

# A Peep at Sheep

Sheep and wool classroom exhibition boxes for NSW primary schools.

**Final report and 'how to' guide**



**Carmen Perry**

Schools Education Coordinator

Communication Programs Unit, Maitland

[FEBRUARY 2008]

**A project jointly funded by the Australian Wool Education Trust and New South Wales Department of Primary Industries.**



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES

Title: Peep at Sheep

Author: Carmen Perry, Schools Education Coordinator, Communications Branch,  
Maitland

© State of New South Wales through NSW Department of Primary Industries 2006

This publication is copyright. You may download, display, print and reproduce this material in an unaltered form only (retaining this notice) for your personal use or for non-commercial use within your organisation. To copy, adapt, publish, distribute or commercialise any of this publication you will need to seek permission from the Manager Publishing, NSW Department of Primary Industries, Orange, NSW.

For updates to this publication, check <http://www.dpi.nsw.gov.au/>

Published by NSW Department of Primary Industries

First Published February 2008

#### Disclaimer

The information contained in this publication is based on knowledge and understanding at the time of writing (February 2008). However, because of advances in knowledge, users are reminded of the need to ensure that information on which they rely is up to date and to check the currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent advisor.

---

## CONTENTS

<b>Introduction</b>	<b>1</b>
Key features of a <i>Peep at Sheep</i>	1
Why were the exhibition boxes created?	1
Why target primary school students?	1
What else is out there?	2
What did the NSW DET think?	2
Trial period	2
<b>Kit contents</b>	<b>3</b>
<b>Funding</b>	<b>5</b>
Cost breakdown	5
<b>Marketing</b>	<b>6</b>
<b>Evaluation</b>	<b>7</b>
Feedback	8
<b>Next steps</b>	<b>10</b>
<b>Appendices</b>	<b>11</b>
1. Marketing letter sample	11
2. <i>Agriculture Today</i> story	14
3. <i>Peep at Sheep</i> flier	15
4. Poster samples	17
5. <i>Timothy and Wobbly the Woolly Sheep</i> story book illustration sample	19

## **INTRODUCTION**

This report examines the trial of four sheep and wool classroom exhibition suitcases on the Central Coast, in Newcastle, Lithgow and the Hunter Valley during 2007.

### **WHY WERE THE EXHIBITION BOXES CREATED?**

The majority of students are removed from the source of everyday products. To feel and smell a wool fleece, see a shearing shed in action, handle a sheep's skull or examine a diverse range of finished wool products are not activities most kids do very often.

Primary students study primary industries very broadly and therefore often miss out on examining a product such as wool in great detail. *A Peep at Sheep* was offered to schools as an enrichment program; something to extend their broad studies.

### **KEY FEATURES OF A PEEP AT SHEEP**

#### **Hands on materials**

The *Peep at Sheep* suitcases contain hands-on, sensory and visual resources enabling kids to see and feel the source of wool products. Rather than simply being told about wool a *Peep at Sheep* encourages students to make their own discoveries about wool. Novelty inclusions such as a sheep's skull and resin mounted sheep 'poo' captured students' interest. Take home raw and processed wool samples extend the educational value of the kits.

#### **Home made feel**

The contents were designed to have a home made quality rather than a mass produced feel. The uniqueness and diversity of the collection inspired teachers and students to engage with the materials and look after them. Inclusions such as wool samples, hand made puppets and a pre-recorded puppet show helped to achieve this.

#### **Fun and syllabus support**

Fun and supporting the achievement of syllabus outcomes guided decisions about content. We wanted to present a sheep and wool toy box and teaching tool kit brimming with something for everyone.

Teachers were supplied with easy to use resources and lesson plans which could be used as one off activities or a whole unit of work.

### **WHY TARGET PRIMARY SCHOOL STUDENTS?**

The formative years of primary school were seen as ideal for a *Peep at Sheep*. Students in primary school enjoy hands on experiential activities. Lessons learnt in primary school form the framework against which learning experiences later in life can be referenced. Give students positive experiences with, in this case sheep and wool, when they are young and they will be more open to and interested in sheep and wool later on.

The mix of materials and resources were chosen to appeal to students from Kindergarten to Year 6 in order for multiple classes within a single school to make use of the materials.

The teaching and learning activities were specifically written to support the Stage 1 (Kindergarten to year 2) Connected Outcome Group (COG), Growing and Changing. COGs group learning outcomes across Key Learning Areas, for example Science and Technology, Creative Arts, English etc, under a topic. COGs are a NSW Department of

Education and Training (NSW DET) initiative. Targeting the kit and using the latest terminology was essential for teacher uptake. Flexibility was built in so other age groups and private schools could use the kit.

Multiple schools were given the opportunity to borrow the kits. Borrowing and returning the kit ensured that the materials were in constant circulation and not sitting on one school's resource shelves.

### **WHAT ELSE IS OUT THERE?**

A search was conducted for wool related resources for primary schools. The search revealed:

- The Kondinin Workboot wool book is currently out of print due to a lack of funding. This book was suitable for primary school students.
- *Ollie's Island*, a CD-ROM, by Sustain Ability explores chains of sustainable production and consumption across all major industries in Australia. The fibre industry is featured on the CD-ROM. *Ollie's Island* is suitable for upper primary and lower secondary students.
- The new Sheep CRC careers CD-ROM and AWI's Future Fleece CD-ROM are suitable for secondary students. A copy of Future Fleece was included in *A Peep at Sheep* as an additional reference for students and teachers.
- NSW DET provides teachers with ready to teach units of work.. None of the teaching units are focused specifically on wool.

There doesn't appear to be a resource about sheep and wool for lower primary school students. *A Peep at Sheep* goes some way towards filling this gap.

### **WHAT DID THE NSW DEPARTMENT OF EDUCATION AND TRAINING (NSW DET) THINK?**

Prior to the creation of the kits, a meeting was held with the Manager, Technology and the Senior Curriculum Adviser in Science and Technology K– 6 from the Curriculum Directorate of NSW DET. Both representatives were not happy with the focused nature of *A Peep at Sheep* and would have preferred something broader, a kit about primary industries for example. However, the best format for the kits and ways to use wool to support primary syllabus outcomes were discussed. The production of a story book was suggested by DET. The story book and links to Stage 1 (years 1 & 2) syllabus outcomes were incorporated into the kit.

The NSW DET representatives thought the kits would be returned incomplete. This was not the case. The kits were looked after and returned complete.

NSW DET will develop teaching resources for clients for a cost of approximately \$20,000 - \$30,000. This would be likely to cover the cost of creating a resource booklet for teachers with a few supporting resources.

One of *A Peep at Sheep's* aims was to provide a one-stop hands-on portable sheep and wool showcase. The project called for more than a resource booklet. Schools are provided with resource CD's and kits on a weekly basis; most are sent to the library for cataloguing and shelving. With a budget of \$10,000 plus in-kind services from NSW DPI, we were unable to contract NSW DET's to assist with the development of *A Peep at Sheep*.

### **TRAIL PERIOD**

Kits were used by schools during Terms three (July-September) and four (October-December) of the 2007 schools year.

## KIT CONTENTS

The items listed in table 1 were packed into a suitcase (dimensions 78cm tall, 52cm wide and 30cm deep) for ease of transport.

**Table 1 – A Peep at Sheep kit contents**

Item	Number	Description / rationale
Wool fleece	1	Fine wool fleece flat packed in storage bag. Included to show fleece size and raw wool properties.
Puppet theatre	1	Pop-up puppet theatre. Puppet shows are a popular teaching tool.
Puppets	5	4 x sock puppets plus paddle pop lamb puppet
Sheep toy	1	Mascot beanie sheep
<i>Pete the Sheep</i>	1	Story book
<i>Timothy and Wobbly the Woolly Sheep</i>	1	Story book. Story commissioned for the project and illustrated by NSW DPI.
Visitors book	1	For student drawings and feedback
Sheep skull	1	Skull sealed in plastic container
Sheep 'poo'		Sample set in a resin block. Included for novelty and used to stir student interest.
Raw wool	1	Snap-lock bag of take home samples
Cleaned, combed wool	1	Snap-lock bag of take home samples
Red scarf Baby body suit Lanolin Wool yarn Ball of wool Felt Socks Wool furnishing fabric Saddle blanket fabric School uniform fabric Suit fabric Cycling jersey fabric Blanket sample	1 of each	Finished wool products & samples with photos of finished products attached to demonstrate the broad application of wool fibre.
Teacher's guide containing: - Curriculum linked activities - <i>Inspector Merino and the Case of the Missing Wool Fleece</i> . - Sheep noises CD - Activity sheet masters - Stamp pad and lamb stamp - Future Fleece DVD - Contacts and web links - Wool reference material - Feedback fax		10 lesson outlines Puppet show script and recording on CD

---

Posters titled: - Did you know? - Making clothing from wool - Wool growing sheep in Australia - Sheep aren't native Australian animals, so how did they get here? - Are you taller than a ram?  - <i>Growers sure the sheep's back on a new front</i> - <i>Shearing the Rams</i> by Tom Roberts	1 of each	For display around the classroom Wool facts  Wool history  Height chart. Included to give students a sense of scale. Average ram, kelpie, alpaca, man, women, boy and girl heights included SMH story  poster
---	-----------	---

---



Story books, teacher guide, sheep skull and visitor book.



Processed wool products

## FUNDING

The Australian Wool Education Trust contributed \$10,000 towards the development of the boxes. NSW Department of Primary Industries contributed approximately \$28,000 worth of in-kind services.

## COST BREAKDOWN

**Table 2 – Cost of contents**

Item	Number	Cost	Supplier
Suitcases	4	\$480	Strandbags
Wool fleeces	8	\$285.60	Elders Newcastle
Puppet theatres	4	\$436.04	Modern Teaching Aids
Puppets	20	\$167.41	Spotlight, Grace Bros
Sheep toy / mascot	4	\$73	Aussie Sheep and Wool
<i>Pete the Sheep</i>		\$66.46	Angus and Robertson
Printing - <i>Timothy and Wobbly the Woolly Sheep</i>	5	\$250	Through NSW DPI print buyer
Contract writer	Na	\$2670	Dubravka Vukic-Presland Educational And Creative Consultant dvpcreate@bigpond.com
Visitors book	5	\$20	Big W
Resin sheep poo samples	5	\$240	Minibeasts Australia
Wool product samples – clean, carding waste; yarn; blanketing; saddle blanketing; furnishing, uniform and suiting fabric.	Na	Nil	Macquarie Textiles
Cycling jersey fabric	Small sample	Nil	Sourced at Royal Easter Show
Wool product sample - scarves - socks - baby bodysuit - lanolin - ball of wool and felt.	5 of each	\$212.31	David Jones, Big W, Target, spotlight.
Poster printing - Did you know? - Making clothing from wool - Wool growing sheep in Australia. - Sheep aren't native Australian animals, so how did they get here?	4 sets of each	\$1015	Creative Impact
Height chart printing	1000	\$1588	Through NSW DPI print buyer
Shearing the Rams posters	4	\$86.90	Mentone Educational Centre



Postpacks for posters	4	\$21.15	Pack & Send
Containers	various	\$212.18	Big W
Stamps and stamp pads	4 sets	\$82.99	Craft Products Australia, Officeworks
Luggage tags	8	\$16	Strandbags, Big W
Laminating SMH story - <i>Growers sure the sheep's back on a new front</i>	4 x A4	\$13.80	Officeworks
Promotional flier printing	1000	\$415	Through NSW DPI print buyer
Contingency	Puppet pattern	\$15.75	
Replacement materials, marketing		TBA	
<b>Total</b>		<b>8367.59 (\$2091.90 per kit)</b>	

**Table 3 – NSW DPI in-kind contribution**

Service	Cost estimate	Source
Project management	\$4,000	NSW DPI Communications Branch
Schools liaison	\$1,000	NSW DPI Communications Branch
Research	\$5,000	NSW DPI Communications Branch
Writing – posters, activity sheets, curriculum linked lesson plans	\$4,000	NSW DPI Communications Branch
Design – posters, flier, book illustration, CD labels, teacher resource cover sheet	\$7,000	NSW DPI Communications Branch
Puppet making	\$1,000	NSW DPI Communications Branch
CD sound recording	\$2,000	NSW DPI Communications Branch
Marketing <ul style="list-style-type: none"> <li>- Mail out</li> <li>- photography</li> <li>- web page development</li> <li>- Agriculture Today story</li> </ul>	\$2,000	NSW DPI Communications Branch NSW DPI Public Affairs and Media Branch
Materials <ul style="list-style-type: none"> <li>- sheep skulls</li> <li>- sheep poo</li> </ul>	\$2,000	NSW DPI, Elizabeth Macarthur Agricultural Institute
<b>Total</b>	<b>\$28,000 (\$7,000 per kit)</b>	

## MARKETING

The first round of marketing, a mail out to Newcastle schools, occurred in December 06 in an attempt to capture teachers planning for 2007.

The second and most successful round of marketing, a mail out to Hunter schools, occurred in March 2007, 4 months prior to the start of the trial period. The mail out consisted of a letter to principals promoting the availability of the new boxes, information about local farm excursions, Hunter agricultural facts and details of a prize for the first three schools to book (see Appendix 1). The prize consisted of a family ticket to Tocal Field Days. Three kits were booked.

The third promotional boost occurred in July with a story in the Land insert, Agriculture Today (see Appendix 2). Lithgow Council responded to the article and booked the last kit. A few schools were turned away but encouraged to try again in 2008.

A *Peep at Sheep* webpage was added to NSW DPI's schools education portal at <http://www.dpi.nsw.gov.au/education/schools/classroom-resources/peep-at-sheep>

## EVALUATION

The exhibition boxes gave students a greater appreciation of wool as a natural fibre. Teachers used the resources most suited to their situation to achieve this. As expected, no single teacher used all the materials. Built in flexibility and diversity allowed teachers to program lessons best suited to their students.

With only a few consumable items the suitcases were easily replenished after each use. The kits will remain relevant for a number of years and the initial investment will be recouped as the resource is used by multiple schools.

A scaled down version could be created to simplify distribution and maintenance of materials. This smaller kit could include the wool fibre samples, finished products and science lesson outlines.

The story book written and illustrated for this project, *Timothy and Wobbly the Woolly Sheep*, could also be marketed as a stand alone product.



**Table 4 – A Peep at Sheep participating school statistics**

School / enrolment	How many students used the materials?	Years
Maitland Public School / 377 <i>Maitland CBD</i>	120	K-2
Blacksmiths Public School / 121	40	K-2
St Columbans Primary, Mayfield / 168	110	1,2,4 and 5
St Brigid's Primary School, Raymond Terrace / 414	Not stated	Not stated
Congewai Public School / 12	12	K-6
Coal Point Public School / 280		
Brightwaters Christian College / 16	18	K-4
Lithgow Library - Story Time	Weekly activity for the general public	
Jack & Jill Pre-School	Not stated	P
Ann Marsland - Day Carer	Not stated	P
Cullen Bullen Public School / 21	21	P - 6
Scots School	Not stated	P - 6
Cooerwull Public School / 430	40	K
Estimated total	700 plus teachers, parents and carers	

**FEEDBACK**

Participants were asked to evaluate the kit, responses to key questions included:

**What captured your student's interest?**

- The fleece & sheep poo gave us a giggle. (MPS)
- The products made from wool and the wool samples. Puppet theatre and show were very popular. (BPS)
- The droppings and feeling all the wool. They enjoyed the stories and poster discussions. (St Columbans)
- The raw / cleaned wool samples; the wool products and the big books. (Congewai)
- The various wool products. (BCC)

**Which tasks did you try?**

- Hands on touching of materials. The puppets were a hit. (MPS)
- Because all the classes tried to use the kit, it was a matter of skimming through all the activities and allowing children to touch as much as possible. (St Columbans)

- Lessons – ‘Comparing lambs and children’, ‘Singing about sheep’, Sharing discoveries about wool’ and ‘Evaluating A Peep and Sheep’. (Congewai)
- Didn’t visit a farm or investigate sheep in detail as it wasn’t strictly in our terms program. (BCC)

**Was there anything that didn’t work? What and why?**

- No (MPS)
- In the time teachers are allocated the puppet theatre was an after thought but would be perfect if completed as a whole unit. (St Columbans)

**Do you think your students have a greater appreciation of wool as a natural fibre?**

- The change of the feel as it is processed. (MPS)
- Yes (BPS)
- It was an awakening of where wool comes from and what happens to it. (St Columbans)
- Yes. We carried out some fireproofing / waterproofing experiments that worked well. (Congewai)
- Interestingly, when it was used as part of story time at the Library even the parents learnt a bit about the versatility of wool not realising how many products are wool as opposed to cotton/synthetic. (Lithgow Council)

**How could we improve the way we have written the ‘task, teaching and learning activities and evidence of achievement’ lists??**

- Very good as is. (MPS)
- Set out as an integrated teaching unit as per DET COGS. (St Columbans)
- With the addition of the local history in the kit it has made it more versatile for teachers to utilise it. (Lithgow Council)

**Would you recommend this kit to other teachers?**

- Yes (MPS)
- Whole schools saw the kit. (BPS)
- The kit could be a terms work in an integrated unit. (St Columbans)
- Yes (Congewai)
- Yes (BCC)

**NSW DPI is looking to create other kits covering topics such as forest products, rocks and minerals, aquatic habitat conservation, ferals etc. Would these be useful?**

- Yes (BPS)
- Absolutely (Congewai)
- Yes (BCC)

**Are there any other kits you would like to see developed?**

- Cattle, crops, Australian animals and plants, aquatic creatures. (MPS)
- Wheat kit and a rice kit. (BPS)

- Rocks and minerals (St Columbans)
- Processed food (BCC)

### **General comments**

- Children enjoyed the exposure. (BPS)
- A great resource – more please. Thankyou for the opportunity to view and use the kit. (St Columbans)
- It has gone really well here. We have been able to adapt it to include the history of the Woollen Mills in the Lithgow Area. The kit has been used across a further spectrum of age groups from pre-schools to year 6 students because of its versatility. (LCC)

### **NEXT STEPS**

Lithgow Council was donated a kit on a permanent basis to support the significant Lithgow Woollen Mills Collection. The Council runs an outreach program for schools and have added local Lithgow wool related history to the kit and will manage the kits marketing and distribution to schools.

*“Thank you for the donation of the Peep @ Sheep Kit for use as part of our Outreach Programs for Eskbank House & Museum. As we have previously discussed, Lithgow has a proud history and association with the Woollen Industry and the collection, held between Eskbank House & Museum and the Lithgow Library which is of National Significance. We have included in the kit a history of our own Woollen Industry. The kit is being promoted in the schools newsletter sent out monthly by the Museum and also in the Councils Newsletter.”* D. McGrath, Lithgow Council.

During Term1 2008 the kit will be available to NSW DPI staff for use at events.

The 2008 Sydney Royal Easter Show in March will see the launch of LandLearn NSW. LandLearn is a successful Victorian primary industries education program for schools which has been adopted in NSW. LandLearn NSW partners include the Royal Agricultural Society, NSW Department of Primary Industries and NSW Farmers. All teachers visiting the LandLearn NSW stand in the White Pavilion will receive a resource bag. Information about a *Peep at Sheep* will be inserted into this bag (see Appendix 3).

A repeat of the successful Tocal Field Days promotion will follow the Easter promotion if necessary.

All materials and information produced will be available to other bona fide organisations involved in the promotion of primary industries to schools.

## APPEDIX 1 – MARKETING LETTER SAMPLE

### *Letterhead*

Dear Principal,

Do your students like hands on resources, animals and excursions?

Yes?.....then why not **bring a little bit of the Hunters agricultural landscape into your classroom** by borrowing our new classroom exhibition box about wool, organising an excursion to Tocal farm or participating in the education activities at this years Tocal Field Days.

#### **Wool classroom exhibition box**

NSW DPI has put together an exhibition in a box about sheep and wool free for schools to borrow during 2007 and return, ideal for Stage 1 students.

The boxes feature fun, hands on material including a puppet theatre, puppets and recorded play; a big book about Wobbly the Woolly sheep and Timothy who both loose their milk teeth together; a wool fleece and wool samples for students; a sheep's skull; posters covering wool processing, history and breeds; audio visual material; sheep soundtrack and much more. The contents have been chosen to support the Growing and Changing Connected Outcome Group for Stage 1 and will be available from Term 3. Schools can borrow the exhibition box for a term with postage fees covered by NSW DPI. The first three schools to book will receive a family pass to Tocal Field Days, valued at \$32.

For more information or to book your box contact Carmen Perry on 4931 6540, email [carmen.perry@dpi.nsw.gov.au](mailto:carmen.perry@dpi.nsw.gov.au) or fax back the expression of interest form following.

#### **Farm excursion**

Tocal Homestead, near Maitland, is the hub of an agricultural schools education program for primary students. Students are able to visit a large working farm and see the dairy, beef cattle, sheep and horses and explore the heritage buildings dating back to 1822. Farm visits are a great way for students to discover where our food and fibre comes from. Students can talk to farmers and see what it's like on a farm.

For more information contact, Sandy Earle on 4939 8901 or email [homestead@tocal.com](mailto:homestead@tocal.com)  
<http://www.tocal.com/homestead>

#### **Tocal Field Days, May 4-6**

Tocal's Field Days, have been running for 24 years and now offer a program for schools. Schools can visit for a day and participate in hands on activities and presentations from a range of organisations including the Australian Museum as well as enjoy all the fun of this agricultural event. This year's theme for presenters and exhibitors is water.

For more information contact, Sandy Earle on 4939 8901 or email [homestead@tocal.com](mailto:homestead@tocal.com)  
<http://www.tocalfielddays.com>

*Letter, reverse side*

## **Did you know?**

- Newcastle is a major wool sale and distribution hub and is world famous for its super fine wool sourced from the New England region and growers as far north as the Queensland border. In February this year 22,000 bales of wool went on sale in Newcastle worth around 25 million dollars.
- While Australia produces more wool than any other country, China has the largest sheep population. Australia has the second largest sheep population.
- Australia exports wool to 52 countries. China is the biggest purchaser of Australian wool. Italy, India and Taiwan purchase our wool and Russia is starting to buy Australian wool again.
- Tocal College, Paterson, has been educating future farmers for over 40 years.
- Noted colonial architect Edmund Blacket designed Tocal Homestead's barn.
- The main grain crops in the Hunter are wheat and sorghum. Other Hunter agricultural products include hay, beef, lamb, pork, wool, milk, grapes (wine), chicken and eggs.
- The Hunter region covers a total area of approximately 36,000 square kilometres, extending from Johns River north of Taree, south to Gosford, and west to the Hunter catchment boundary near Ulan.
- The Hunter, Central and Lower North Coast is home to the sixth largest urban population in Australia and is a major contributor to the NSW economy.

*Booking fax text*

**Please reserve a wool exhibition box for our school.**

School: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Contact teacher: \_\_\_\_\_

Street address: \_\_\_\_\_

\_\_\_\_\_

Postal address: \_\_\_\_\_

Email: \_\_\_\_\_

We would like the box for (please nominate):  Term \_\_\_\_\_, 2008

Preferred delivery day / week: \_\_\_\_\_

Thankyou. Confirmation of your booking will be sent to you shortly.





Primary Industries

Making News

August climate change forums

FARMERS have the opportunity to focus on the local impacts and opportunities arising from climate change at free forums in Broken Hill and Goulburn. NSW DPI in association with the Lower Murray Darling and Western CMAAs will host a forum at the Broken Hill Musicians Club on Thursday, August 16. To register for the *Climate change, the rangelands and agriculture: Impacts and adaptation in Western NSW* contact Ann Tritt, (08) 8088 9333, by August 14. NSW DPI and Hawkesbury Nepean CMAA will stage *Climate change and agriculture: Impacts and adaptation in the Hawkesbury Nepean Catchment* at the Goulburn Soldiers Club on Wednesday, August 29. To register or for Goulburn forum details contact Dale Chalker, 4828 6618.

Sheep & Wool

Sheep and wool 'farm-in-a-box' for Hunter

EXHIBITION boxes containing carefully chosen information about sheep and wool will be available for Hunter lower primary school students shortly. The kits contain items that students in urban areas would rarely get the opportunity to see, including fleece and a sheep skull. "They have been designed simply, with busy teachers in mind," said NSW DPI education co-ordinator, Carmen Perry. "Teachers can open the box, display or use the items that will interest their students and return the box to the DPI when finished. "The contents have been carefully chosen to support what has to be taught in classrooms in a fun, hands-on format."

Posters for display around the classroom cover topics such as wool processing, sheep breeds, wool history and amazing facts about wool. There is a puppet show focusing on the cooling and warming properties of wool which students can present to the class. "A lovely story book about Timothy and Wobby the Woolly sheep has been specially commissioned for the kit," Ms Perry said. "The mini exhibition will bring a little bit of the farm into urban classrooms." Participating students will be able to take home a sample of quality wool and a passport of completed activities which, once stamped, qualifies them as wool ambassadors.



**RIGHT:** Bella and Paris give a smiling review to the sheep skull and fleece inside one of NSW DPI's new classroom exhibition boxes.

Use mix of traits for gains

NEW research has found that including visual traits with measured traits in a selection index could improve genetic gains from Merino breeding programs through use of more efficient selection strategies. The research is expected to lead to better use of selection in identifying those animals that are superior for economically important traits. The project estimated the relationship between visual and measured traits and then predicted the impact of including visual traits in combination with measured traits in a range of

Australian Wool Innovation funded the work, which took data sets from the Triangle OPLU\$ project, the CSIRO Fine Wool Project and the South Australian Base Flock and Selection Demonstration Flocks. "If visual traits are among the traits used in a selection index then the effective selection differential could be better directed to the traits influencing profit," Dr Mortimer said. "Thirty per cent or more of the effective selection differential is often directed to the visual traits independent of the measured traits." Effective selection differential

performance in selection indexes. Handle, wool character, colour and classer grade when included in a range of selection indexes did contribute markedly to the overall responses predicted in genetic merit from the indexes, according to Dr Mortimer. "Accuracy of predicted genetic merit improved between about three per cent (for classer grade and colour) and 18 per cent on average (for handle) when each of these traits was included in the selection indexes. While improved accuracy translates to greater predicted responses to selection." In other instances, inclusion of estimates of correlations red-

from the selection index, leaving only measured traits, it is expected that there would be no deterioration in performance of the visual trait. However, selection is predicted to result in some improvement in all visual traits, except fleece rot and colour from selection indexes that emphasised fleece weight. Improvements were largest for handle, wool character and colour for indexes that emphasised fibre diameter. While visually assessed traits are known to be at least moderately heritable, the accurate estimates of correlations red-

TL1561426

**Rock Salt**

Natural salt lick for horses, sheep and cattle.

Hard lumps

Natural source of sodium chloride and some trace minerals

25kg bags

Ph 1300 6666 38  
Fax 1300 6666 37  
www.ccdanimalhealth.com.au

---

**PORTABLE STOCK YARD SPECIALISTS**

Locally made - all constructed using flat oval rails



## **A Peep at Sheep brings a little bit of the farm into your classroom.**



NSW Department of Primary Industries (NSW DPI) with support from the Australian Wool Education Trust is pleased to offer your school the use of a Peep at Sheep classroom exhibition box.

Designed to enhance classroom teaching with hands on materials not easily found or sourced the box could be used to support the teaching of the Stage 1, Growing and Changing Connected Outcome Group. There's a bit of Science and Technology, a bit of Creative Arts and PDHPE and much more.

An exhibition box can be borrowed by a school for a term to allow for more than one class to make use of the goodies. The borrowing fee is just \$30.

<http://www.dpi.nsw.gov.au>

<http://woolinnovation.com.au/>



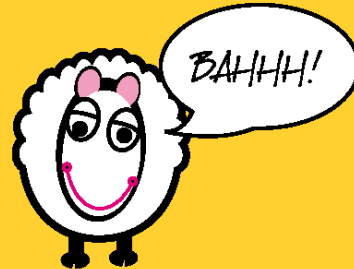
For more information or to book, contact the NSW DPI Schools Education Coordinator, Carmen Perry on  
T: 02 4931 6540  
E: [carmen.perry@dpi.nsw.gov.au](mailto:carmen.perry@dpi.nsw.gov.au)



NSW DPI

# Wool growing sheep in Australia

Many breeds of sheep are farmed in Australia. Some breeds or types of sheep are farmed for wool. Merinos are the most common wool sheep in Australia and are famous all around the world for their beautiful fine wool.



*Merinos grow heavy fleeces of fine, white, soft wool.*

We are Merino rams (boys) see our curly horns.



Fine means very thin. One fibre of wool is thinner than one of the hairs on your head!



We are Merino ewes (girls).

## Other wool breeds include:



**Polwarth**



**Corriedale**



**Crossbred**



NSW DEPARTMENT OF  
PRIMARY INDUSTRIES

[www.dpi.nsw.gov.au](http://www.dpi.nsw.gov.au)

# SHEEP AREN'T NATIVE ANIMALS, SO HOW DID THEY GET HERE?

Follow sheep through time to find out.

## 600,000 YEARS AGO

WILD SHEEP ROAMED THE EARTH ALONGSIDE  
MAMMOTS AND ANCIENT MAN.



## 10,000 YEARS AGO

AN EGGIT MAN HAD AN IDEA.

SHEEP ARE TASTY AND THEIR WOOL  
WOULD BE USEFUL. I SHOULD TRY  
TO RAISE SOME OF THEM.



## 7000 YEARS AGO

THE ANCIENT EGYPTIANS KEPT SHEEP FOR THEIR MEAT, MILK, SKIN  
AND WOOL. MUMMIFIED BABIES DECORATED WITH HATS AND JEWELS  
WERE PLACED IN TOMBS.



## 3500 YEARS AGO

DURING THE EARLY BRONZE AGE SHEEP STARTED TO CHANGE COLOUR FROM BROWN TO  
CREAM.

## 700 YEARS AGO

DURING THE MIDDLE AGES, THE SPANISH REWARDED  
THEIR MERINO SHEEP AS PRIZES OR GIFTS WHICH RARELY  
LEFT THE COUNTRY.

KING EDWARD III (1327-77) HAD A SEAT STUFFED WITH  
WOOL MADE FOR PARLIAMENT TO REMIND EVERYONE  
THAT WOOL SOLD TO OTHER COUNTRIES MADE A LOT OF  
MONEY FOR ENGLAND.

TODAY THE SEAT IS STILL THERE BUT IT IS STUFFED  
WITH WOOL FROM EACH OF THE COUNTRIES OF THE  
COMMONWEALTH, TO SYMBOLISE UNITY.



## 2040 YEARS AGO

ANCIENT ROMANS LOVED THEIR FINE WOOL CLOTHES.

## 1788 (OVER 200 YEARS AGO)

SHEEP ARRIVE IN AUSTRALIA WITH THE FIRST FLEET  
AND PROVIDE EARLY SETTLERS WITH MEAT. THE  
SHEEP DON'T LIKE THE TASTE OF THE GRASS IN  
AUSTRALIA AND FAIL TO THRIVE.

WELL, I KNOWS THE  
GRASS ISN'T GREAT!



## 1797

15 MERINO SHEEP ARRIVE IN AUSTRALIA. SOME ARE GOLD  
TO JOHN MACARTHUR, A PIONEER WOOL GROWER.



## 1807

THE FIRST BALE OF WOOL EXPORTED FROM AUSTRALIA TO  
ENGLAND IS SOLD BY THE MACARTHURS FOR 10 SHILLINGS (51).

## 1851

DURING THE GOLD RUSH SHEEP ARE KILLED TO PROVIDE  
MEAT FOR THE GOLDMINE. GOLD BECAME AUSTRALIA'S  
MAIN EXPORT.



## 1838

WITHIN 50 YEARS OF SETTLEMENT  
WOOL IS AUSTRALIA'S MAIN  
EXPORT PRODUCT.



## 1880

THE FIRST SHEARING  
MACHINE IS INVENTED.  
BEFORE THIS, SHEEP ARE  
SHORN WITH HAND SHEARS  
WHICH LOOK LIKE BIG SCISSORS.



## 1951

AFTER WORLD WAR TWO WOOL  
SELLS FOR EXCELLENT PRICES.  
AUSTRALIA IS RIDING ON THE  
SHEEP'S BACK.



WOOL'S LIFE HAS  
GIVEN US ANOTHER  
PURSUIT!

## 1929

THE GREAT DEPRESSION SENDS WOOL PRICES DOWN BY HALF.

## TODAY

AUSTRALIA IS THE WORLD'S LARGEST PRODUCER OF WOOL. OF ALL THE STATES AND TERRITORIES IN AUSTRALIA, NSW HAS THE  
GREATEST NUMBER OF SHEEP. ONE KILO OF QUALITY WOOL SELLS FOR ABOUT 68 AND A BALE OF WOOL IS SOLD FOR ABOUT 61500.



**APPENDIX 5 – TOMOTHY AND WOBBLY THE WOOLLY SHEEP STORY BOOK  
ILLUSTRATION SAMPLE**



The next day, Sam the Shearer reached down for Wobbly with a very serious expression and said, 'It's time.'

'Time for what?' asked Timothy nervously. 'His first haircut of course and from what I hear, you'll be getting a good shearing this afternoon too,' Sam said.

