

## News

### LandLearn NSW photo gallery

Over 200 images are now available on Flickr free of charge. The new photo library for schools contains a wide range of images ideal for downloading and pasting into assignments and presentations. Suggestions for new images welcome.

<http://www.landlearnnsw.org.au/image-library>

### New video case study on-line

A new video focusing on forest research has been added to the LandLearn NSW website. The video *Forest management goes high tech* showcases the work of Dr Russell Turner; a remote sensing specialist who is leading the way in the use of laser technology to create 3-dimensional images of forests which are so detailed individual trees can be assessed. <http://www.landlearnnsw.org.au/production-chains/video-case-studies>

### Careers videos

A series of videos about careers in agriculture, produced by SkillsOne, is now available for viewing via the LandLearn NSW website. All were filmed at Tocal College, CB Alexander Campus, which is located at Paterson near Maitland, NSW.

<http://www.landlearnnsw.org.au/careers>

### Become a fan of LandLearn NSW

Check out the LandLearn NSW page on Facebook. If you're part of the Facebook social network you can now become a fan of the program. Becoming a fan will enable you to keep up-to-date with the latest news and programs being delivered to schools.

### How? ✦

Next time you are networking, search for Landlearn NSW and link up!

### Spotlight: Forest school

For over a decade guided excursions have been offered to schools at Cumberland State Forest, in Sydney, and Strickland State Forest, on the Central Coast.

For more information on forest and many other excursion opportunities see: <http://www.landlearnnsw.org.au/educators/face-to-face>

*Pictured above: Strickland State Forest.*



## Websites

### Focus on salinity

#### NSW Department of Primary Industries

<http://www.dpi.nsw.gov.au/agriculture/resources/soils/salinity>

#### Murray-Darling Basin Commission

<http://kids.mdbc.gov.au/encyclopedia>

#### Australian Government, Department of the Environment, Water, Heritage and the Arts

<http://www.environment.gov.au/land/pressures/salinity>

### Meet Tainia Midgley

Salinity Advisory Officer

#### What do you do?

In my role as a salinity advisory officer I work with farmers, land managers, Catchment Management Authority (CMA) officers, private and public agricultural advisory staff, research scientists and land management educators on salinity management. My work involves providing advice on salinity, delivering workshops, producing training material and programs, supporting local salinity research and publicising the latest salinity findings.

#### Best part of my job?

The variety that comes with working in the field of natural resource management. It's great to work with such a diverse group of people. There is so much expertise out there and always something new to learn.



# Activity

## Growing in Salt

### Duration

15 minutes for set-up, plus 5 minutes every 2 days over 1-2 weeks.

### Materials

- Seeds (eg. clover / rye / lawn grass)
- Five petri dishes with lids
- Filter papers or cotton wool
- Distilled water or tap water
- Five salt solutions (A-E) in 500ml "squeeze" bottles

*Note: non-squeeze bottles with pipettes or eye-droppers can also be used*

### What to do

1. Put filter paper or cotton wool in the bottom of each petri dish.
2. Label petri dishes A, B, C, D, E.
3. Sprinkle seeds on the filter papers or cotton wool of petri dishes labelled A to E.
4. Ensure the same number of seeds are spread in each dish (approximately 50 seeds, less for bigger seeds).
5. Add solution A to the petri dish labelled "A". Add enough just to moisten the seeds. Do not add too much or they will rot. Add solution B to the petri dish labelled "B". Repeat this with all other solutions.
6. Cover each petri dish with a lid. Place the dishes on a bench in a safe place. They do not have to be in direct sunlight.
7. Check your dishes every two days. Add the correct solution to keep the seeds moist but not soaking.
8. Each time you check your seeds, count the number of germinated seeds.
9. Keep checking your dishes for the next one or two weeks. Record your data in the results table.

### Results

Record your results in the tables below:

Salt solution	Seed type:					
	1 <sup>st</sup> count Date:	2 <sup>nd</sup> count Date:	3 <sup>rd</sup> count Date:	4 <sup>th</sup> count Date:	5 <sup>th</sup> count Date:	Final count Date:
A						
B						
C						
D						
E						

### Salt solutions

#### A

Distilled/tap water  
no salt added  
0 - 100 EC

#### C

Low EC  
1 pinch salt  
approx 1 400 EC

#### E

Sea water  
5 teaspoon salt  
approx 50 000 EC

#### B

Fresh water  
20 grains salt  
approx 200 EC

#### D

Brackish water  
1/2 teaspoon salt  
approx 7 800 EC

### Results cont...

1. Draw a bar graph to show the germination of seeds over time for each of the salt solutions.
2. What effect did salt have on seed germination?
3. If a farmer had salt-affected land, brainstorm as a class or individually, what problems might they have?
4. Investigate the highest salinity tolerance of the plant you used. Did your results reflect this? Information regarding tolerance of some species can be found in the table below or at: <http://www.dpi.nsw.gov.au/agriculture/resources/soils/salinity>
5. Repeat this experiment using different types of seeds to compare the impact of salinity on germination on different plants.
6. Find out what farmers are doing to minimise and manage the effects of salinity and design a poster showing your discoveries.

*\*Activity taken from 'A salty diet' in Pride in Victorian Farming (1996) Department of Natural Resources and Environment.*

### Yardstick of maximum limit before yield decreases

Pastures / crops	EC (estimated)
Barley	8000
Cotton	7700
Perennial Ryegrass	5600
Wheat	6000
Rice	3000
Kikuyu (lawn grass)	3000
Lucerne	2000
Oranges	1700
Strawberry Clover	1600
Most other clovers	1500
Grapes	1500

*\* Adapted from NSW DPI (2005) Salinity Glove Box Guide*