

## News

### Students have their say

'Life in western NSW is better than life in Sydney.' Students in NSW tend to agree! Student responses to this and other topical issues are now available on-line. Produced as part of the Dubbo Speech Spectacular these two minute spoken gems are sure to get chins wagging. Download the speeches at: <http://www.landlearnsw.org.au/students/dubbo-speech-spectacular>

### New climate change web pages

What impact will climate change have on the way we grow, harvest, process, purchase and consume primary produce in NSW? Find out the latest with our new WebPages full of facts, producer case studies and science news. <http://www.landlearnsw.org.au/sustainability/climate-change>

### Primary Industries Education Foundation (PIEF)

Established in 2009 as a not-for-profit company with support from a range of industry, government and educational organisations the PIEF plans to commission, coordinate, facilitate and manage national projects to encourage primary industries education in schools. A national workshop was held in February to kick things off. <http://www.primaryindustrieseducation.com.au>

### Spotlight:

#### Sydney Royal Easter Show, 1-14 April

The biggest classroom in NSW will swing into action this Easter with 15 different sessions available for schools to book including past favourites – Milking Barn, Chef Demonstrations, Sheep Shearing and some new additions such as Cattle Shed Tours and Spinners and Weavers.



Industry experts and young farmers will engage students of all ages about "Where our food and fibre comes from!" Sessions incorporate subject matter related to Agriculture, Design and Technology, Food Technology, Textiles and Design, and Science and Technology. <http://www.eastershow.com.au/>

### Websites

#### Focus on ferals

##### Feral Focus

<http://www.feral.org.au>

##### Rabbit Scan

<http://www.rabbitscan.net.au/>

##### Wild Forest Adventure – ferals

<http://www.dpi.nsw.gov.au/forests/education/adventure/ferals>

##### Feral animals in Australia

<http://www.environment.gov.au/biodiversity/invasive/ferals/index.html>

##### Invasive animals CRC

<http://www.invasiveanimals.com/>

## Meet Joanna Bodley

**What do you do?** I coordinate Forests NSW's school and community education programs. We have over 4000 students participate in excursions each year at Cumberland and Strickland state forests. All our programs aim to educate participants about sustainable forest management in NSW. Guided walks through the forest and interactive activities like potting up native trees are great vehicles for getting broader forest management information through to the community. My role also extends to managing Cumberland State Forest as a destination, coordinating state-wide information services and publications and overseeing our recreation policy and strategy.

**Best part of my job?** This would have to be the variety. Working across different areas and projects makes life interesting. One day I might be writing a publication, the next meeting about recreation with our regional offices or planning an excursion for school kids. And I have a great team of rangers and information officers who deliver our programs and are terrific to work with.



# Activity

## Fruit fly investigators

**Summary:** This activity enables students to design, conduct and report on simple experiments and gain an understanding of the impact that Queensland Fruit Fly (*Bactrocera tryoni*) has on communities in NSW.



Queensland Fruit Fly



Queensland fruit fly pupae



Damaged peach fruit

**Student outcomes:** This activity will enable students to:

- research aspects of the Queensland Fruit Fly
- capture and observe non-pest fruit fly species such as the Vinegar Fly (*Drosophila melanogaster*)
- observe their life cycles
- understand constraints in managing Queensland Fruit Fly in NSW
- design, conduct and report on simple experiments
- assess what they can do to minimise the impact of Queensland Fruit Fly in NSW.

### The activity

#### Part A: Literature review

When undertaking a scientific investigation the first step that any scientist must take is a literature review - a review of the current knowledge and research about their proposed area of study. Students can do this by finding out three facts about fruit fly using the internet. Facts about Queensland Fruit Fly could fit under the headings: Description/Identification, Diet, Life cycle, Impact, Monitoring and control, Prevention. As a class, share these facts to develop an understanding of current knowledge regarding the species.

#### Part B: Capturing Vinegar Flies

One activity that is undertaken to control Queensland Fruit Fly in NSW is the use of lures to detect flies, capture and destroy them. Building a fly trap is therefore a fun and effective way to enable students to relate to the difficulties and successes that scientists in the field experience. In this activity students make fly traps to capture and observe Vinegar Flies (pictured on the next page). Vinegar Flies are found throughout NSW and have a similar life cycle to the Queensland Fruit Fly (pictured above).

Vinegar Flies can be found around compost bins, near rotten fruit under trees and sometimes even in supermarkets. This species is much smaller than the Queensland Fruit Fly and generally only attacks fruit that has been damaged. It therefore does not pose a risk to the fruit industry. However, should you capture a fly which looks like the Queensland Fruit Fly please report this immediately to the Fruit Fly hotline on 1800 084 881.

# Activity

To run this activity, divide the class into pairs. Hand out the 'Building a Vinegar Fly trap' instructions and materials to each pair of students. Consider what time of year you run this activity as fruit flies are most active, and therefore easiest to capture, in summer/autumn. It should only take one day to capture a number of flies. See 'Building a Vinegar Fly trap' for full instructions. Once students have captured their flies, they can develop presentations, plays, posters, or short story books detailing the life cycle of the Vinegar Flies (i.e. egg – larva/maggot – pupa – fly). Students may wish to share these with students in a younger class.

*Safety alert: for safety purposes the bottles may be cut by the teacher, and when checking traps take care to check for bees or wasps.*

## Part D: Fruit fly reflections

Encourage students to think about the role they and their families play in the management of Queensland Fruit Fly in NSW. Ask students to line up along an imaginary line. At one end are excellent fruit fly fighters; at the other are those spreading fruit fly throughout NSW. Discuss with students why they have stood where they have on the line, what they have been doing to fight fruit fly, and what they may have been doing to help it spread. Next ask students to take one step towards the fruit fly fighting end of the line. Ask students to think about what they would have to do in their lives to be more effective as a fruit fly fighter. Follow up with this activity at a later date to discuss the actions taken by students and their families to fight fruit fly.

## Building a vinegar fly trap. What do I need?

- two litre plastic bottle
- small container that fits in the base of the bottle
- masking tape
- scissors
- rotting fruit or vegemite or maple syrup.



## What do I do?

- Cut the top off the bottle and tape the small container to the bottom of the bottle.
- Place some rotting fruit in the small container and tape the top of the bottle back on upside down with the lid removed.
- Place your trap outside near fruit trees or bins (hang your trap to prevent ants crawling in). Vinegar Flies will enter the trap, however it is easier for the flies to fly into the trap than out of it and they will become trapped.
- Once flies are captured, place a piece of cloth over the bottle opening and place in a warm position (22°C is optimum). Observe the life cycle of the fruit fly (it only takes 2 weeks). Females in the trap will lay eggs and in a few days they'll hatch. Observe the different stages: eggs, larvae, pupae, flies.
- Experiment with the fruit bait that you use. Some suggestions include banana, melon, apple and pear. A mixture of vegemite, water and golden syrup is also good. See if you can come up with your own mixture.



Vinegar Fly trap (Photo: LandLearn Victoria)



Vinegar Fly (Photo: LandLearn Victoria)