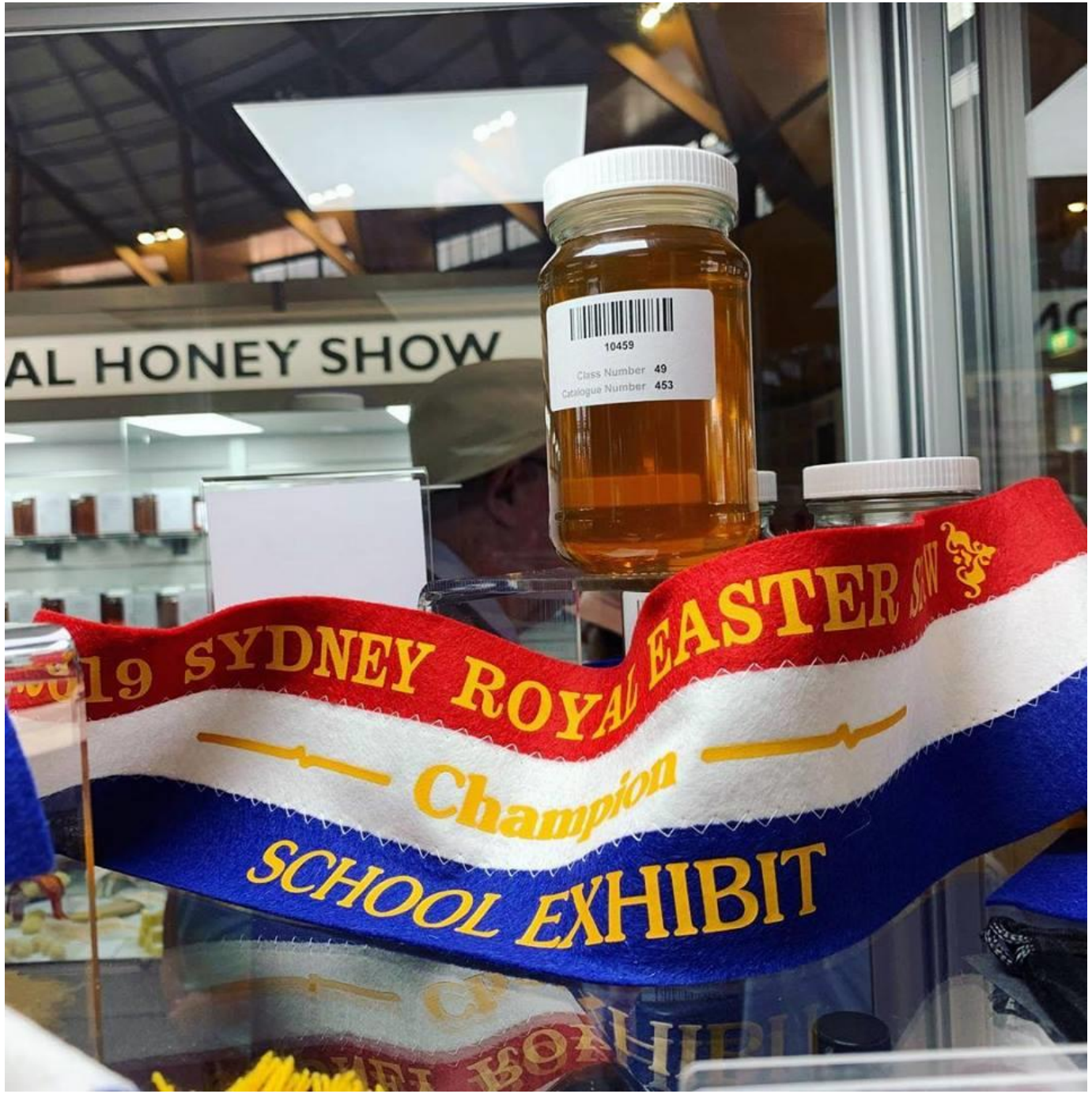
Sunflowers

Yr 10 project – to grow sunflowers as a decoration for their graduation.



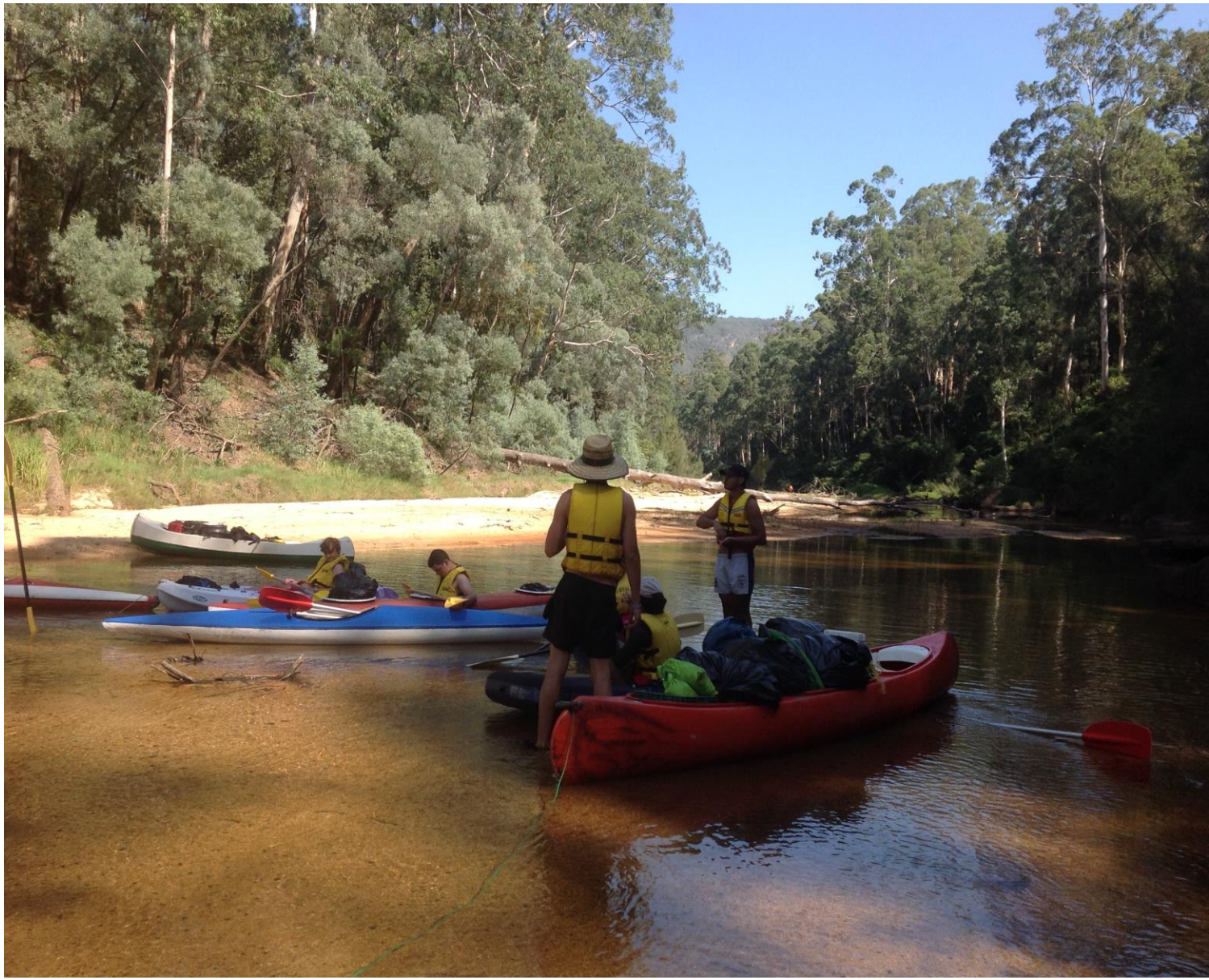
Honey production:

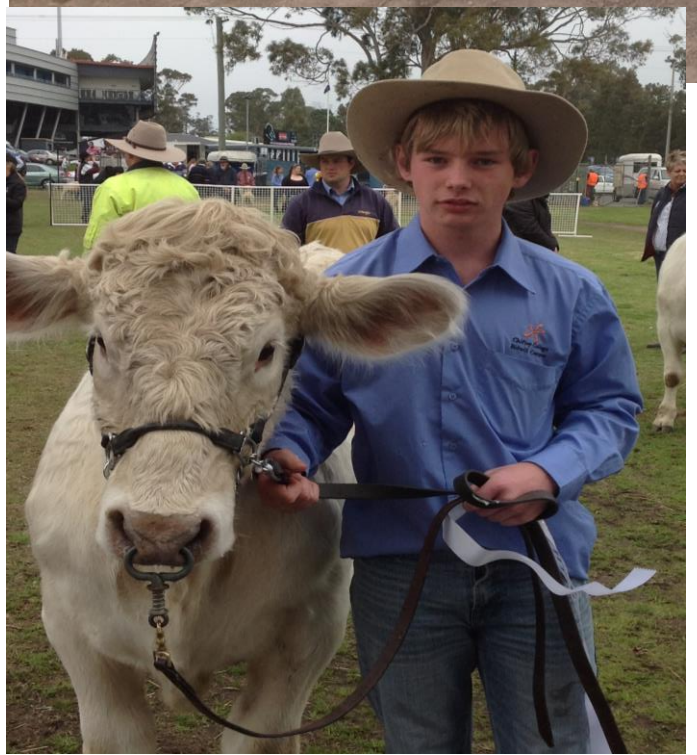
- We have had a number of hives on site for a few year in order to aid pollination.
- Expanded our hives and restoring an understory to support bees with the assistance of Blacktown City Council.
- Assisted by Parramatta Beekeepers Association who have helped reorganise the hives and shown us how to inspect for disease etc.
- And we have started to harvest our own honey.
- To our surprise we took out the 2019 Sydney Royal National Honey school Award with a score of 91/100



We have launched into Marine Studies:

- The subject was introduced as a way of delivering Science to students who don't select the sciences in Years 11 and 12.
- It is a non-ATAR subject and the delivery has to be engaging, hands on and (where possible) student driven.
- It offers huge scope to cover sustainability – everything from seafood to pollution.
- One of our units this year has been aquaponics and our students have constructed there own 15, 000 litre aquaponics set up. (watch it on YouTube)

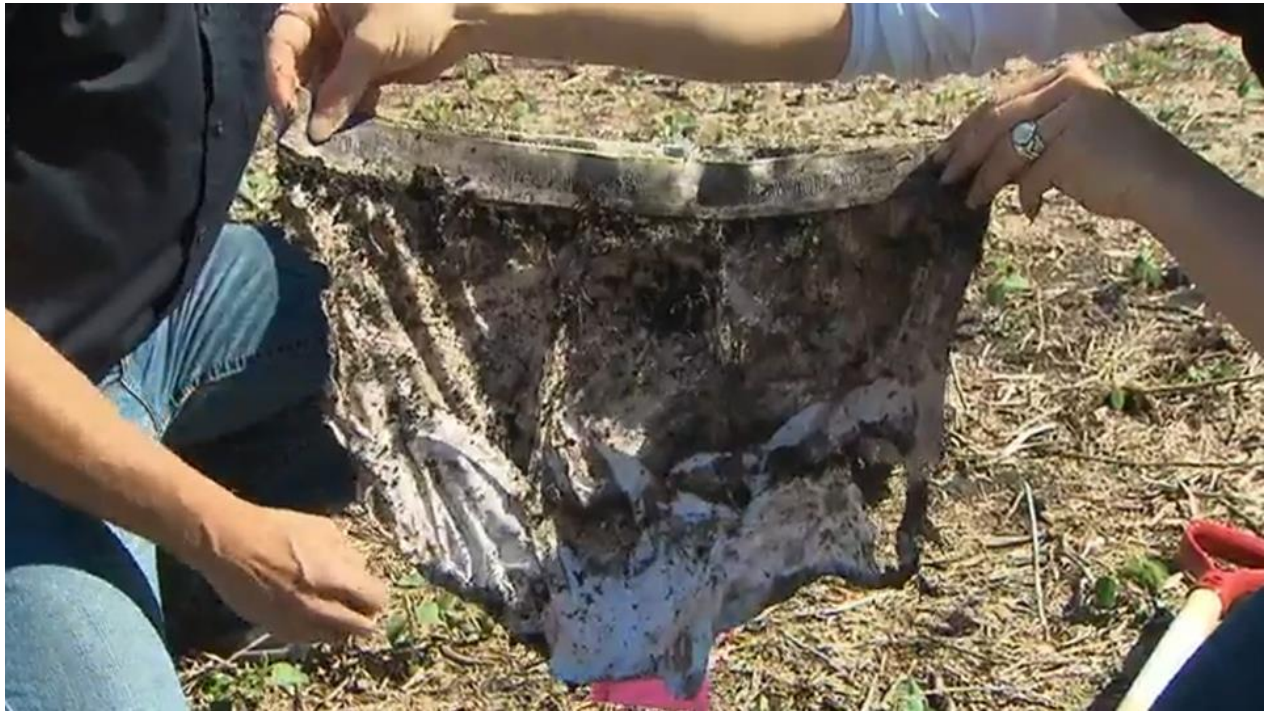


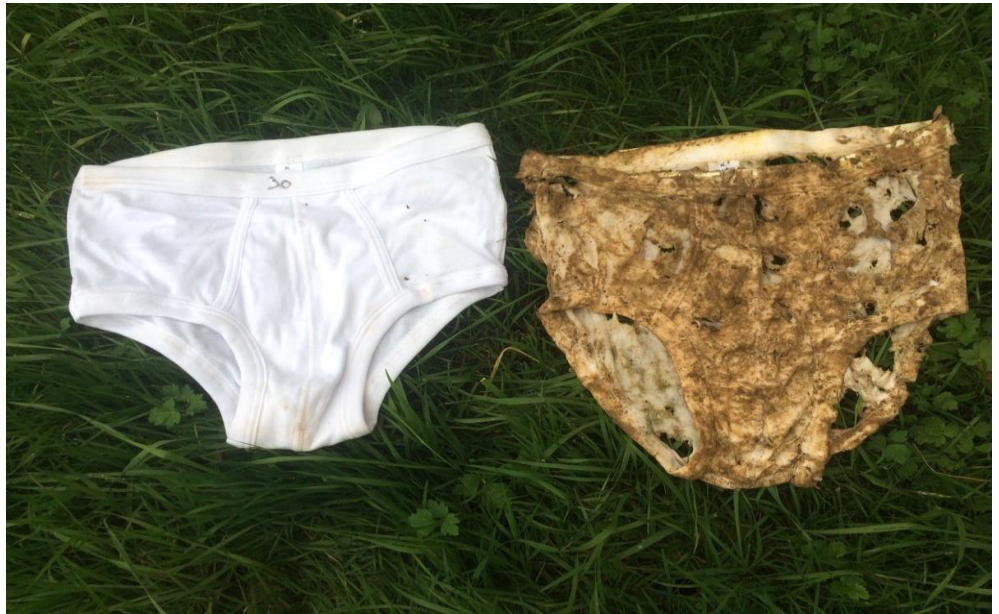


In addition to mastering the key syllabus outcomes, we see students grow in confidence and make the realisation that coming from a low SES community doesn't mean your second best.

Future plans:

- We are currently planning a Project Based Learning elective for Year 8 in 2020.
- Year 8 students have been invited to choose one of five “electives”
- Science is offering an investigation into soil fertility with student experimenting with the question of “what makes a fertile soil?”
- Students will look at moisture and carbon contents, plant mass produced and the role of microbes.
- Part of the project will use the “soil your undies” challenge run world wide and in Australia promoted by the University of New England.





For a more detailed look at what we do at Bidwill Farm, check out our YouTube Channel – Bidwill Farm.