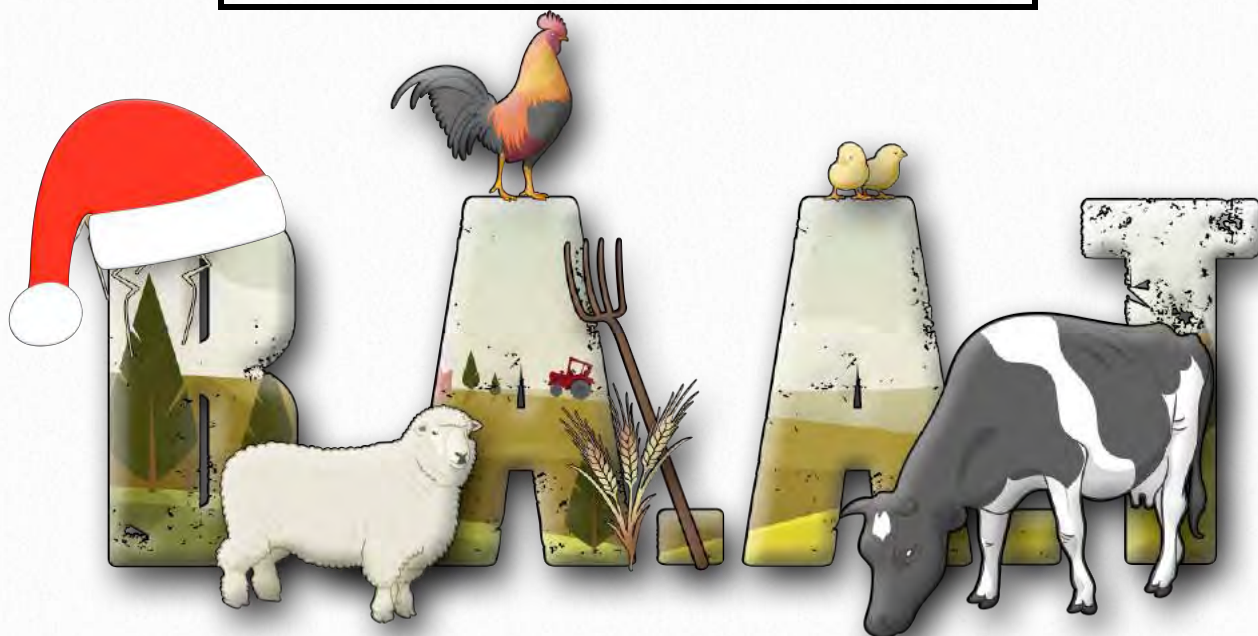
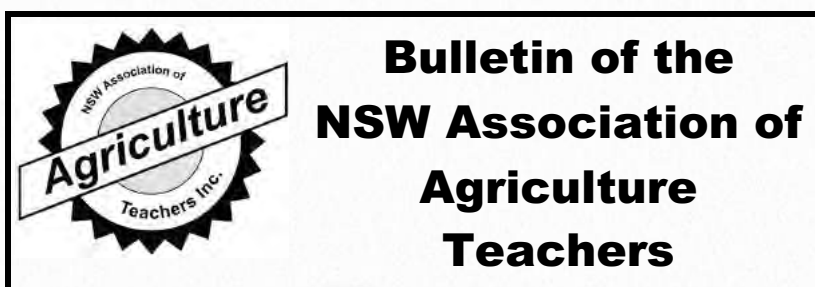


Summer – No. 57, 2017.



'Not only teachers looking forward to the holidays'.

Table of Contents

Committee	1
Meet the Webmaster	2
Reports	3
Presidents Report	4
Notice of AGM	6
NSWAAT BGM Minutes	9
Resources	15
Resources from Schools	16
Resources from Industry	48
Industry News	59
Professional Development	63
Around the Schools	68
In the News	83
What's On?	94
Show Dates	98
Members of NSWAAT	101
From the Treasurer	109
Membership Forms	110
Contributors	112

N.S.W. Association of Agriculture Teachers Inc

Website - <http://www.nswaat.org.au>

ABN: 81 639 285 642

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Meet the Webmaster

Lara Griffin

Teaching since..... 2012

Previous Careers..... Before becoming a teacher, I did an agricultural science degree and then a PhD in animal behaviour. After that I started my own dog training business and worked at Animal Welfare League (briefly) and then coordinated the Greyhounds as Pets program. I then retrained with a bachelor of teaching and here I am :-)

Schools..... My first year was at Barker and since then I've been at Pittwater High.

Hobbies..... Not sure what they are. No time :-)

I do go to the gym twice a week for some 'me time' and stress relief. The rest of my time is with my family

To New Teachers..... Wow. Words of advice seems a bit rich coming from a 5th year teacher. I guess what I tell myself is that I'm trying my best and I can't do more than that. I'm also trying to find work life balance because Ag and teaching can really take over your life. I'm still working on achieving that.



2

Reports



Please send network meeting summaries to baateditor@nswaat.org.au



Presidents Report

Luciano Mesiti

Dear Ag members,

The holidays are near at last and so comes to an end of a very busy year for all of us. 2017 has certainly been another action packed year for Ag teachers, starting with our very successful biennial conference in January in Sydney with 100 participants attending. The year has seen the news of changes afoot with syllabuses/syllabi in the near future, program audits and the changes in expectations and compliance with biosecurity, we are entering a phase of great change, and much more expectations on our roles as Ag teachers. The challenge is ahead but we as aggies are very well equipped to deal with change and complex situations!

The National Association of Ag Educators (NAAE) conference will be held from 8 to 12 January 2018 in Launceston. We have been able to secure 22.75 hours of NESA accreditation at Proficient level for the conference. If you are planning to attend the conference and would like to have these hours accredited to you, please let me know via email so we can have the paperwork ready for the conference, as you will have to sign in to accrue the hours. It's not too late to sign up for the conference if you haven't applied, here is the link [National Ag Educators Association \(NAAE\) conference](#).

We will be holding our AGM on Friday 2nd February. Information on this can be found in this edition of BAAT. We will be conducting the meeting using Zoom Conference, an online conference app that can be downloaded for any device. All members are invited to participate.

I would like to thank a number of people who have worked beyond the call of duty this year. Graham Quintal for his outstanding conference number crunching prowess and keeping tabs on membership renewals. Angela Colliver for her wealth of experience and knowledge, writing skills and support this year to keep us moving forward as an association. Sky Van den Berge for taking the reigns of BAAT and maintaining it as wonderful source of knowledge and information for us to share. Thanks to the rest of the executive - Jenny, Robbie, for their assistance and support, especially for their hard work during our conference.

And most importantly, thank you to all the members who continue to support our association. Thank you for your contributions and engagement in all our activities such as the biennial conference, branch network meetings, Facebook and Edmodo sharing of ideas and resources and the camaraderie that occurs through shows, professional learning and HSC marking , just to name a few!!

Best wishes to everyone for Christmas and new years and look forward to catching up in 2018!

Luciano



NOTICE OF AGM v2-1

NOTICE OF NSW Association of Agriculture Teachers ANNUAL GENERAL MEETING

The Annual General Meeting of the NSW Association of Agriculture Teachers Inc. will be held on Friday 2nd February 2018, 4.00pm at Colo High School.

If you are unable to attend in person, you can join in via your computer or telephone . See instructions below.

Please join from PC, Mac, iOS or Android: Zoom - Please use a headset and mute your microphone when not speaking. Gallery view is useful. ZOOM address will be forwarded soon.

AGENDA

1. Welcome
2. Confirmation and acceptance of Minutes from previous AGM held at Sydney Olympic Park Lodge on Thursday 12th January 2017 9.30-10.30am.
3. Reports from the NSWAAAT Executive Committee, and Members on the activities of the Association during the last financial year to June 30 2017.
4. Receive and consider the Association's statement of accounts and the reports required by section 73 (1) of the Associations Incorporation Act 1991.
5. Confirm appointment of auditor for 2018.
6. Election of an Executive Committee 2017 - 2018.
7. Other business.

Proxy and nomination forms should be returned to NSWAAAT Secretary Angela Colliver via email angela@colliver.com.au no later than **one week prior to AGM 30 December 2017.**



NSW Association of Agriculture Teachers Inc

Nomination Form for Election of Committee Member 2017-2018

CONSENT BY NOMINEE

I,(full name)

of.....

.....(address)

being a financial member of NSWAAAT Incorporated, consent to nomination to the committee in the position of

President / Vice-President / Treasurer / Secretary / Ordinary Committee Member

signed.....

Date

NOMINATOR

I,(full name of nominator)

of.....

.....(address)

being a financial member of the NSW Association of Agriculture Teachers Incorporated, nominate the above member to the NSWAAAT committee

Signed.....

Date

SECONDER

I,(full name of seconder)

of.....

.....(address)

being a financial member of the NSW Association of Agriculture Teachers Incorporated, second the above member to the NSWAAAT committee

Signed.....

Date

Nomination must be received via email angela@colliver.com.au addressed to NSWAAAT Secretary, Angela Colliver **one week prior to AGM 30 December 2017**

NSW Association of Agriculture Teachers Inc

Form of Appointment of Proxy GM & AGM 2017

I,

(full name)

of

.....
(address)

a member of the NSW ASSOCIATION OF AGRICULTURE TEACHERS INCORPORATED, appoint

.....
(full name of proxy)

of

(address)

who is a member of the NSW ASSOCIATION OF AGRICULTURE TEACHERS INCORPORATED, as my proxy to vote for me on my behalf at the NSWAAAT General Meeting and the Annual General Meeting of the association to be held on 2nd February 2018, and at any adjournment of those meetings.

.....

(Signature of member appointing proxy)

Date

Note

A proxy vote may not be given to a person who is not a member of the association

NSWAAT BGM 12/01/17

Meeting Opened: 8.40am

Present: C Chirgwin, J Connors, J Kelly, G Price, T Butler, D Giblin, P Kendal, E Paul, A Ajuyah, K Horley, C Atkins, M Reedy, A Greenwood, K Herwig, E Soall, S McNeill, L Harris, D Saxon, L Ruis, G Smith, D Beale, D Bunn, N Dwyer, N Simmons, J Smith, P Smith, B Bowman, A McGeary, M Holland, S Lehman, G Harris, D Chadwick, E Date, B Callum, L Amor, T Henry, V Gett, K Sherwood, A Moore, N Sibbald, D Alexander, N Shankellton, R Ashhurst, J Killen, S Van den Berge, E Dagher, C Duver, H Mahoney, N Westerhof, G Quintal, J Phillips, K Hotson, S Gray, S Smedley, J Young, B Middleton, L Griffin, J Caines, L Mesiti & M Melino (60)

Apologies: T Barnett, S Hemmings, E O'Neill, TJ Ireland & S McGinnity (5)

Minutes read from last minutes were given to all to read

Moved: G Harris

Seconded: J Kelly

Carried

Business Arising: None

Secretary Report: Had limited voice. However, secretary worked on having the NAAE and NSWAAT Conferences approved as accreditation hours and kept aspects of the association in line with PTC requirements.

Presidents Report:

2017 NSWAAT Biannual Conference Sydney

Wow, what a show this Sydney committee has put on for us... Where do I start??? I guess it all started this time 2 years ago when Nicolette and a few others volunteered the Sydney branch to organise and run the conference. Since then, over many a meeting, several hundred phone calls and copious discussions, look what they have delivered. Simply brilliant! It's hard to go through all those who have helped organise and run this event as I'm bound to forget or leave someone out, so instead I'll recap what great achievements these guys have produced.

- Farming on the Fringe: What a great opportunity to network and learn from each other and those industry professionals who have come to entertain us.
- Sponsorship: As Luciano discussed on Monday, this conference has been heavily sponsored by various active and very generous companies around the area, who are clearly interested what we do. Agricultural Education! Companies such as Kubota and the Royal Agricultural Society have really helped pitch in to keep the costs down and the engagement up.
- Facilities: What a great venue! The Lodge, RAS and the two bus tours were fantastic. I always get nervous coming back to Sydney, with the variables such as traffic, crowds and the humid weather, but this has been great. Very comfortable.
- Monday's seminars were very informative. As were the two bus trips visiting local universities and farms.

We've covered

- Technology (Robots, Drones etc)
- Teaching and management strategies (STEM)
- Plants and Animals (Nutrition, Marketing, Biosecurity and quality control)

It's almost like they have printed off the syllabus and said.... We need to cover as much of these as possible... FANTASTIC...

- Now I can't talk about the conference without a special mention of the social gatherings. How good was the beef at the Dinner of Champions... And Erin's dance to the song "The devil went back to Georgia". And have a look at this setting... Unreal.
- I really would like to show my sincere appreciation towards the all of the organising committee.
 - Towerless hours of preparation organising and reorganising and double checking things are in place

- What a fantastic effort accommodating all our needs and demands, ensuring everything run smoothly within the specific time schedules.
- I believe the proof is in the podding... With 84 delegates attending the conference out of our growing membership tally of 202 members. A fantastic effort. Well done..... ### applause###

Here's a little joke to soften the speech a little:

Three farmers get into a regular taxi. Which one is the smartest? The one in the middle. He doesn't have to open any gates.

- It's been a busy two years for me, since becoming NSWAAAT President, I've also become captain of my local fire brigade, stepped in and out of exec roles at school, bought a farm and slowly working towards building a herd of black cows... oyeh, nearly forgot, and had my 4th child... She does take up some time,, looking forward to regular sleep pattern sometime in the near future I hope.
- It's been busy on the NSWAAAT front too;
 - HSC seminar days
 - ECT conferences
 - Attending the NAAE conference in WA, Spending time with our fellow colleagues around Australia was great experience with lots of knowledge being absorbed by the 17 New South Welshman. The next NAAE conference will be in Tasmania in 2018 and following one in Armidale NSW in 2020.
 - Consultation of the Tech Mandatory syllabus
- JA Sutherland and Life membership Awards....
 - Prior to our next conference we to think about our nominations towards the 2 main awards.... If you could give this some thought so we can get things underway over the next year, ready for the 2019 Conference.
- 2019 Conference has been discussed with a few possible regions over the last few months, and it appears we have a few members from the central west who are happy to host the conference. Looks like it will held at Forbes in January 2019 so get your Elvis suits ready...
- Speaking of conferences, don't forget we are all welcome to attend the National conference in Tasmania & I can't wait. I plan to take my family on a road trip a month early...
- It is NSW's turn to run the National conference in 2020 so think about a few ideas for that too. At this stage, we're looking at UNE to possibly host it in Armidale.
- BOSTES requirements: As you are aware, this conference has been accredited for 29 registered hours. I also understand many of you have not yet converted across to the new scheme. I'm looking into how we can link this 29hrs to your accreditation when you get it, so keep in touch.

Finally I'd like to publicly thank my executive for all there help and dedication over the past 2 years.

- Carl has been exemplary as usual, always having his finger on the pulse, ready to retrieve that, compose this, organise that for this date etc. And keeping us on task.
- Ian working with the ICT and web pages, keeping things running smooth.
- Graham is the "Buzz light year" of the team to infinity and beyond.
 - Graham has not only managed the state books and kept our money in perfect order
 - He has also managed the money and delegates for this Bi-annual conference on behalf of the Sydney branch.
 - While also being my middle man and integral link between the State executive and the Sydney branch's organising committee. Making sure we know what's going on, who is doing what, whether we need to up our insurance or adjust our plans etc.
 - Managing and keeping our active and financial members up to date, while also managing the facebook page.

- He is the king of plan b, c, d and e. After Erin had to resign from her BAAT editor position due to personal commitments, Graham was there. Not only did he achieve the BAAT deadlines, he produced a fantastic product time and time again. Especially, considering we had double the BAATs produced over the past 2 years. A real professional.

Thankyou.

Justin Connors

President 2015-2017

Moved: J Connors

Seconded: K Hotson

Treasurers Report:

NSW Association of Agriculture Teachers Balance Sheet

	2015	2016
Opening Balance	33469.37	17735.75
Income		
Membership	6700.00	8430.00
Conference Registration	2630.00	35310.00
Conference Sponsorship	500.00	12000.00
Copyright Agency	651.10	1074.48
HSC Study Day	0.00	1760.00
Bank Account Interest	1.71	2.52
Total Income	10482.81	58577.00
Expenditure		
NSWAAT Biennial Conference Costs	16828.25	13752.00
NAAE Conference Costs	650.00	0.00
BAAT / PTC Secretarial Services	4207.12	0.00
Affiliation Fees (PTC and NAAE)	2640.00	2284.00
Business Insurance and other Costs	1000.00	0.00
Refunds / Reimbursements	781.66	449.97
Meetings / Tributes	40.00	0.00
Worldskills Sponsorship	0.00	770.00
Web Hosting / Web Authoring Software	63.40	102.00
HSC Study Day	0.00	1929.65
Bank Account Fees	6.00	0.00
Total Expenditure	26216.43	19287.62
Closing Balance @ 31 December	17735.75	57025.13

Moved: G Quintal

Seconded: M Melino

Technology/BAAT Report: QUINNNNNNY – PLEASE ADD TO HERE

Moved: G Quintal

Seconded: J Kelly

General Business:

1. Retired Members

Discussion that retired members still pay \$60/year. Proposal that retired members can have the following options

- a) Pay \$60/year as usual and keep voting rights and all member rights
- b) Not pay \$60, have no voting rights and become an honouree member with all other entitlements

Moved: J Connors

Seconded: N Westerhof

Carried

2. HSC Agriculture Examination

Justin Connors spoke of the inbalance of the allocation of marks. David Randall spoke of how the examination is set up and that the NSWAAAT should write a letter to BOS (now The Authority) about how the paper is prepared in regards to the weighting of course components.

Moved: D Randall

Seconded: K Hotson

Carried

3. University Papers

Lara Griffin from Pittswater HS can help with obtaining university papers for the experimental parts of the course.

4. Farm Assistant Recognition Award

Tony Butler spoke that the NSWAAAT should award hard working and supportive Farm Assistants that have completed 5 years of work in the one school. Teachers/schools will be sent a template to nominate their Farm Assistant so the trophy can be presented correctly.

Moved: T Butler

Seconded: G Price

Carried

5. Upskill Assistants

Mick Melino asked if NSWAAAT can assist with upskilling Farm Assistants on a regional basis. Ivan Gant spoke that Asset Management (Alan Smith) could assist with DET Schools.

6. World Skills

Carl Chirgwin thanked the NSWAAAT for sponsoring the NSW Worldskill Representatives their shirts for 2016. NSW was placed 1st (Sam Carthy Red Bend CC), 2nd (Jake Cracknell McIntyre HS) & 3rd (Sarah Targett Yass HS) in the National Worldskills event held at Melbourne Showgrounds.

In 2017 – Michael Clancy and Ivan Gant are driving the concept from a DET perspective and would like as many schools to become involved as possible. It is run as a schools competition, then regional and then a state final (Forbes) before the National Competition will be held in Sydney in 2018. All the competition requirements are fully funded – release, travel, accommodation etc.

They are also insisting that the VETiS goes beyond the National finals and goes into the Global Worldskills event which would be Tokyo 2021.

7. Life Membership & JA Sutherland Nominations

No one was nominated. Asking for the Life Membership and JA Sutherland Award process to be placed in next BAAT with some recent recipients so members understand the process much better.

8. Conference Review

A survey monkey will be sent in regards to reviewing the Sydney 2017 Conference to assist with improving the next one and for teachers to receive their accreditation hours for 2017.

9. 2019 Conference

Central West NSW

Moved: G Price

Seconded: J Kelly

Carried

10. Technology Syllabus Assistance

What can we do for non-trained teachers?

Please pass on already created units (D Randall). Pass on resources/ideas.

BOS creating an Urban Agriculture unit for Stage 4 (G Quintal).

Remember that it's the education authorities to assist with the training. NSWAAAT can provide resources and speakers to assist them (G Harris)

PD Workshops run as accredited courses by NSWAAAT personnel on a regional basis. Could be even just once a year (J Caines)

Access and communication – how to we get into all areas? (L Mesiti) – possible solution is the use of the PTC All Schools Mail Out (C Chirgwin)

Principal emails (C Ralph – SAAG)

Sue Smedley from Wagga Wagga Christian College said that just this conference and our NSWAAAT was very supportive as she is teaching Stage 4 Ag without any training.

Google search terms paid for (Lara Griffin)

TAFE Online (Fiona Watts)

Google Suite (Evan Paul)

For executive – this area needs to be sorted in a rather fast manner

11. Webpage

New one is needed. Pay for it to be done so it is computer and smart phone friendly.

Moved: L Griffin

Seconded: N Westerhof

Carried

12. BAAT Options

G Quintal spoke how what people think of it being electronic. Lots of people commented that it was great being electronic as easier to go straight to links etc. J Connors concern that it was once a term. Maybe have it twice a year. Information from its members is needed. Any school resources would be appreciated. Four times a year and electronic will remain.

Moved: G Price

Seconded: E Paul *Carried*

13. Chemical Training

Graeme Harris spoke of how is conducting Chemical Training courses for all those out there who may need it.

All Positions Declared Vacant

T Butler – Residing Officer

K Hotson – Residing Administration

President:

Luciano Mesiti (Colo High School)

Nominated: Ivan Gant, Seconded: Mick Melino – **Accepted and Congratulations**

Vice President: To assist with President duties

Jennifer Caines (Mt Annan)

Nominated: Georgina Price, Seconded: Ivan Gant – Accepted and Congratulations

Secretary:

Georgina Price (Parkes High School) – Declined nomination

Carl Chirgwin (Griffith High School)

Nominated: Justin Connors, Seconded: Jade Smith – **Accepted and Congratulations**

Treasurer:

Graham Quintal (Retired at Beecroft)

Nominated: Mick Melino, Seconded: Justin Connors – **Accepted and Congratulations**

BAAT Editor:

Graham Quintal – Declined nomination

Sky Van den Berge (Marian College, Kenthurst)

Nominated: Justin Connors, Seconded: Robbie Ashhurst – **Accepted and Congratulations**

BAAT Assistant:

Robbie Ashhurst (Crestwood High School)

Nominated: Sky Van den Berge and Seconded: John Kileen – **Accepted and Congratulations**

Communications:

Lara Griffin (Pittswater High School) for the Webpage with Evan Paul (Hawkesbury High School) to assist.

Georgina Price, Graham Quintal & Carl Chirgwin for Facebook Administration

Phil Armour (Yass High) for Edmodo – this to be transferred to Evan Paul

Email Network List to be managed by the President

Nominated: Carl Chirgwin, Seconded: Lucanio Mesiti – **Accepted and Congratulations to all**

SAAG

John Killeen (Bossley Park High)

Kristina Hotson (Camden High School)

Nominated: David Randall, Seconded: Nicolet Westerhof – **Accepted and Congratulations**

Public Officer:

Ivan Gant

Nominated: Graeme Harris, Seconded: Di Beale – **Accepted and Congratulations**

3



Study Notes from 2016-2017 HSC Agriculture Student Amanda Page (Teacher Deb Snaith - Macintyre High School).

Stage 5 Primary Industries Workbook from Deb Snaith - Macintyre High School. Interactive competitive multiple choice quizzes that involves the whole class. Works well on iPads.

MLA Online Biosecurity Course

New Resources from PIEFA

The one stop portal for Food and Fibre career information, **Career Harvest** has recently been placed under the PIEFA banner.

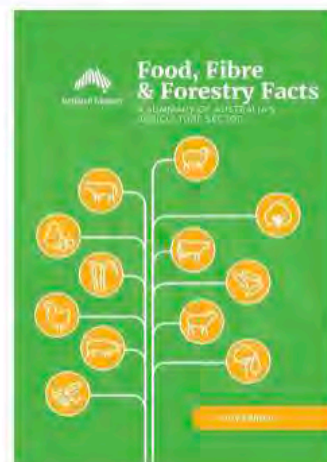
This means that information is currently being updated in relation to career pathways, case studies, scholarships and internships for students at all levels.

Whether your students are looking for career or scholarship information or yourself as a teacher are wanting to know what opportunities are out there in Australia's booming primary industries sector, we are sure you will find Career harvest an essential part of your arsenal. Career Harvest is also on Facebook and Twitter.

MEDIA RELEASE • 16 NOVEMBER 2017

Essential farm facts guide sets scene for National Agriculture Day, 21 November

- Each year, on average each Australian farmer feeds 600 people.
- Agriculture powers 1.6 million Australian jobs.
- Australian farmers manage 48 per cent of the nation's landmass.
- In the past decade, our primary industries have led the nation in reducing greenhouse gas emissions.
- There are 85,681 Australian agricultural businesses that have an Estimated Value of Agricultural Operations (EVAO) of \$40,000 or greater.
- Cattle, wheat and whole milk are our top three commodities by value.



These facts and many more are included in the National Farmers Federation's (NFF) *Food, Fibre & Forestry Facts: A Summary of Australia's Agriculture Sector* publication released today.

Fast facts about Australian agriculture

More than **99% of Australia's agricultural businesses are Australian owned.**

Out of the \$58.1 billion worth of food and fibre Australian farmers produced in 2015-16 **77 per cent (\$44.8 billion) was exported.**

6.8 million hectares of agricultural land has been set aside by Australian farmers for conservation and protection purposes.

In 2016-17 Australian farmers invested **\$334 million in research and development** through the [Rural Research and Development Corporations](#). This is over and above the \$325 million co-contribution made through the Department of Agriculture and Water Resources.

Australian farmers are **among the most self-sufficient in the world**, with government support for Australian farms representing just 1% of farming income. By comparison, in Norway it is 62%, Korea 49%, China 21%, European Union 19% and United States 9%.

Stage 4 - Griffith High School



Year 8 Agriculture Assessment Egg Carton Label

ASSESSMENT 2/3

WEIGHT: 30%

STUDENT NAME:

TEACHER:

TOTAL MARKS: /10 /100%

ISSUE DATE:

DRAFT DATE DUE:

FINAL DUE DATE:

SYLLABUS OUTCOMES: 4.3.2: Identifies how agricultural products are used in industry and by consumers.

SCENARIO: - Griffith High School is expanding their layer chicken numbers with the intention of producing more eggs.

- Year 8 students will be marketing Griffith High School eggs by designing labels that will be used on the Griffith High School egg cartons.

TASK: All students are to create and design an egg carton label with a **Maximum** size of 3cm x 16cm. The label should then be repeated 5 or 6 times on the same A4 page.

CRITERIA: The label must include the following:

- Griffith High Agriculture Department or GHS Ag Dpt.
- Ph – 69621711
- Picture
- A Slogan e.g. “*Best Eggs In Town*”
- Eggs collected on _____ (This is a space so the date can be written on the label).

Example Below

Griffith High School Agriculture Department
‘*Best Eggs in the Town*’
69 621 711



Draft Option 1

Draft Option 2

Marks	Performance Description – Teacher Judgement
9-10	The student's egg carton label is considered to be of an <u>excellent</u> standard. A great deal of time and thought has gone into its design. Student submitted a draft by the due date.
7-8	The student's egg carton label is considered to be of a <u>very good</u> standard. An appropriate amount of time and thought has gone into its design.
5-6	The student's egg carton label is considered to be of a <u>satisfactory</u> standard and enough time and effort has gone into its design.
3-4	The student's egg carton label is <u>below satisfactory</u> and not enough time and effort was put into its design.
0-2	The student's egg carton label was of a <u>very poor standard</u> and very little time and effort was put into its design.

<p style="text-align: right;">Your Mark /10 /%</p> <p>Teacher's Comment:</p>
--

Stage 5 - Griffith High School



Year 9/10 Agriculture

100 Hour Elective

2017 Yearly Examination

Student's Name: _____

Teacher's Name: _____

Assessment Rules Apply: NO COMMUNICATION
NO BORROWING

Assessment Task Details: Assessment 4 of 4
Weight 30% of Mark

Outcomes:

5.1.1	Explains why identified plant species and animal breeds have been used in agricultural enterprises and developed for the Australian environment and/or markets.
5.1.2	Explains the interactions within and between agricultural enterprises and systems.
5.2.1	Explains the interactions within and between the agricultural sector and Australia's economy, culture and society.
5.3.1	Investigates and implements responsible production systems for plant and animal enterprises.
5.3.2	Investigates and applies responsible marketing principles and processes.
5.3.3	Explains and evaluates the impact of management decisions on plant production enterprises.
5.3.4	Explains and evaluates the impact of management decisions on animal production enterprises.
5.4.3	Implements and justifies the application of animal welfare guidelines to agricultural practices.
5.5.2	Collects and analyses agricultural data and communicates results using a range of technologies.
5.6.1	Applies Occupational Health and Safety requirements when using, maintaining and storing chemicals, tools and agricultural machinery.

Examination structure	Marks
Multiple choice questions	20
Plant production	21
Livestock production	34
Data management	25
Total	100

Multiple choice questions

(1 mark each)

1. Climate:
 - a. is another word for weather
 - b. is the word used to describe weather over time
 - c. is just about the Greenhouse Effect
 - d. is the same in all parts of Australia
2. A legume is:
 - a. any type of root or tuber vegetable
 - b. a plant requiring little water
 - c. able to fix nitrogen in the soil
 - d. another name for any pasture plant
3. Nitrogen, potassium and phosphorus are plant macro-nutrients. This means:
 - a. these are toxic to plants
 - b. plants require less of these nutrients than others
 - c. plants require more of these nutrients than others
 - d. these are not required by plants
4. The chemical symbols for nitrogen, potassium and phosphorus are:
 - a. N, P, K
 - b. Ni, Po, Ph
 - c. N, P, Ph
 - d. N, Po, K
5. A soil sample has a pH of 6.5. This sample would be:
 - a. highly acidic
 - b. neutral
 - c. basic
 - d. slightly acidic
6. The term salinity refers to:
 - a. the level of salt in soil or water
 - b. the level of salt in soil
 - c. the level of salt in water
 - d. the level of salt in a plant
7. In which body system of an animal would you find *alveoli*?
 - a. the digestive
 - b. the reproductive
 - c. the endocrine
 - d. the respiratory
8. The following livestock have similar digestive systems:
 - a. cattle, sheep and goats
 - b. cattle, sheep and horses
 - c. cattle, sheep and pigs
 - d. cattle, sheep and poultry

9. The branching pattern of growth of the wheat stem is called:
- branching
 - budding
 - tillering
 - fallowing
10. The following are broadleaf plants:
- wheat, oats and barley
 - canola, sunflower and lucerne
 - corn, canola and wheat
 - sorghum, oats and corn
11. On the school farm we have a number of different looking sheep. However they are still the same:
- species
 - breed
 - type
 - family
12. Chemicals applied to plants may remain active for some time and these crops cannot be harvested during this period. This is called the:
- safety period
 - waiting period
 - withholding period
 - toxic period
13. The term *weed* in a plant crop refers to:
- species of plants that are inedible
 - species of plants introduced to Australia
 - plants that are difficult to get rid of
 - any type of unwanted plant species
14. Sustainability means:
- keeping the farm environment as natural as possible
 - using all farm resources efficiently and carefully so they last
 - making use of farm resources as they become available
 - having a farm enterprise that is highly profitable
15. Invertebrate pests can have a major impact on farm productivity. One of the following is **NOT** an invertebrate pest:
- locusts
 - mites
 - mildew
 - blowflies
16. Pest control can be managed in a number of ways. For example, releasing wasps to destroy cabbage white butterflies is which type of control method:
- physical
 - biological
 - chemical
 - cultural

17. Livestock can be affected by diseases caused by microbes. One of these diseases is *Avian influenza*. This disease can affect the health of:

- a. pigs
- b. cattle
- c. poultry
- d. sheep

18. The production of a litter of piglets is known as:

- a. littering
- b. pigletting
- c. breeding
- d. farrowing

19. Moving livestock in a pattern from one paddock to the next to allow grazed areas to recover is known as:

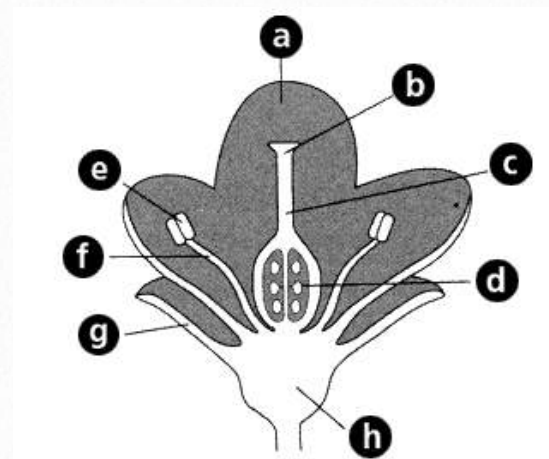
- a. rotational grazing
- b. strip grazing
- c. temporary grazing
- d. continuous grazing

20. Chickens grown for meat production are called:

- a. layers
- b. hens
- c. broilers
- d. poultry

21. Match the labeled diagram (below) of a flower by drawing lines between the labeled letter and the correct part: (8 marks)

- | | |
|----|------------|
| a. | ovary |
| b. | petal |
| c. | sepal |
| d. | filament |
| e. | style |
| f. | receptacle |
| g. | anther |
| h. | stigma |



22. Name the grains (seeds) displayed below:

(5 marks)



.....



.....



.....



.....



.....

23. Label the figures with the correct common **and** botanical (scientific) names using the following words: (8 marks)

- oats *Sorghum bicolor* *Hordeum vulgare* rice *Oryza sativa*
- wheat *Avena sativa* barley *Triticum aestivum* sorghum



.....



.....



.....sorghum *Sorghum bicolor*



.....



.....

24. Label the following sheep photos with the name of the breed:

(5 marks)



.....



.....



.....



.....



.....

25. Using the words below, fill in the boxes with the sheep breeds listed to match the breeding program followed to produce prime lambs:
(5 marks)

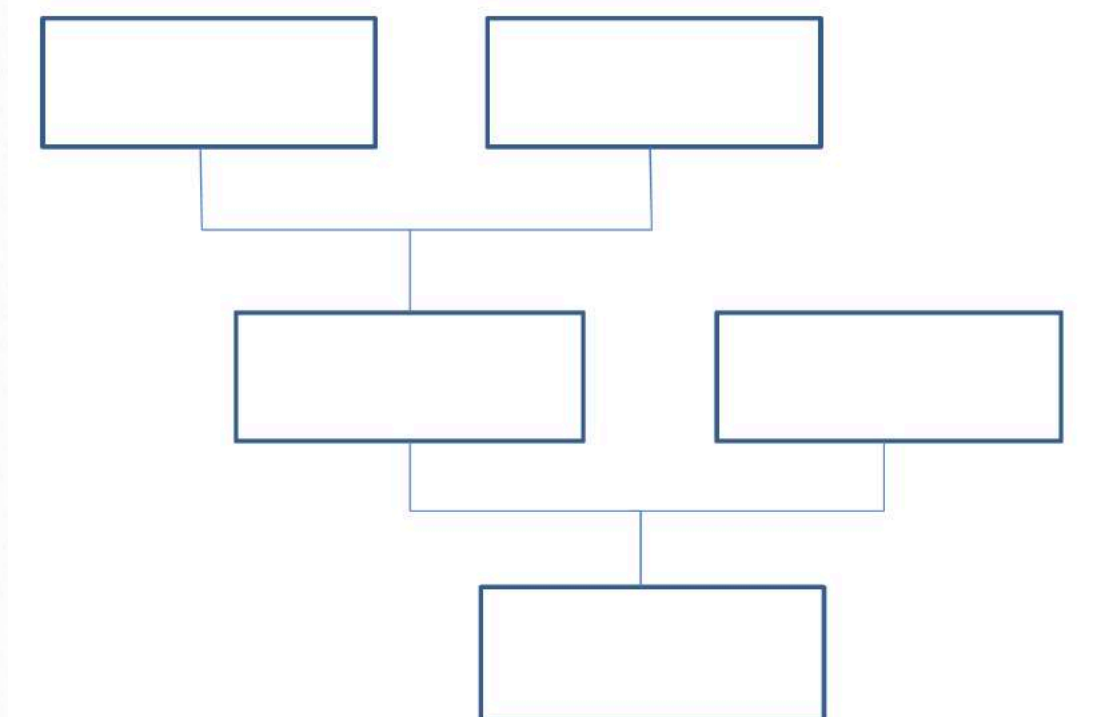
Poll Dorset ram

Merino ewe

Prime lamb

Border Leicester ram

First Cross ewe

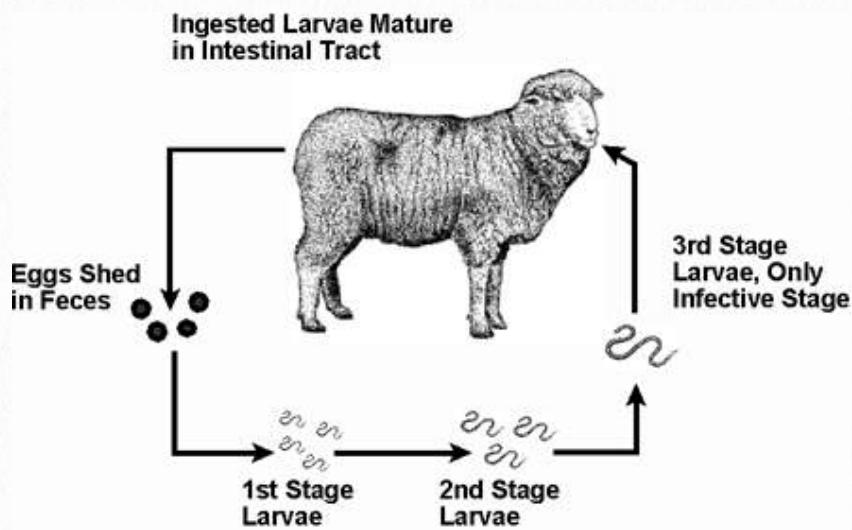


26. Use the following **words** to match the **description** in the table below: (10 marks)

vaccine **disinfectant** **herbicide** **pheromone** **resistance**
drench **insecticide** **dipping or jetting** **residual** **antibiotic**

words	description
	a medicine made by processing a living micro-organism to control, and usually kill, the growth of disease causing micro-organisms
	a chemical used to destroy disease causing micro-organisms, applied to wounds and used for hygiene
	a chemical given orally to animals to control internal parasites
	a chemical substance used to control or prevent the growth of plants
	a chemical substance used to kill insects
	a chemical substance released by an animal that influences the behavior of other animals of the same species
	a term used to describe a chemical that remains active and does not break down in the natural system for a period of time
	the ability of a group of organisms to survive a particular pest treatment
	chemical treatment of livestock for external parasite control
	a chemical made by processing living micro-organisms to boost the immunity of an animal to a particular disease

Life cycle of intestinal nematode parasites in sheep



27. Internal parasites in sheep affect the health, well-being and productivity of the livestock. (2 marks)

Describe one method of management to **prevent** nematodes in sheep:

.....

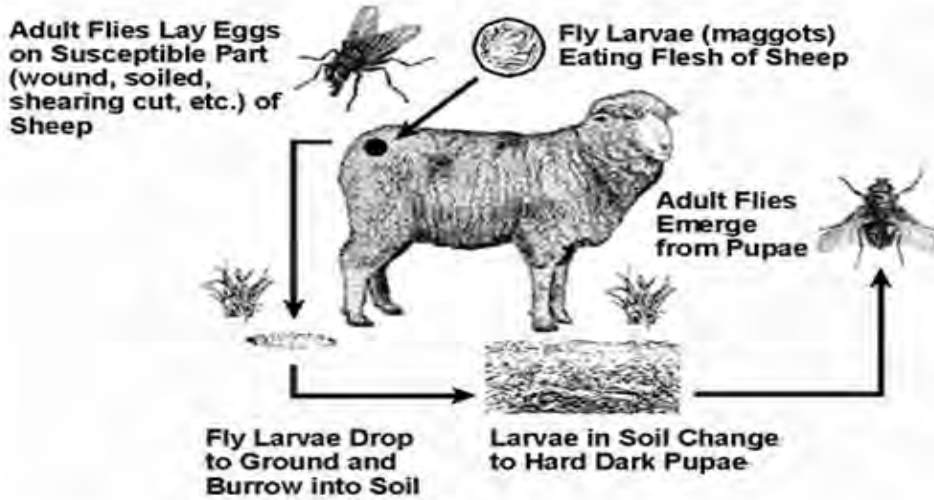
.....

Describe one method of **treating** nematodes in sheep:

.....

.....

Life cycle of blowflies in sheep



28. External parasites in sheep can have a major impact on livestock health. (2 marks)

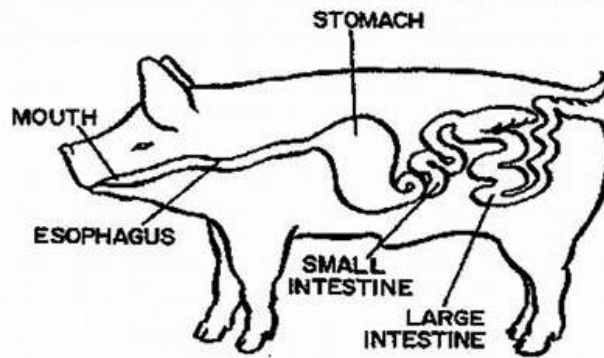
Describe one **chemical** method of **preventing** sheep blowfly attack:

.....

.....

Describe one **physical** method of **preventing** sheep blowfly attack:

.....

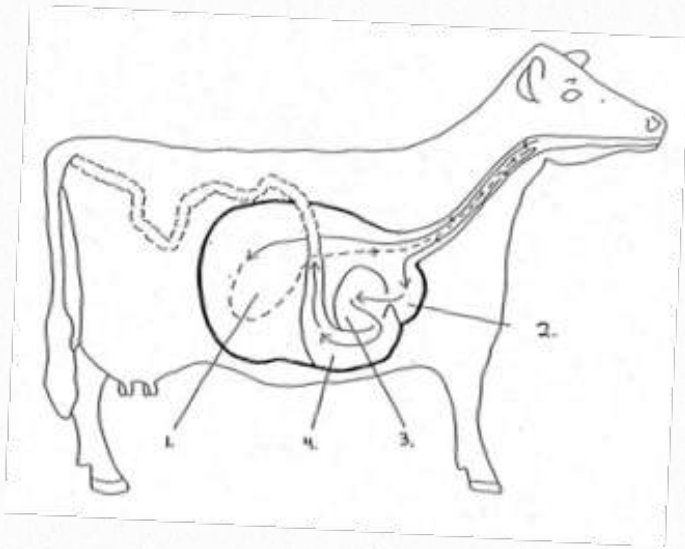


29. The diagram above shows the digestive system of a pig. (5 marks)

Label the **parts** of the digestive system in the boxes provided

Name this **type** of digestive system:

.....



30. The diagram above shows the digestive system of a cow. (5 marks)

Name this type of **digestive** system:

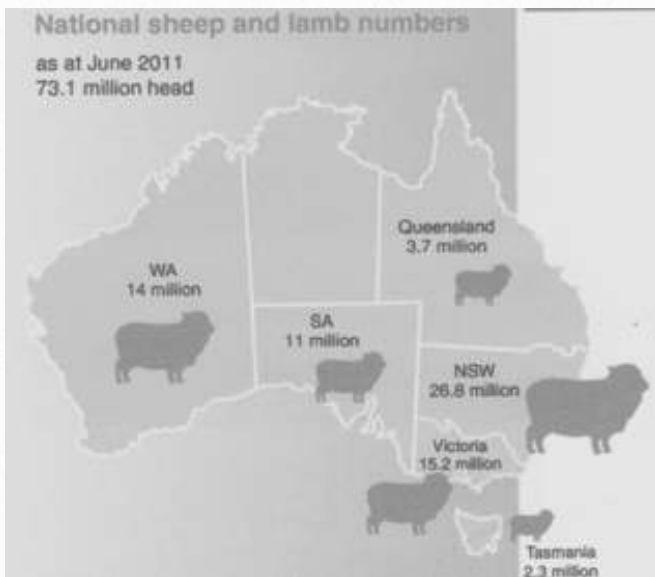
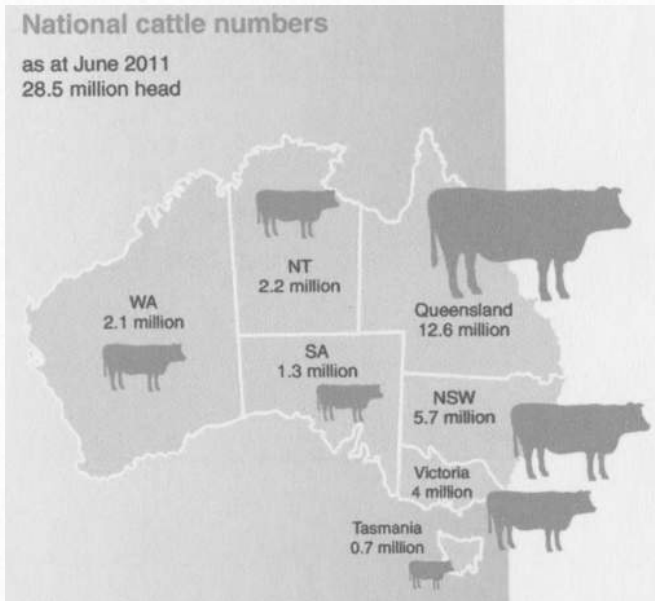
Name each of the labelled **parts** of the system: 1

2

3















4

31. Using the figures below, produce a **column** (bar) graph on the attached grid to display the data. Place both sets of data on the same graph. Include: title; labelled axes; units; and legend / key (10 marks)



[illegible]

32. An investigation was conducted to compare plant growth rates when different volumes of water were applied. The results are recorded below. (5 marks)

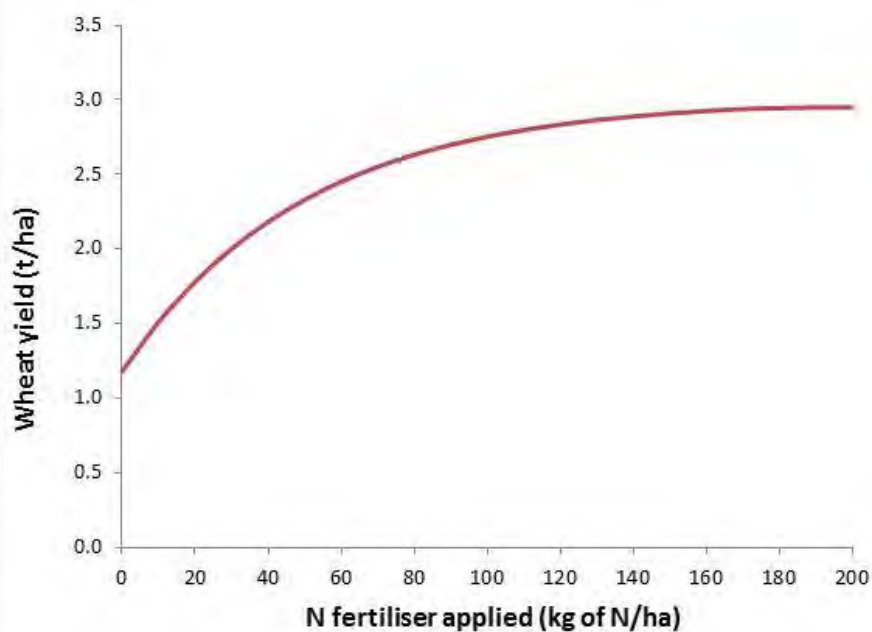
Pot	A	B	C	D	E
Height of seedlings in cm	25				
	20				
	15				
	10				
	5				
	0				
Amount of water given per day	20 ml	35 ml	45 ml	50 ml	80 ml

For this investigation identify:

- the **dependent** variable:
- the **independent** variable:
- three (3) **controlled** variables:
.....

33. A farmer wants to use the following graph to assist in planning for sowing and harvesting in 2016. Use this information to answer the following questions. (5 marks)

2015 Wheat Yield – Fertiliser use



- identify the full names of the following two abbreviations:

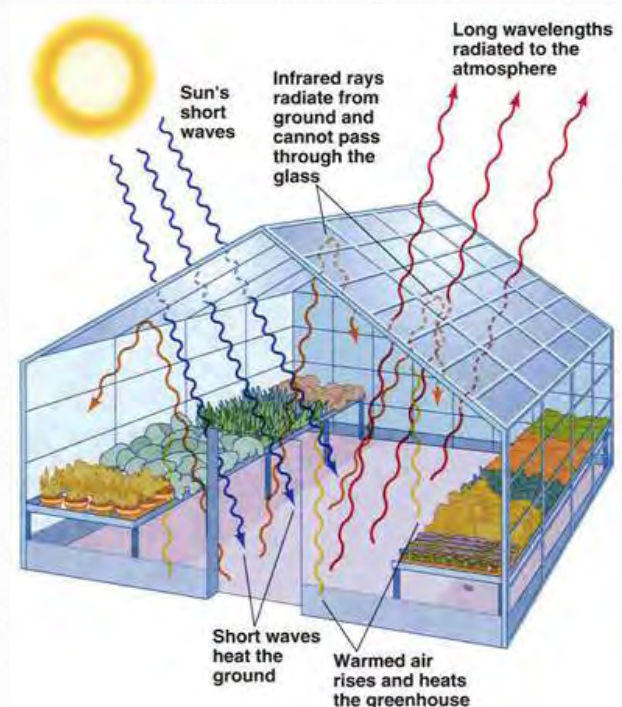
t

ha

- if using 35kg of N/ha, what would the wheat yield be?
- to achieve a yield of 2.5 t/ha, how much fertiliser is needed?
- N fertiliser costs \$25/kg. To achieve the highest possible yield, what is the minimum cost of fertiliser /ha?

.....

34. Greenhouses are an important part of intensive plant production enterprises (5 marks)



- Describe **three** (3) ways an enclosed greenhouse structure can make it possible to grow plants when, and where they normally do not grow

.....

.....

.....

- Explain why pests **and** diseases may have a greater impact on plants in a greenhouse

.....

.....

Stage 6 - Finley High School



AHCPMG201A Treat Weeds 2014

HSC Indicative Hours : 40

This unit covers the process of treating weeds and defines the standard required to: identify significant weed species for the enterprise; apply a range of weed treatment control options; recognise and control risks to environment (including spray drift and chemical spillage); clean and store equipment correctly; monitor treatment site; record weed treatment.

Required Skills

- identify hazards and implement safe work practices
- read and interpret chemical labels, Material Safety Data Sheets (MSDSs), manufacturer's specifications for setting up equipment
- use and maintain PPE
- prepare to treat weeds
- apply weed treatments
- carry out post treatment operations
- maintain spray records
- recognise caution or hazard signs and symbols
- interpret tasks or information from labels, manuals or written instructions
- record information accurately or verbally report information
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Required Knowledge

- maintain spray records
- recognise caution or hazard signs and symbols
- interpret tasks or information from labels, manuals or written instructions
- record information accurately or verbally report information
- use literacy skills to follow sequenced written instructions and record information accurately and legibly
- use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification and seeking advice from supervisor
- use numeracy skills to estimate, calculate and record routine workplace measures
- use interpersonal skills to relate to people from a range of social, cultural and ethnic backgrounds and with a range of physical and mental abilities.

Evidence Guide

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:

- identify significant weed species for the enterprise
- apply a range of weed treatment control options
- recognise and control risks to environment (including spray drift and chemical spillage)
- clean and store equipment correctly
- monitor treatment site
- record weed treatment.

Range Statement

The range statement relates to the unit of competency as a whole.	
Weeds may include:	• all plants that are classified as weeds.
Treat weeds may include:	• control by cultural, biological and chemical methods.

If you would like the rest of this teaching programme please click [here](#).

Sample Biosecurity Plan - Dunedoo Central School



BioCheck Biosecurity Plan Dunedoo Central School 1/07/17 - 30/06/18

6/22/17 8:21AM

Farm Details

Farm: Dunedoo Central School
Address: Digilah St, Dunedoo, NSW, 2844
Contact: Sarah Foster
Phone: 02 6375 1280
PIC: NK225189
Email: sarah.foster19@det.nsw.edu.au
Property: School agricultural department. Showing steers/heifers, up to 10 animals max.
Suffolk stud, borrow ram. 4 merino wethers for competition

Vet Details

Veterinarian: John Bowman
Clinic: Coolah Veterinary Clinic
Address: 113 Binnia Street, Coolah, NSW, 2843
Phone: (02) 6377 1258
Email: coolahvet@bigpond.com

Plan Details

Plan Date: 1/07/17 Plan Expiry: 30/06/18

BioCheck® is a program run by members of the Australian Cattle Veterinarians - a Special Interest Group of the Australian Veterinary Association Ltd.

This BioCheck® Biosecurity plan is designed to ensure that the farm has considered the major biosecurity risks and has appropriate risk management strategies in place.

The plan is largely based on the generic Biosecurity Plans that are available from the Animal Health Australia Farm Biosecurity web site, and should be read in conjunction with the resources that can be downloaded from there (<http://www.farmbiosecurity.com.au>).

This plan is not an audited quality assurance program nor is it a guarantee against incursion by pests or disease. Rather it is evidence that the major biosecurity risks have been discussed and plans made to manage these which are appropriate to the individual farm.

Each risk has been discussed and evaluated as below. Where appropriate, comments have been included that describe how this property is managing the risks identified.

- ☒ Risk controlled - being managed appropriately by on-farm practices
- ☐ Risk partially controlled - actions need to be taken in the next 12 months to improve this risk
- ☒ Risk uncontrolled - corrective actions need to be taken urgently
- ☐ Risk unimportant - This action is not required on this farm
- ☐ This risk has not been considered - a status has not been assigned.

Signed: Sarah Foster
Date: 22/6/17
Sarah Foster

Signed: John Bowman
Date: 22/6/17
John Bowman



BioCheck Biosecurity Plan Dunedoo Central School 1/07/17 - 30/06/18

6/22/17 8:21AM

1. Farm Inputs

Almost anything moved onto the property can be a potential source of pests and diseases for livestock and plants. Monitor animals or plant materials that enter the property, as well as sources of water, feed, bedding and fertiliser.

1.1 Introducing new plants and animals

Introducing new plants and animals on to your property can allow unwanted diseases, pests and weeds to enter. Isolating new plants or animals for a quarantine period limits the risk of exposing your entire stock to new pests and diseases and spreading weeds into production areas.

- 1.1.1a Appropriate Stock - NVD/Animal Health Declaration Status: Risk Controlled
Plan: Livestock will only be purchased from suppliers who have a food safety or quality assurance program and can provide information an Animal Health Declaration. Animal Health Declarations will be kept for at least 7 years.
- 1.1.2 Quarantine of introduced stock Status: Risk Controlled
Plan: Introduced stock must be quarantined for a period of 21 days, or longer if disease test results are incomplete.
- 1.1.3 Stock Disease Testing - Pestivirus Free Herd Status: Risk Controlled
Plan: All introduced stock must be PI tested (eg ear notch) before being released from farm quarantine.
Details: Test all steers for PIs currently for show requirements
- 1.1.4 Stock leaving the farm for short periods Status: Risk Controlled
Plan: Stock leaving the farm for short periods (eg Agistment, shows etc) must be quarantined from the rest of the herd for a period of at least 7 days upon their return. Any signs of disease in these stock must be immediately reported and stock should be examined by the farm vet before release from quarantine.
- 1.1.5 Johne's Disease risk assessment. This farm J-BAS = 7/8 [Edit this!] Status: Risk Controlled
Plan: The introduction and movement of livestock must minimise the risk of JD.
Stock should have a J-BAS score that is not less than this farm.
Ensure that property of origin holds for all CHDs and ensure the CHD considers the risk of all properties during the lifetime of purchased stock.
Items to consider when purchasing stock:
 - Have the cattle had potential exposure to dairy animals or land? (The Dairy Assurance Score is equivalent to the J-BAS)
 - Have the cattle had exposure to sheep or land that may be JD infected ?
 - Is there evidence of JD suspicion or infection on the property?
 - Has there been any JD testing on the property of origin ?
 - Have the animals been vaccinated with Silirum ?

1.2 Animal Feed

Animal feed can harbour diseases, pests and weed seeds.

- 1.2.1 Appropriate Commodity Vendor Declaration Status: Risk Controlled
Plan: Always request a commodity vendor declaration and ensure any feed you purchase is fit for purpose.
Pay particular attention to the possibility of unwanted weeds when purchasing hay or silage.

1.3 Banned Animal Material

Feeding restricted animal materials (RAM) to ruminants is illegal in Australia as it is linked to the spread of TSE (mad cow disease).

- 1.3.1 Feeding Restricted Animal Materials to Ruminants (RAM) Status: Risk Controlled
Plan: Do not feed to ruminants any products made from vertebrate animals. There are only two exemptions to this rule: tallow and gelatine. This is a legal requirement in all Australian states and territories. Poultry, Pig and Pet Food may contain RAM. Food for these species must be clearly labelled and stored away from ruminant feed.



BioCheck Biosecurity Plan

6/22/17 8:21AM

Dunedoo Central School

1/07/17 - 30/06/18

1.4 Water Sources

Many pest and disease-causing organisms can survive for a long time in water sources until they find a suitable host.

- ✓ 1.4.1 Quality and quantity of water Status: Risk Controlled
Plan: Ensure the quantity and quality of water provided is suitable for the type of livestock.
- ✓ 1.4.2 Johne's Disease spread through water Status: Risk Controlled
Plan: Young stock (under 12 months) must be kept separated from water courses (rivers, drains, creeks) that pass through country which has a higher risk of JD.
- ✓ 1.4.3 Faecal-oral disease spread by contaminated water Status: Risk Controlled
Plan: Troughs and other water sources must be regularly inspected for evidence of gross faecal contamination.

1.5 Animal Bedding Material

Animal bedding material can harbour diseases, pests and weed seeds.

- 1.5.1 Storage of Bedding Material Status: Action not applic
Plan: Ensure bedding material is fit for purpose, refreshed regularly and is stored in a clean, dry and vermin free environment.
- 1.5.2 Disinfection of Bedding Material Status: Action not applic
Plan: Bedding Areas should be disinfected with Virkon(R) whenever bedding is changed.

1.6 Fertiliser

Organic fertilisers such as manure and compost can be a source of weeds if not composted thoroughly.

- ✓ 1.6.1 Organic Fertiliser Status: Action not applic
Plan: Ensure that animal manure and green waste is aged and thoroughly composted to destroy weed seeds and disease causing organisms present in the material.
Maintain a record of the source of organic fertilisers, the application dates and where applied.
Check that the supplier is following the industry Purchasing Code of Practice or equivalent quality controls.

2. Farm Outputs

Responsibility for biosecurity doesn't end when plant products or animals leave the farm gate. The measures in place on your property support biosecurity in your region.

2.1 Moving plants and animals off the property

Crops and livestock can spread diseases, pests and weeds from your property and put the status or productivity of the entire region or industry at risk.

- ✓ 2.1.1 Fit to travel Status: Risk Controlled
Plan: Ensure animals are fit to travel, showing no signs of disease. Ensure records are up to date and that the transport vehicle is clean prior to transport.
- ✓ 2.1.2 Documentation Status: Risk Controlled
Plan: Provide copies of supporting paperwork such as National Vendor Declarations, Animal Health Statements or Interstate Certification Assurances. Ensure a copy of each document is kept on file.
- ✓ 2.1.3 Notification Status: Risk Controlled
Plan: Update the National Livestock Identification System database if moving cattle, sheep, goats or pigs.



BioCheck Biosecurity Plan

Dunedoo Central School

1/07/17 - 30/06/18

6/22/17 8:21AM

2.2 Shows and Sales

Events where animals are brought together are an opportunity for disease to spread:

- a) directly from animal to animal
- b) via contact with contaminated soil, food and water.

Stock can be exposed to disease by mixing with other plants or animals or coming into contact with contaminated pens, vehicles, people or equipment.

2.2.1 Shows, sales and markets

Status: Risk Controlled

Plan: Ensure that:

- only health animals are taken to shows, sales or markets
- equipment, feed and water is not shared with livestock from other farms
- avoid letting stock eat off the ground

3. People

If it can move, it can carry diseases, pests and weeds. For this reason, people, vehicles and equipment pose a high biosecurity risk and should be managed accordingly.

3.1 Property Access

Multiple, unsecured entry points to your property make it difficult to control visitor access and manage high risk visitors such as those who visit multiple properties each day.

3.1.1 Property Access

Status: Risk Controlled

Plan: Limit the number of access points to the property (lock unused gates).

3.1.2 Production Areas Access

Status: Risk Controlled

Plan: Access to production areas (fields, paddocks or sheds) should be limited to a restricted range of personnel only. Permission to access these areas should only be given following a risk assessment which will include a visual inspection of the vehicle for cleanliness.

3.2 Signage

Never assume that people know what to do when they arrive at your property. Without signage, visitors and staff may be unaware of the biosecurity procedures enforced on your property.

3.2.1 Visitor area signage

Status: Risk Partially Co

Plan: Signs are used to direct all visitors to a designated parking area away from livestock or crops and ask them to report to management and sign a visitor register.

Details: Biosecurity signs/KEEP OUT

3.2.2 Contact Details

Status: Risk Partially Co

Plan: Signs with mobile phone numbers of managers are clear and visible

3.3 Visitor Risk Assessment

Visitors can unknowingly carry diseases, pests and weeds on their clothes and personal items. The risk is greater if they've been in contact with other livestock or crops, or have recently been interstate or overseas. If you don't know where visitors have come from or what they have been doing, it will be difficult to trace back or trace forward in the event of an incursion or disease outbreak.

3.3.1 Visitor Risk Assessment

Status: Risk Controlled

Plan: Conduct a risk assessment before you allow a visitor onto the property.

If required, provide leaning equipment or a change of clothing or footwear to reduce the risk.

If you cannot reduce the risk, refuse entry to high risk visitors.

Footbaths containing Chlorhexidine or Virkon must be used by visitors entering the calf shed.

3.4 Visitor contact with Plants and Animals

Visitors can unknowingly carry diseases, pests and weeds on their clothes and personal items.

3.4.1 Limit visitor contact

Status: Risk Controlled

Plan: Limit access to and contact with crops and livestock, and eliminate any unnecessary contact altogether.



BioCheck Biosecurity Plan Dunedoo Central School 1/07/17 - 30/06/18

6/22/17 8:21AM

3.5 General Hygiene

Pests, disease causing organisms and weed seeds can be present on hands, clothing, footwear and personal items of people.



3.5.1 Hygiene

Status: Risk Controlled

Plan: Provide hand washing facilities, foot baths or alternative clothing and footwear for visitors to use while on-farm.

Ensure contractors and visitors in contact with stock wear clean overalls.

4. Vehicles and Equipment

Diseases, pests and weeds can enter a farm and be spread by equipment and vehicles, either directly or in plant material, soil or manure. It is important to maintain equipment hygiene and ensure all vehicles that visit your property are clean and well maintained.

4.1 Equipment Hygiene

Tools and equipment can carry diseases, pests and weeds seeds. The risk for disease spread is higher when equipment is borrowed, lent or bought second-hand from other properties.



4.1.1 Disinfect Equipment

Status: Risk Controlled

Plan: Clean and disinfect tools and equipment before and after use on crops or livestock.

Clean and disinfect equipment between different batches, mobs or herds of animals.

Clean and disinfect second-hand, borrowed or lent equipment before and after use.

4.2 Dedicated Equipment

Practically, it may be best to have dedicated tools, clothing and footwear for use on crops or livestock affected by pests or diseases. This equipment should never be used in clean areas of your property.



4.2.1 Dedicated tools and order of use

Status: Risk Controlled

Plan: Have dedicated tools, clothing and footwear available for use in production areas or on animals and plants affected by pests or disease.

Always work with sick animals last (work from clean to dirty).

4.3 Storage Areas

Some pests and diseases can live in the natural environment for months or years.



4.3.1 Storage area cleanliness

Status: Risk Controlled

Plan: Clean and disinfect equipment storage areas regularly.

4.4 Vehicle Entry Points

Multiple, unsecured entry points to your property make it difficult to control access and manage high risk visitors such as utility providers who visit multiple properties every day.



4.4.1 Property access points

Status: Risk Controlled

Plan: Encourage visitors to enter the property via one or two routes only. Use signs to inform visitors about property access points.

4.5 Vehicle movement and parking

All parts of a vehicle can carry disease causing organisms, pests and weeds seeds. Without restricting parking and vehicle movements within the property, it is difficult to control and monitor the spread of diseases, pests and weeds.



4.5.1 Vehicle access and parking

Status: Risk Controlled

Plan: Minimise the number of vehicles you allow onto the property and restrict them to designated visitor parking areas.

Monitor areas next to parking facilities for signs of diseases, pests and weeds.

Not all vehicles need to access production areas. It may be easier to have vehicles that are for use only on-farm. If possible, use farm vehicles to transport visitors around the property.



BioCheck Biosecurity Plan
Dunedoo Central School
1/07/17 - 30/06/18

6/22/17 8:21AM

4.6 Run-off from vehicle wash areas

Run-off from vehicle washing can contain diseases, pests and weed seeds.

4.6.1 Vehicle wash areas

Status: Action not applic

Plan: Provide a wash area for vehicles that need to enter production areas, or before moving crops or livestock. If possible, use a high pressure wash down (or blow down) facility located well away from crops or livestock for cleaning vehicles and equipment.

For maximum protection, it is recommended that staff also disinfect after washing.

4.6.2 Vehicle wash waste

Status: Action not applic

Plan: Collect run-off from vehicle wash areas in a sump, or direct it away from production areas.

Monitor areas next to cleaning facilities for signs of pests and diseases, and treat weeds before setting seed or becoming established.

4.7 Roads and Tracks

There is an increased risk of introducing diseases, pests and weeds when vehicles travel off or divert from established roads and tracks.

4.7.1 Road and track contamination

Status: Action not applic

Plan: Ask visitors to stay on established roads or tracks.

Check areas next to roads and tracks for signs of diseases, pests and weeds, and treat before becoming established monthly.

5. Production Practices

Good on-farm hygiene reduces the risk of spreading pests and diseases. Implement simple hygiene practices for feed and water, product packaging, storage facilities, livestock husbandry, waste materials and plant propagation activities.

5.1 Water Management

The management of water supplies is important for the maintenance of healthy plants and animals. If water sources become contaminated they can spread pests throughout production areas.

5.1.1 Algal Bloom Risk

Status: Action not applic

Plan: Prevent algal blooms by aerating or treating water that is high in nutrients and is stored in dams.

5.1.2 Recycled Water

Status: Action not applic

Plan: Where possible, use drip irrigation for recycled water to avoid aerosol formation.

5.1.3 Waste Water Dams

Status: Action not applic

Plan: Make sure livestock cannot drink from waste water storage dams.

5.1.4 Effluent Irrigation

Status: Action not applic

Plan: Prevent young and vulnerable livestock from grazing pastures irrigated with recycled effluent during the 'withholding period' after each irrigation.



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6/22/17 8:21AM

5.2 Animal Manure and Waste

Effluent, waste and dead animals can harbour disease causing organisms.

Disease agents in effluent can contaminate pastures, stockfeed and water sources. In particular, young stock should not have access to adult faeces as this presents a risk of Johne's disease infection.

5.2.1 Carcass disposal

Status: Risk Controlled

Plan: Dispose of animal carcasses and waste as soon as practical in a segregated area that cannot be accessed by livestock, or wild and feral animals.

Select disposal areas to avoid the potential spread of contaminants by water, wind or animals.

5.2.2 Effluent Disposal

Status: Action not applic

Plan: Manage effluent dispersal to minimise disease spread through the contamination of pastures, stockfeed and water. Maintain grazing intervals (21 days) between applications of these materials to paddocks and grazing of livestock.

5.2.3 Legal obligations

Status: Action not applic

Plan: Always ensure you are adhering to government and industry requirements for carcase, effluent and waste management.

5.2.4 Waterways

Status: Action not applic

Plan: Affected waterways have been found to spread JD. Potential sources of manure or effluent, including cross-boundary waterways, identified and treated to minimise risk of spreading infection.

5.3 Feed Management

Poor feed storage encourages pests and diseases which may contaminate

feed or reduce its usefulness. Old feed can harbour disease organisms and pests that may be harmful to your livestock. Wet and mouldy feed is a potential source of disease or poisoning. For example, the organisms in mouldy hay or silage can cause abortion and Listeriosis.

Spilled grain around grain storage areas can attract insect pests and vermin.

Silos need to be gas tight to ensure fumigation treatments are effective and to prevent insects becoming resistant to treatments such as phosphine. There is a high risk that the first grain to pass through harvesters at the start of the season contains storage pests.

5.3.1 Feed Storage

Status: Risk Controlled

Plan: Keep feed in a clean, dry storage area.

Regularly inspect feed supplies for insects, pests, mould and damage and ensure they remain secured and fit for purpose.

5.3.2 Water Troughs

Status: Risk Controlled

Plan: Clean feed and water troughs regularly to prevent the build-up of contaminants. Implement a cleaning roster to ensure they are always clean. Provide cover for animal feed and water where possible, and keep the troughs high enough so they cannot be contaminated by animal faeces.

5.3.3 Silo storage of grain

Status: Action not applic

Plan: Maintain good hygiene around your storage areas.

Clean and pressure test sealable silos and repair any faulty rubber seals before filling with grain.

If harvesting on farm, separate the first grain to pass through harvesters at the start of each season.

Record the date and grain source stored in each silo when it is filled or topped up.



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6/22/17 8:21AM

5.7 Spread of disease within the herd

Vaccination can help transmission of disease within the herd. Choose appropriate vaccination strategies in consultation with your vet based on local knowledge and risk.

✓ 5.7.1 Vaccination - general Status: Risk Controlled

Plan: Consult with your Australian Cattle Vet regarding appropriate vaccinations for your herd.
All stock should be vaccinated against Clostridial diseases and Leptospirosis.

✓ 5.7.2 Manage JD risk from other cattle or species Status: Risk Controlled

Plan: Don't graze young animals in high-risk areas (e.g. adjacent to high-risk neighbours, with infected sheep, on land grazed by clinical or suspect cases).
Minimise cattle, particularly calves, co-grazing with sheep.

5.8 Spread of disease to and from humans

Some organisms can affect both humans and animals. Ensure you have appropriate risk assessment and measures in place to prevent human-animal transfer of disease.

✓ 5.8.1 Q Fever and Tetanus Status: Risk Partially Co

Plan: Ensure all personnel working on-farm are vaccinated for identified risk diseases including Q Fever and Tetanus.

Details: Look into Q fever

✓ 5.8.2 Leptospirosis Status: Risk Controlled

Plan: Ensure cattle are appropriately vaccinated against Leptospirosis. Consult your vet for a planned vaccination program.

✓ 5.8.3 Hendravirus Status: Action not applic

Plan: Ensure any horses on the property are appropriately identified and vaccinated against Hendravirus.
Ensure all staff are aware of the signs of Hendravirus and the actions required if the disease is suspected.

6. Ferals and Weeds

Feral animals, plant pests and weeds are a widespread nuisance but can also cause harm to your business, so they need to be actively controlled.

6.1 Wild and Feral Animals

Wild or feral animals and vermin may carry disease causing organisms.

✓ 6.1.1 Wild/Feral Animal Plan Status: Risk Controlled

Plan: Develop a wild and feral animal control program to protect livestock and cropping land.

Particular biosecurity risks include:

Dogs - Abortion from Neospora caninum

Vermin and bird species - Salmonellosis

✓ 6.1.2 Feed and Water contamination Status: Risk Controlled

Plan: Ensure farm buildings are in good repair and that feed and water sources are free from contamination.

✓ 6.1.3 Local Area Control Status: Action not applic

Plan: Work with neighbours and other producers in your local area to implement a coordinated approach to feral animal control.

✓ 6.1.4 Boundary Fences Status: Risk Controlled

Plan: Ensure Boundary Fences are appropriate to deal with local risks and that they are well maintained and insected regularly



BioCheck Biosecurity Plan Dunedoo Central School

6/22/17 8:21AM

1/07/17 - 30/06/18

5.4 Fencing

Damaged fences can allow livestock to stray. It could also allow your neighbour's livestock to mix with your stock.



5.4.1 Fencing standards

Status: Risk Controlled

Plan: Ensure fences prevent livestock from straying onto/off your property.

Double fencing or double electric wire is preferable between adjacent properties, and between calves < 12 months of age and older stock.



5.4.2 Fencing Inspection

Status: Risk Controlled

Plan: The fence of every paddock should be checked as a routine before stock enter the paddock.

5.4.3 Stray Animals

Status: Action not applic

Plan: If animals stray off the property, they must be quarantined from other stock until a risk assessment can be made for the likelihood of Johne's Disease infection. If stock < 12 months old stray onto an area of higher Johne's Disease risk than this property they will be sold before they calve down or become 2 years old. If stock > 12 months stray onto an area of higher JD risk, they will be cleaned of faecal material on their feet/legs and quarantined from any young stock for 30 days.

If stock stray onto the property, they will be quarantined until a risk assessment will be made in conjunction with our veterinarian and managed appropriately. This may include implications for stock that have come into contact with the stray animal(s).

5.5 AgVet Chemicals

Chemical residues on plants and animal products can result in rejection from international and domestic markets, and can pose a risk to human health. The misuse of chemicals can also lead to the development of resistance by pests, potentially creating new biosecurity risks and management challenges. Inappropriate use of chemicals can cause insects to become resistant, making control difficult. This can cause more widespread and ongoing biosecurity problems.



5.5.1 Label Directions

Status: Risk Controlled

Plan: Be sure to follow the instructions on the label and observe withholding periods after treatments.

Ensure only appropriately trained staff have access to AgVet chemicals.

Ensure use of chemicals is recorded appropriately.



5.5.2 Development of resistance

Status: Risk Controlled

Plan: If AgVet chemicals do not appear to be working as expected, this should be reported:

- in the case of veterinary chemicals, to the farm vet
- in the case of insecticides, to the Department or local agronomist.

5.6 Monitoring and Surveillance

Early detection of pests and diseases gives you the best chance of preventing pests or diseases from establishing on your property and ongoing additional expenses for their control. Early detection also increases the chances of eradicating a new pest or disease. Recording the absence of pests or diseases is just as important as recording what you do see. Frequency of monitoring needs to be considered.



5.6.1 Monitoring

Status: Risk Controlled

Plan: Regularly monitor your crops and livestock. Become familiar with pests and diseases commonly found in your region so you will know if you see something different.



5.6.2 Investigate/Notify suspect Johne's Disease cases

Status: Risk Controlled

Plan: Any suspect clinical cases investigated and notified to CVO, in accordance with state legislation. High risk animals will be identified and prioritised for culling in conjunction with our veterinarian.



BioCheck Biosecurity Plan Dunedoo Central School 1/07/17 - 30/06/18

6/22/17 8:21AM

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All stock should be vaccinated against Clostridial diseases and Leptospirosis.

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Minimise cattle, particularly calves, co-grazing with sheep.

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Plan: Ensure all personnel working on-farm are vaccinated for identified risk diseases including Q Fever and Tetanus.

Details: Look into Q fever

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Plan: Ensure cattle are appropriately vaccinated against Leptospirosis. Consult your vet for a planned vaccination program.

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Plan: Ensure any horses on the property are appropriately identified and vaccinated against Hendravirus.
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✓ 6.1.3 Local Area Control Status: Action not applic

Plan: Work with neighbours and other producers in your local area to implement a coordinated approach to feral animal control.

✓ 6.1.4 Boundary Fences Status: Risk Controlled

Plan: Ensure Boundary Fences are appropriate to deal with local risks and that they are well maintained and insected regularly



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6/22/17 8:21AM

6.2 Weeds

Weed species are significant biosecurity problems in their own right, as well as being alternative hosts of some agricultural and horticultural pests. Some weeds can also make livestock sick. Grain export markets have zero tolerance for weed seeds, and may cause shipments to be rejected. Volunteer plants that have escaped from production areas and created a 'green bridge' can harbour pests or diseases between growing seasons.

6.2.1 Weed Management Plan

Status: Risk Controlled

Plan: Establish a weed management plan for the property, including plans for eradicating, containing or managing current weeds, and preventing the introduction of new species.

6.2.2 High risk areas

Status: Risk Controlled

Plan: Regularly check for and control weeds along dirt tracks and roads, in areas used to isolate new stock, and next to vehicle parking or cleaning areas.

6.2.3 High Risk Times

Status: Risk Controlled

Plan: Control weeds in fields and paddocks after flooding, drought or fire. Inspect any areas that have been recently landscaped (eg new roads or dams) or affected by land destruction (eg fences) and treat weeds before they have a chance to set seed and become established.

6.3 Property cleanliness

Spilled food, rubbish dumps and carcasses can attract pests or wild animals that carry diseases onto the property.

6.3.1 Remove attractants

Status: Risk Controlled

Plan: Remove or contain anything that is likely to attract vermin, insect pests or wild animals.

7. Train, Plan and Record

Ensure that staff are well trained and that you have the ability to trace where animals or plants have come from and where they went. Keep accurate records of purchases, sales and movement of all products entering or leaving the property.

7.1 Biosecurity planning

Having a current biosecurity plan is important. It is also important that staff, contractors and visitors are aware of the plan.

7.1.1 Review this biosecurity plan every 12 months

Status: Risk Controlled

Plan: This plan should be reviewed every 12 months.

7.1.2 Visibility of plan

Status: Risk Controlled

Plan: Ensure that this plan is readily available to all staff and contractors

7.2 Record Keeping

A property owner or manager should be able to 'trace back' and 'trace forward' if there is a disease, pest or weed incursion on their property.

7.2.1 Trace Back and Trace Forward

Status: Risk Controlled

Plan: Keep records of purchases and sales, health certificates and declarations, and pest and disease monitoring activities.

7.3 Staff Training

Anyone working on the property (including friends and family) may not know how easily diseases, pests and weeds can spread and how to prevent this from happening.

7.3.1 Training

Status: Risk Controlled

Plan: Inform staff of the biosecurity standards required on site. Provide biosecurity training or information sessions for staff.



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6/22/17 8:21AM

7.4 Suspect Diseases, Plants and Weeds

weeds You have a responsibility to report unusual diseases, pests or weeds to an agronomist, vet, state DPI, the Emergency Animal Disease Watch Hotline or the Exotic Plant Pest Hotline.



7.4.1 Reporting

Status: Risk Controlled

Plan: Know who to call if your suspect you have an emergency animal disease or plant pest. Keep details of state DPIs, vets, agronomists.

Emergency Animal Disease Watch Hotline 1800 675888

Exotic Plant Pest Hotline 1800 084881

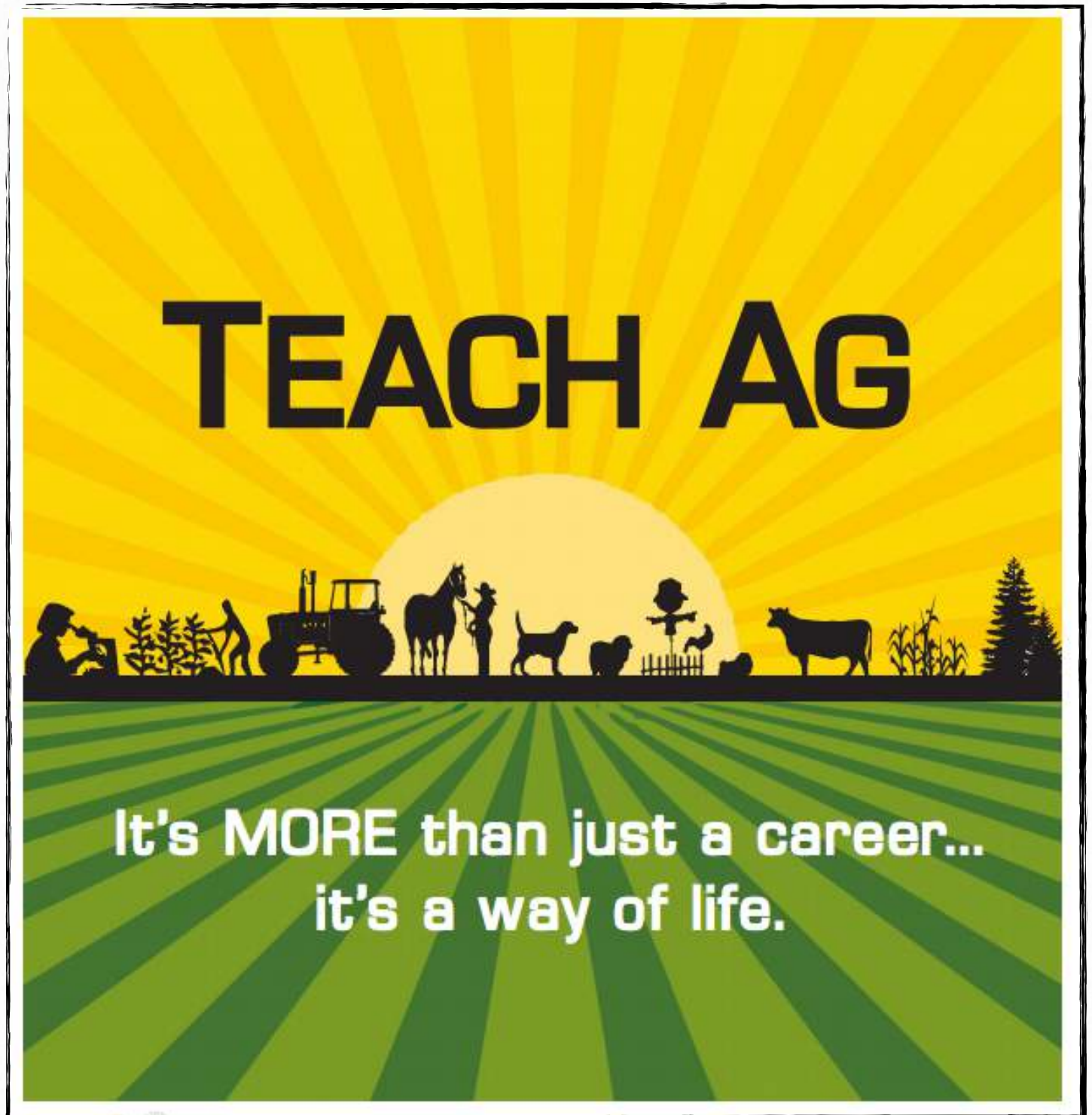
Digital Resources: Produce Banners

The banners are organized into three columns: **GRAIN**, **RED MEAT**, and **SUGAR**. Each banner includes a map of Australia, a list of topics, a list of jobs, and a detailed flowchart of the production process.

- GRAIN:** Topics include Food security, Climate, Weather, Sustainability, and Climate Change. Jobs include Grain farmer, Agronomist, Seasonal Worker, Mechanic, Driver, and Dealer. The process flowchart shows the journey from grain production to various grain products like flour, oil, and feed.
- RED MEAT:** Topics include Food security, Climate, Weather, Sustainability, and Climate Change. Jobs include Meat producer, Slaughterhouse worker, Meat processor, Meat exporter, Meat retailer, and Meat importer. The process flowchart shows the journey from meat production to various meat products like beef, pork, and lamb.
- SUGAR:** Topics include Food security, Climate, Weather, Sustainability, and Climate Change. Jobs include Sugar cane grower, Sugar cane harvester, Sugar cane miller, Sugar cane exporter, Sugar cane importer, and Sugar cane retailer. The process flowchart shows the journey from sugar cane production to various sugar products like sugar, molasses, and ethanol.

Above resource and others from RAS are available [here](#).

Resources from Industry



Career Harvest is Back!

New Resources from the Department of Primary Industries (DPI)



[DPI Schools program you tube channel](#)

Sentinel Herd Sampling at Tocal College

[Youtube Clip](#)

Hunter LLS District Vet, Digby Rayward, explains the process and reasons for collecting blood samples for the National Arbovirus Monitoring Program from the dairy herd at Tocal.

Careers with DPI staff profiles

[Youtube Clip](#)

Eight DPI staff talk about their roles within DPI and provide an overview of what a day at work looks like for them.

Muscle Scoring Visual Assessment

[Youtube Clip](#)

Brett Littler, Senior Land Services Officer, demonstrates how to assess cattle muscle score through visual cues and the key points to note.

Visual Fat Assessment

[Youtube Clip](#)

Todd Andrews, Beef Development Officer, NSW DPI demonstrates how to visually estimate cattle fatness and the key points to note.

Manual Fat Assessment

[Youtube Clip](#)

Todd Andrews, Beef Development Officer, NSW DPI demonstrates how to manually estimate cattle fatness and the key points to note.

Beefspecs

The new BeefSpecs calculator is a tool to manage cattle to meet weight and fat specifications. It has been developed by the NSW Department of Primary Industries in collaboration with MLA, UNE, Department of Employment, Economic Development and Innovation, University of California Davis, and the US Department of Agriculture Meat Animal Research Center.

The calculator assists cattle producers in making more accurate management decisions that could increase carcase compliance rates for fatness and weight targets specific to various beef markets.

3D camera assessments of fat and muscle score are input into BeefSpecs to predict the best market options, improve compliance rates and estimate the returns per kilogram produced.

The tool will help improve quality and consistency and address non-compliance with market specifications, which results in downgrades. that costs the livestock industry an estimated \$51 million per annum.

To learn more about the BeefSpecs tool, visit beefspecs.agriculture.nsw.gov.au

FarmDecisionTECH - developing digital solutions for agriculture

[Youtube Clip](#)

Cisco, the NSW Department of Primary Industries and Bralca (Ben Watts and family) are partnering to help bridge the digital connectivity gap that exists on farms and supporting supply chains in Australia.

FarmDecisionTECH (FDT) is developing practical field tough farm monitoring and control systems that lift production, save labour, or can be used to create new ways of managing operations.

FDT systems include a range of hardware and software that improves the collection and transfer of on farm data from the paddock to the farm data warehouse. The system could also be adapted for irrigation, broad-acre cropping and horticulture.

In the first year, FDT established a field area network to enable long range, low power data transmission from sensors across two established on-farm field test sites. Data is currently being collected from soil sensors, pasture sensors and a weather station and is being fed into a digital dashboard that displays real-time data. The long range network can receive data from devices located 10 km from the receiving station.

A particular area of focus has been the use of LoRaWAN - an exciting emerging wireless technology that transports data with low power over large distances. This technology will help solve the data drought in rural Australia, and enable cost effective and reliable delivery of accurate information when and where you need it.

eXtensionAus

An online learning network is connecting Australian grain growers and advisors to the latest crop nutrition information and advice, when and where it is needed.

eXtensionAus, a GRDC project delivered by NSW Department of Primary Industries, is providing growers with a national on-line source of evidence-based information backed by Australia's leading experts in crop nutrition.

Growers can access the website, social media, YouTube and the "ask an expert" tool. For more information go to [here](#).

Michelle Fifield, Education Officer, NSW Department of Primary Industries

It all starts in school: Building community awareness about biosecurity and agriculture.

What's in my food? How did that pest get here and where did it come from? Just some of the many questions raised, and answered, in a suite of high school curriculum materials published this week by the Primary Industries Education Foundation Australia.

The materials, designed for students from years 7 to 9, present novel ways to engage communities in a better understanding of their environment and the biosecurity issues that threaten Australia's agricultural industries.

"Communicating complex scientific information between industry and the local community can be quite challenging, creating awareness around biosecurity issues, even more so," says co-developer Shannon Mulholland, NSW Department of Primary Industries.



Photo Credit - Ana Rodriguez

"Coming up with creative ways to help students, and their teachers, understand what biosecurity is, in the context of agriculture, what organisms pose a threat and what can be done to protect crops and manage the threats is really invaluable."

In a joint collaboration between the Plant Biosecurity CRC, the NSW Department of Primary Industries and the South Australian Research and Development Institute, a suite of biosecurity teaching packages have been developed for secondary school students. The packages raise the profile of biosecurity within the scientific and agricultural sectors.

"We developed four packages for Year 7 and Year 9 students, examining biosecurity issues for the grain and citrus industries specifically, however the packages can be readily adapted to suit any industry and are mapped to the outcomes of both the National and NSW curriculums."

The resources have been developed in consultation with the teaching community to ensure they provide the necessary information for both the teacher and the student. By providing a flexible range of resources teachers could opt to use individual components or the entire package and, if they desired, they could elicit the help of local technical professionals in the delivery of the insect identification component.



By starting biosecurity education early, a greater awareness of biosecurity matters within the broader community can be achieved, building on existing industry engagement. Providing this education at a secondary school level may have the added benefit of highlighting career options in the sciences and agricultural sectors and further the continuum of biosecurity education. A greater understanding of biosecurity issues within the community may help in an emergency response as the core concept of biosecurity and risk is already understood by the community.

The packages (including teacher guides and animated PowerPoint presentations) are available via the Primary Industries Education Foundation Australia website portal PrimeZone:

[Grains Biosecurity Year 7](#)

[Citrus Biosecurity Year 7](#)

[Grains Biosecurity Year 9](#)

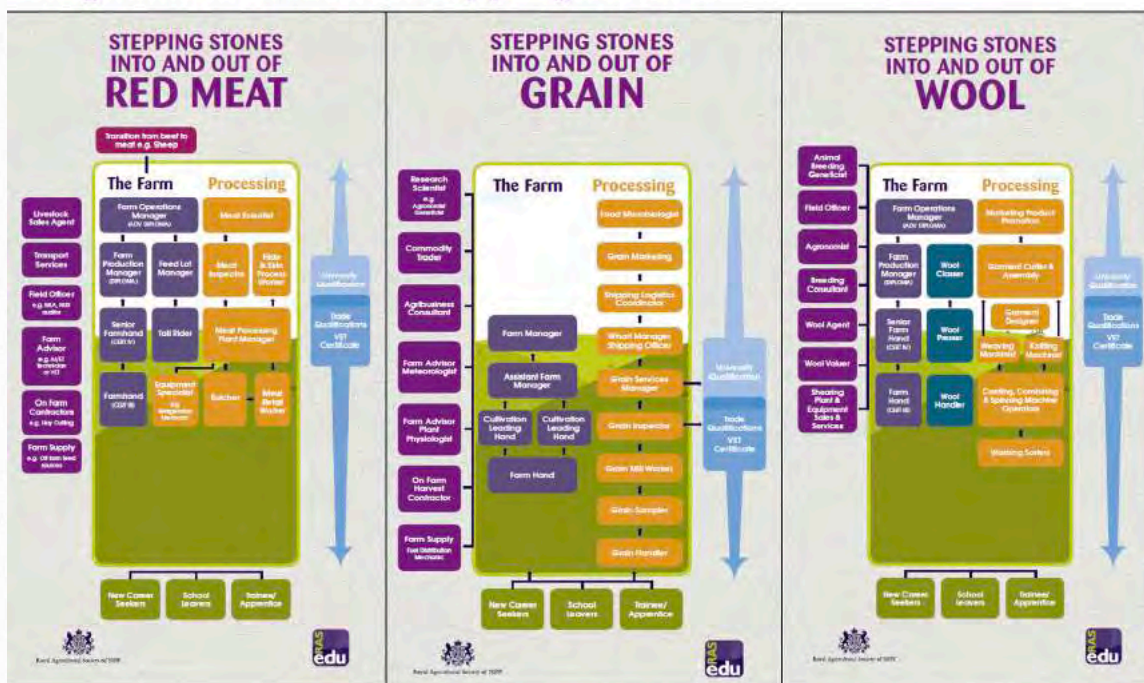
[Citrus Biosecurity Year 9](#)

The final report 'Novel Community Engagement in Plant Biosecurity' authored by Shannon Mulholland, Leigh Pilkington and Barbara Hall, details the materials, methodologies and lesson plans is available [here](#).



Contact: **Leane Regan** Corporate Communications and Engagement,
Plant Biosecurity Cooperative Research Centre, e) l.regan@pbcrc.com.au

Digital Resources: Stepping Stones



Above resource and others from RAS are available [here](#).

Integrated Pest Management



Commercial producers of biological control agents for Integrated Pest Management (IPM) programs.

KEY PESTS



APHIDS



DIAMONDBACK MOTH



FUNGUS GNAT / THRIPS



RED SCALE



THRIPS



TWO SPOTTED MITE



WHITEFLY

BIOCONTROL SOLUTION



APHELINUS



APHIDIUS 'C'



APHIDIUS 'E'



DIADESMA



DALOTIA



HYPODASPIS 'A'



HYPODASPIS 'M'



APHYTIS



CUCUMERIS



DORIUS



CALIFORNICUS



OCCIDENTALIS



PERS. MILIS



ENCARSIA



ERETMOCERUS



NESIDIOCORIS

Phone: 08 8584 6977 | Email: info@biologicalservices.com.au | www.biologicalservices.com.au

KEY PESTS

BIOCONTROL SOLUTION

APHIDS

Aphidius abdominalis - can attack over 200 Aphid species but prefers larger species such as Foxglove Aphid (*Aulacorthum solani*) and Potato Aphid (*Macrosiphum euphorbiae*). It has a long lifespan, is able to withstand high temperatures, and kills many hosts by direct feeding. Use in conjunction with *Aphidius*.

Aphidius colemani - will parasitise many of the smaller aphid species including the major pests of greenhouses Green Peach Aphid (*Myzus persicae*) and Cotton/Melon Aphid (*Aphis gossypii*).

Aphidius ervi - attacks a range of larger aphid species including *A. solani*, *M. euphorbiae* and *Acyrthosiphon* species.

Aphid Parasite Mixture - a mix of the 3 parasites is supplied where several aphid species may be present, or if aphid species is not confirmed.

DIAMONDBACK MOTH

Diadegma - parasite of Diamondback Moth or Cabbage Moth larvae. Regular inoculation of Brassica crops can reduce the need for chemical controls.

FUNGUS GNAW

Dacnusa - soil dwelling beetle feeds on a wide range of small insects, mites, and fly eggs. Can tolerate wet conditions and aids in control of Shoreflies and thrips. Use in conjunction with *Hypoaspis* 'M'.

Hypoaspis 'M' - soil dwelling predatory mite preys on larvae of fungus gnats and other small organisms in the top of the root zone. Also controls Snake Mites in reptile enclosures.

RED SCALE

Aphytis melinus - *Aphytis melinus* is the main parasite of Red Scale for citrus crops in Mediterranean climates.

THRIPS

Chorebus - preys on first instar thrips on foliage and in flowers. Establishes quickly on pollen producing crops. Aids in control of broadmite. Effective on Onion Thrips for Onion storage.

Hypoaspis 'N' - soil dwelling predator with an appetite for thrip pupae in the soil. Also controls Bulb Mites in Lillium/Bulb crops, & Chicken Mites (*Dermanyssus* sp)

Chrys - Predatory bug that can feed on all active stages of thrips especially in flowers. Used mostly in Capsicum, Chilli, Strawberry and flower crops where a pollen source is available.

**All of these products should be used together for control of Thrips in greenhouses.*

TWO SPOT MITE

Campylomma - tolerates hot/dry conditions. Will persist in the crop in the absence of Two Spot by feeding on other mite species, pollen, and small insects. More tolerant of pesticide residues. Use where conditions do not favour *Persimilis* eg. too hot/dry, boundaries, hotspots, tree crops.

Oribatella - spider mite predator, tolerant of very hot/dry conditions. Resistant to organophosphate & carbamate insecticides. Mostly used in tree crops such as pome fruit.

Parsipole - voracious predator. Thrives in warm, humid conditions. Is the main control agent for spidermites in Greenhouse crops, Strawberries, Raspberries.

WHITEFLY

Encarsia - used worldwide for Greenhouse Whitefly on vegetables and ornamentals. Works best in temperatures above 20°C.

Eretmocerus - able to withstand high temperatures, and kills many hosts by direct feeding. Use in conjunction with *Encarsia*.

Neoseiulus - is a voracious general predator particularly of whiteflies, moth eggs and small grubs. It will also attack Thrips, Mites & Aphids. It is mostly used in Tomato & Eggplant crops.

Savings on Flow Hives for schools with launch of Certificate III

Flow Hive co-inventor and lifelong beekeeper Stuart Anderson was present at the official launch of Certificate III Beekeeping at Alstonville High School in October to show his support for an initiative which he believes will help ensure the viability of Australia's honey industry for decades to come.

To coincide with the launch of the course, Flow is offering Education Bundles, including substantial discounts on a range equipment and free access to a raft of instructional materials, to schools state-wide.

“The average age of beekeepers is steadily climbing, so I’m really pleased that this course is being rolled out next year to attract new, younger beekeepers to the industry,” Stu said.



“Australia is very fortunate to have such agreeable conditions for beekeeping and honey production, and the market for honey is only growing globally, making it a real and tangible option for people wanting to work and start sustainable agricultural businesses.”

The Flow Hive, which Stu invented with his son, Cedar, took the beekeeping world by storm during a record-breaking crowdfunding campaign in 2015 which raised more than \$12 million in pre-orders in just six weeks.

There are now some 60,000 Flow Hives in use around the world, with the honey harvesting technology leading to an estimated 10 per cent increase in the number of amateur beekeepers in the United States alone.

Flow Hives in use a number of schools in Australia and abroad, with Coffs Harbour Christian Community School operating 16 Flow Hives as part of their beekeeping program. There's even a Flow Hive at Parliament House which was recently harvested for the first time.

It seems for new beekeepers in particular, Flow is an obvious choice and an excellent one for students because in every way, caring for the colony remains the same as with a conventional

hive. Flow, however, has the advantage of eliminating a lot of the heavy lifting, and the need for the space and expensive equipment associated with conventional extraction methods, making the harvesting process much more accessible.

Flow Hive technology works by providing European honeybee with a pre-fabricated, food-grade plastic honeycomb matrix which the bees complete, fill, and cap as they would regular honey cells that they would otherwise construct wholly themselves. Through viewing windows on the side and at the back of the hive, the beekeeper is able to easily see when the cells are capped and ready for harvest. Then a tool is inserted into the top of the Flow Frame, and turned, activating the mechanism at the heart of Flow technology. The honey cells crack, the hexagons form vertical channels and honey flows down into the honey trough at the bottom of the frame and out, into the jar.

The process is so smooth, the bees barely notice the harvest has occurred, a far cry from the conventional process which is extremely disruptive and often fatal for the bees and which tends to result in plenty of stings for the beekeeper.

For more information on Flow Hive, visit www.honeyflow.com.au

If you'd like to know more about Flow's Education bundles, please email info@honeyflow.com or call 02 88 800 774. More photos can be viewed [here](#).

Aaron Bertram, Media and PR, Honey Flow





Animal Welfare Update from Animals in Schools

The National Livestock Identification System (NLIS) was first introduced to Australia in 1999 and has now become commonplace for livestock producers. Although very occasionally I do visit a school that is not compliant with the NLIS, I find that most schools are compliant. This means that they

- have a Property Identification Code (PIC)
- tag their livestock
- log their livestock movements on the NLIS database
- complete either National Vendor Declarations (NVDs) or Travelling Stock Statements (TSSs) when they transport livestock.

So just when we thought changes to regulations were settling down some additional requirements have been introduced. The aim of these changes is to further improve the safety, integrity and traceability within our agricultural industries.

These changes relate to the Livestock Production Assurance (LPA) program. If you are an LPA accredited producer you will need to:

- familiarise yourself with the new biosecurity and animal welfare requirements
- when your accreditation is due, complete the assessment and pay the fee.

The biosecurity requirements involve having a biosecurity plan. We have been liaising with the NSW Department of Primary Industries to develop a template that will be suitable for schools. We hope to have the final version completed and available on the Animals in schools website by the end of the 2017 school year. This will save you developing your own from scratch. You can use the template and adapt it to your school situation.

While many of you may feel that you don't need to be accredited or are not accredited, what you may not know is that you are accredited. This accreditation is not compulsory but was triggered by acquiring an NVD book or completing an NVD. Some of you may have already received letters requesting the payment of \$60 (plus GST).

While you must be compliant with the NLIS, it is not compulsory to be LPA accredited. It may suit your situation to be accredited or you may wish to be accredited but at present there is no legislation requiring you to be accredited. Some buyers may not wish to receive stock from you if you are not accredited, therefore making it beneficial to be accredited, but the decision to be accredited or not is up to you.

You can determine whether you are already accredited by contacting the Helpline at 1800 683 113 or by visiting the LPA website at LPA Accreditation.

For further information about this or any other information about the use of animals in schools, visit the Animals in schools website or contact me.

Sally Bannerman, Animal Welfare Coordinator, e) sally.bannerman@det.nsw.edu.au

p) 02. 9244 5520



AgriFutures Horizon Scholarship

Do you know of any students with the potential to be our next generation of agricultural leaders? If so please pass on this unique scholarship opportunity – the Horizon Scholarship supports the next generation of agricultural leaders who will take up the challenge of farming for the future.

About

In partnership with industry sponsors, the Horizon Scholarship is an AgriFutures Australia initiative supporting undergraduates studying an agriculture-related degree at university by providing:

- a bursary of \$5000 per year for the duration of their degree
- professional development workshops
- annual industry work placements aligned with the scholar's areas of interest and their sponsor's industry
- opportunities to network and gain knowledge at a range of industry events

Eligibility

To be eligible for the Horizon Scholarship, students must be an Australian citizen or permanent resident enrolled in their first year of an agriculture-related degree at an Australian university with a maximum two-year gap between high school and tertiary study. Related degrees include:

- Agricultural Science
- Rural Science
- Livestock/Animal Science
- Veterinary Science
- Agribusiness

- Plant Science
- Agricultural Economics
- Resource Management
- Sustainability
- Food Security
- degrees in Science, Technology, Engineering or Maths (STEM) will also be considered where major studies and subject selections focus on agriculture

Scholarship recipients will be selected on the basis of their commitment to a career in agriculture, as well as their leadership potential and high school academic record.

Scholars will be required to attend the workshop (held in June or July) and complete two weeks of work placement each year of study. Reasonable costs associated with these activities are covered as part of the Scholarship.

How to Apply - Applications for the 2018 Horizon Scholarship open in January 2018. To apply for the Horizon Scholarship applicants must personally complete the online application form, which will be made live on the webpage in January.

Before beginning the application process, you must read the Horizon Scholarship terms and conditions. You are not required to sign this document as part of your application, but please note that by submitting an application, you agree to these terms.

Please email horizon@agrifutures.com.au for any scholarship queries. Any enquiries should be made personally by the applicant.

Following a review of all written applications, short-listed applicants will participate in a phone interview with representatives from AgriFutures Australia and Horizon Scholarship sponsors, after which the successful applicants will be selected. Successful Scholarship winners will be notified in May. [Applicants can apply here.](#)

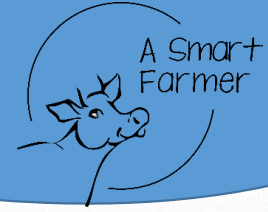
Contact: Debbie van der Rijt. Manager, Communications & Capacity Building

p) 02 6923 6917. e) horizon@agrifutures.com.au

4

Professional Development





School Biosecurity Workshop

A Smart Farmer would like to invite you to our School Biosecurity Workshop. The afternoon will go through the new LPA on-farm biosecurity plans.

Date: Thursday 15th February 2018

Time: 3:30pm for sign in, 4pm start

Where: "A Smart Farmer", 8 Burragorang Road Camden

Guest Speaker: Dr Lisa Goodchild, District Veterinarian Greater Sydney Local Land Services

Light afternoon tea will be provided, please bring a chair!

RSVP Essential: 10th January 2018. Places are limited to this workshop. A max. of two participants from each school.

Jess Micallef phone 0430 481 260 or email
info@asmartfarmer.com





Professional Learning
Research
Innovation

Agriculture After Dark

TWILIGHT SERIES LECTURE



Saxon Wright

CEO & Founder

Pablo & Rusty's Coffee Roasters

Thursday October 12th at 7:00pm

Rhodes Theatre, Barker College

91 Pacific Hwy, HORNSBY

Join us for the first ever 'Agriculture After Dark' Twilight Series Lecture. This first presentation will focus on 'Coffee', as we are joined by Saxon Wright, Founder of Pablo & Rusty's Coffee Roasters. Saxon has pioneered many initiatives that are now standards in the coffee industry. He has worked in the industry for over 20 years across the entire supply chain from farms and processing, roasting coffee and running cafés.

Saxon will speak to us about:

- His personal journey starting Pablo & Rusty's
- The **Agriculture** behind Coffee production
- The **Business** side of the coffee industry - (including issues around **Fairtrade**)
- **Sustainability** and **Research** on-farm and for the consumer
- **Tips** for the Coffee connoisseur and Home Barista
- Saxon will also provide a **coffee tasting** after the forum

Come and see the amazing new eco coffee cup made from coffee waste!

Only available to maximum of 200 guests, so please [RSVP your seat here](#) or via the website.

Dr Brad Merrick

Director of the Barker Institute

National Association of Agricultural Educators Conference



[The conference program and an active link to registration.](#)

The PTC NSW Professional Learning Committee met to consider the application for endorsement. The committee would like to thank NSW Association of Agriculture Teachers for the time and expertise dedicated to the preparation of this application. 2018 NAAE National Conference, 8-11 January 2018 has been

approved and will appear on the NSW Education Standards Authority (NESA) website. The attached document contains the statements and logos that must appear on all courses and promotional materials. Please ensure you look over these to ensure the correct standards, as per your application are listed.

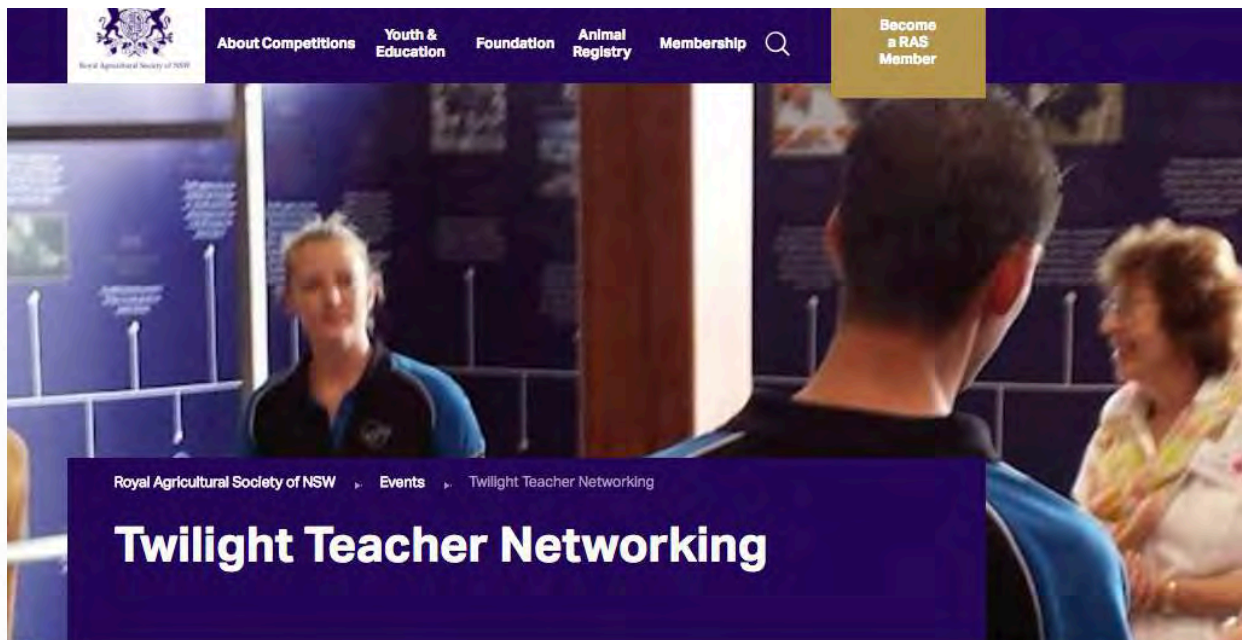
NB:

- (1) PTC NSW Professional Learning Committee would like to remind all applicants that courses cannot be advertised as endorsed with NESA, or are in any way connected with the NESA, until the association receives the approval notice from PTC NSW indicating that the course has been approved.
- (2) PTC NSW would also remind all applicants that the participation data for PD events must be submitted to PTC NSW within ten (10) working days of the completion date of the event.
- (3) Member associations are reminded to contact the PTC NSW if the assessment of submitted applications requires urgent attention.



NSW Association of Agriculture Teachers through the Professional Teachers' Council NSW- NSW Education Standards Authority (NESA) as the endorsed provider of QTC Registered professional development for the maintenance of accreditation at Proficient, Highly Accomplished, and Lead levels.

Completing the **2018 NAAE National Conference, 8-11 January 2018** will contribute **22 Hours and 45 Minutes** of NESA Registered PD addressing **6.2.2; 6.4.2; 6.3.2; 7.4.2** from the Australian Professional Standards for Teachers towards maintaining Proficient Teacher Accreditation in NSW.



The RAS of NSW Education team will be hosting an exclusive Twilight Teacher Networking evening at the 2018 Sydney Royal Easter Show.

Teachers engaging with the RAS Education Team will be invited to attend a networking evening and to participate in a discussion of agriculture and sustainability into the classroom.

For more information email us at education@rasnsw.com.au

Register
Your
Interest

When

Thursday March 29 2018

Where

Sydney Showground, Sydney
Olympic Park

Price

Invitation Only



FOOD AND FIBRE - THE ORIGINAL

STEM

PIEFA CONFERENCE 2018
REALM HOTEL, CANBERRA | 29 APRIL - 1 MAY

REGISTER
NOW AT
WWW.PIEFA.EDU.AU

5

Around the Schools

Do you have something to share from the school farm or from an excursion. Please email baateditor@nswaat.org.au



HSC Marking Melbourne Cup Day Hats

HSC Marking Bocce



Champion Bocce Player - Amanda Conley

HSC Marking - Prawn Lunch



Galston High School Vertical Gardens



One of the best things about Ag teachers is that they are always willing to share ideas.

Thanks to Ben Christopherson of Barker College for his design for an upcycled 'Vertical Veggies' garden, which we modified to suit our four Year 8 classes. Our farm hand joined the pallets together and attached wheels so that each side can be turned to face the sun.



Debbie Bunn (Agriculture and Science Teacher, Galston High School)

Farrer Memorial Agricultural High School

This year's 23rd Farrer Memorial Agricultural High School Ram Sale drew a good crowd both on site and online through Actions Plus. We had a full clearance result of 58 Rams, with the top priced ram sold for \$8,500 and a total average of \$2,341. Once again, the students ran the Helmsman Sale System, with representatives from Auctions Plus attending the sale to ensure smooth running of the online interface.

Buyers from across Australia attended the sale in person or online, resulting in rams being sold to Western Australia, Victoria, New South Wales and Queensland. This year saw a good number of both

FARRER SOLD TO FOUR STATES

returning and new clients, chasing low birth weight, high muscling and worm resistant sires with good meat eating qualities. 21 rams were sold to 17 registered White Suffolk Studs across Australia.

Farrer offered 58 rams for sale at its annual on property sale. Farrer sold to four states NSW, Queensland, Victoria and Western Australia.

The sale averaged \$2341 on sale day with a 100% clearance. Thanks to all the studs that purchased rams on the day and the under bidders.



Agent AWN John Croake with Janet & Tony Gall 'Wilson's Creek White Suffolks'

Students Joe Carlon & James Devine -
Farrer 160171 sold \$8500

(Photograph courtesy Mrs Niaomi Evans)

Perspective buyers viewing rams before the sale.





Students Brendan Kelly & James Devine with Rochell Walker from "Jusak White Suffolks WA" Farrer 1600146 \$5000 and Farrer 160167 \$6000



Simon & Eric Beer from "Neilrex" with students Tom Kable & Joe Carlton Farrer 160116 \$7000

Lot 1: 160067 \$6,800 "Oakleigh White Suffolks", Thallon QLD
 Lot 2: 160068 \$3,500 "Kyanga White Suffolks", Woorndoo VIC
 Lot 4: 160002 \$1,300 "Lambpro", Hollbrook NSW
 Lot 6: 160004 \$3,600 "Lambpro", Hollbrook NSW
 Lot 9: 160012 \$3,600 "Maryland White Suffolks", Wollun NSW
 Lot 12: 160026 \$6,100 "Gray Glen", Gooloogoog NSW
 Lot 13: 160037 \$2,000 "Kohat White Suffolks", Ongerup WA
 Lot 18: 160060 \$3,300 "Gray Glen", Gooloogoog NSW
 Lot 19: 160064 \$6,500 Yalsoc Poll Dorsets, Glen Innes &
 "Wymeanda White Suffolks", Uralla
 Lot 20: 160076 \$3,500 "Smithson White Suffolks" Glencoe NSW

Lot 21: 160077 \$5,700 "Coronga White Suffolks" Orange NSW & Lachlan Valley White Suffolks, Forbes NSW
 Lot 23: 160087 \$1,900 "Summit Park White Suffolks", Hamilton
 Lot 26: 160110 \$1,500 "Oakleigh White Suffolks", Thallon QLD
 Lot 28: 160113 \$1,400 "Ryefield White Suffolks" Armidale NSW
 Lot 29: 160116 \$7,000 "Lonsdale White Suffolks", Neilrex NSW
 Lot 32: 160125 \$5,500 "Wymeanda White Suffolks", Uralla NSW
 Lot 33: 160126 \$1,600 "Berkley White Suffolks", Rowan NSW
 Lot 34: 160130 \$4,300 "Glenfinnan White Suffolks", Young NSW
 Lot 38: 160146 \$5,000 "Jusak White Suffolks", Newdegate WA
 Lot 45: 160167 \$6,000 "Jusak White Suffolks", Newdegate WA
 Lot 47: 160171 \$8,500 "Wilsons Creek" Uralla NSW

At this year's sale, Farrer sold 21 rams to be used as stud rams to sixteen different studs across Australia. This is an outstanding achievement and there was considerable interest from studs across Australia and commercial buyers showing a big interest in obtaining a Farrer ram. Unfortunately, not everyone was a successful bidder on the day.

Commercial buyers were the undoubted winners on the day as over 85% of the Farrer White Suffolk Sale Rams on offer were in the top 10% on Lambplan's LEQ index. Most of these rams sold between \$700 and \$1600. This represents outstanding value for money for some of the highest performance White Suffolk rams on offer in Australia.

Top commercial clients were not to be out done for their selective purchases with Red Hill Herefords Corowa purchasing two rams for \$3600 and \$2200 and Wayne Reynolds "Providence Farms" Western Australia purchased Farrer 160161 for \$3100.

Special thanks to our repeat and new buyers: Fletchers International bid strongly and managed to take home 10 rams with a top price of \$1400 and with an average of \$920.

P.M & F.G Morse, Coolah purchased five Rams with a top price of \$1600 and the average of \$1500

Jon Matchett, Hermitdale purchased four Rams with a top price of \$1300 and the average of \$950

T. & L Smith, Euabalong purchased three rams with a top of \$1300 and the average of \$1300

P. & M Gamble, Tamworth purchased three Rams with a top price of \$1200 and the average of \$966

Alister Knight, Bendigo purchased three Rams with a top price of \$1600 and the average of \$1166

Finally, thanks to the Year 10 Wool Science students who have been actively involved in the direction and management of the stud. Their contributions include; DNA testing, sire selection, crutching, shearing the sheep including sale rams, vaccinating, drenching, lambing supervision and helping conduct the annual ram sale.

I thank the students for their commitment, effort and interest in striving to continually improve the Farrer White Suffolk sheep and stud.

Mr Darren Smith, White Suffolk Stud Manager

Chifley College, Bidwill Campus

Chifley College, Bidwill Campus places a great deal of emphasis on horticulture as part of its Agriculture program. We have a well-established nursery focusing on succulents and bromeliads and the production of cut flowers is an annual event leading up to Mother's Day. In addition, we have in the past, and in partnership with TAFE Outreach, offered Certificate II in Horticulture to selected students.

For the past two years students from the College have entered the Blacktown City Garden Competition. An entry can include up to 3 categories and this year we nominated for Best Education Facility - High School; Best School Edible Garden; and Best Sustainable Garden.

The awards night, held on Friday the 20th October at the Blacktown Civic Centre, celebrated 72 garden entries of all types and sizes from across the LGA. In 2016 we walked away with two first places and a second and this year Chifley College, Bidwill Campus took out first place in all three of its nominated categories.

The gardens created within the school go beyond the delivery of Agriculture and support

additional learning in Science and HSIE.

The gardens entered in the Best High School Facility included a rainforest conversion of a disused courtyard; a succulent garden developed to support the teaching of plant adaptations; and our frog habitat that supports the teaching of ecology.



Each garden presents different challenges and learning experiences for

the students. Students develop a knowledge of different plants and the growing conditions required. In addition, most of the gardens contain a construction element and the students experience different building techniques in order to achieve the desired outcome.



The rainforest was our newest project and was designed to be viewed from inside one of our main teaching blocks. The garden was started last November and is now almost a year old, allowing good growth before the competition. The other two gardens, established by our Horticulture students, are now a little over two years old and have matured into exceptional garden features.

The fruit and vegetable patch located at the schools farm took out the top award for Best School Edible garden (Primary or Secondary). Much of the success

of this garden is due to the work focused on soil improvement. We have run a large scale, green waste recycling program for the past nine years and produce up to five cubic metres of compost each year. This is also supplemented by the use and subsequent breakdown of tree mulch.

We are, perhaps, most proud of our success in the sustainability category.

This section is an open category and we were competing not only against other schools but with the wider public. Our efforts over the past few years in the recycling of green waste and the reuse of discarded objects has been recognised and rewarded.

Much of this success is due to the commitment and hard work of a diverse group of students. The Year 9 and 10 Agriculture classes have worked hard to maintain some of the gardens established during 2015 and 2016 and their work in creating the rainforest feature and in the growing of their vegetable garden has been commendable. In addition, a number of students volunteered their time to prune and tidy up the gardens as the competition time approached.



There efforts reinforce the fact that success in gardening is not just an instant makeover but a continual process of nurturing, refinement and trial and error. (A lot like teaching really!)

David Giblin (Agriculture Teacher, Chifley College, Bidwill Campus)



DPI in action at Schools

Shearing School trial at Glen Innes

The first shearing school trial was recently held at the Glen Innes Ag Station. The initiative is aimed at providing young people with opportunities and skills to help them stay in the bush and to promote shearing as a trade.

Guyra Central School students from years 9 and 10 participated in the trial and learned about animal husbandry, biosecurity, WH&S, wool and sheep handling and they also had a go at shearing.

The event was organised by Regional Development Australia Northern Inland (RDANI), NSW DPI, NTLLS, Tafe New England, Glen Innes Severn Council, Australian Wool Innovation (AWI) and Heinigers.

After this successful trial, there is now a plan to invite other school groups to attend Glen Innes Ag Station for the educational event, making it the most consistent and ongoing shearing school approach in northern NSW.

DPI purchases bull from Farrer Memorial Agricultural High School Angus Stud

Glen Innes Agricultural Research and Advisory Station (GIAR&AS) recently purchased an Angus bull from the Farrer Memorial Agricultural High School (FMAHS) 49th On-Property Angus Bull sale for \$10,750.00.

This purchase has helped boost and develop a strong relationship between The Department of Primary Industries (DPI) and FMAHS. The genetics of the FMAHS herd are improving as is the enthusiasm of students and staff.

It's an all hands on agricultural education at FMAHS and these bulls have been well handled by students from birth and display an excellent temperament which is an added bonus for livestock management at GIAR&AS.

This FMAHS bull has met the specifications required for the high muscling Angus line in the Angus Muscling Angus Selection Herd at GIAR&AS assessed by the DPI research team.

With a FMAHS bull now joining the GIAR&AS herd, the visiting FMAHS students will be able to identify some of their stud management success by the FMAHS bull's offspring produced within the GIAR&AS Herd. This will further enhance their experience in agriculture and expose their enquiring minds to agricultural research at a young age.

Tamworth Agricultural Institute (TAI) sits directly opposite FMAHS with only Calala Lane separating the two sites. The newly appointed principal Clint Gallagher and a number of TAI research scientists are developing a greater relationship with FMAHS.

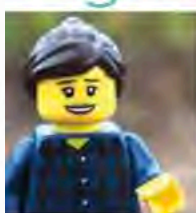
This interaction within the North West DPI is allowing an early look at research agriculture and capturing the minds of young bright “A” students in a hope their number one career path is in agriculture.

Michelle Fifield, Education Officer, NSW Department of Primary Industries



Primary industry careers **Agriculture teacher**

Agriculture teacher



How does your role support primary industries?

It's really important that people understand and appreciate agriculture so I try to get students enthusiastic about agriculture and then encourage them to choose agriculture as a subject later in school.



What skills are important?

Enthusiasm! If I am not enthusiastic about agriculture I can't expect my students to be.



What are the main tools of the trade?

The ag plot in the school is where we do a lot of our teaching. It is really important for me to have lots of up-to-date industry information that I can share with my students and answer their questions. We have a group of local farmers that are really supportive of the agricultural program we have here at the school.



Where do you live?

I live in town near the school. I love being able to walk to school each day.



What is your favourite part of your job?

When I have a group of students who really love agriculture and look forward to the work that we do and the projects that we run. We often take our school stud cattle or sheep to local shows and it is great to see the pride the students have in their animals.



What training have you had?

I did a Diploma of Agriculture at a vocational college when I left school and then studied teaching. My cousins lived on a farm when I was growing up and I used to visit them a lot, which is how I first got interested in agriculture.



Where do you see yourself in 10 years?

Teaching agriculture. I would love to see our school ag plot expand and have more students involved.



Department of
Primary Industries

schools.program@dpi.nsw.gov.au
www.dpi.nsw.gov.au



Wee Waa High School - Ag Open Day

On Friday September 15th the Wee Waa High School Show team ran a Parader's Competition and Open day. This is the 2nd annual open day and this year a Parader's Competition was added to the schedule. Show team members, especially our juniors missed the opportunity to exhibit at Wee Waa Show due to wet weather so it was a great informal day to get some ring experience. Mr Jeff Holcombe of Rayleigh Herefords kindly came in for the morning to judge the paraders events. Mr Bob Hogland, of Myona Charolais Coonamble assisted by presenting the students with their ribbons.



Winners of the heats were –

Bella Cruickshank, Jordyn Hayne, Emily Shearin, Caitlyn Galagher and Ally Stanfield.

It was great to see everyone- senior and junior members compete against each other in the heats (heats were drawn out of a hat, as were the animals they were leading) and it was great to see the judge swap the animals around in each heat, giving the students more experience and confidence in parading cattle.

The final saw some very experienced senior members of the team compete against each other and some junior members of the team, in a very tight final. The Champion Parader of the day went to Emily Shearin. Congratulations Emily!

Emily is the team captain for 2017 and is always willing to share her experience and knowledge with younger members. It is very rewarding and most deserving to see her achieve this first inaugural Wee Waa High School Paraders champion ribbon!



The Paraders competition was followed by a BBQ for sponsors and parents. It was great to see so many supporters of Wee Waa High school Agriculture turn up on the day and



share a delicious steak sandwich with the team.

The primary schools- Wee Waa Public school and St Josephs Wee Waa years 5 and 6 classes turned up at 1pm. Over 70 students were split into teams of 4 and divided between the two activities for the afternoon. The show team students ran the afternoon and it was a huge success. Half the group set off on a treasure hunt- where they had to scout around the

school farm and find the answers to 24 questions including – How many isa browns are in the chicken flock?, Who owns the fleece in the shed? (the alpaca) what breeds are the show steers? How much does a 20kg bag of feed weigh? Name these seeds – eg wheat, chickpea, canola. The other half set off on the Farmers Challenge where they were timed to complete a course of farming related skills. This included picking up and stacking a hay bale,



picking up a pile of balls with a shovel, running a strand in an electric fence, mouthing a sheep and then running back to the start pushing a teammate in the wheelbarrow. Congratulations to the team Joeys Boys who won the challenge with a time of 3.03 minutes. The primary schools report they thoroughly enjoyed the afternoon experiencing agriculture at Wee Waa high School.



Verity Gett (Agriculture Teacher, Wee Waa High School)

Wee Waa High School - Scone Beef Bonanza

Wee Waa High School Show Team prepared and entered 6 steers for the Upper Hunter Beef Bonanza this year. Thank you to Anna and Steve Madden and Carmel and Richard Schwager for the donation of Barney the little Murray grey cross we adored and Bear a black Angus calf who amazingly got to minimum weight of 358 kgs to qualify in the light weight section. We got particular comment from the judges on how well presented our steers were in the ring, a testament to the hard work and



effort of the past 100 plus days! These six steers were all solely broken in and handled by Mrs Gett, the show team and Agriculture students this year.



We were thrilled to be awarded a highly commended ribbon for Smokey our Charolais Angus cross steer purchased from Myona Charolais, in the heavy middleweight section. -a huge achievement with over 440 led steers entered . We were thrilled to receive some ribbons on the hook as well! A third place on the hook for Barney in the lightweight class 3, and Bear placed 5th in the lightweight class 1. We are pleased with the exceptional scores all 6 steers received on the hook and are further

encouraged we must be getting it right in terms of feeding!

Ally Stanfield and Bryony Allen placed in their respective paraders heats with the rest of the team performing admirably all weekend. It was a fantastic ending to another great year with the Wee Waa High Show team. There were over 1000 students entered, camping at white park scone was certainly an experience with the severe thunderstorm on Thursday evening!





Bella Cruickshank leading Smokey, the Angus Charolais cross to a Highly Commended placing in the heavy Middle Weight section at Upper hunter Beef bonanza last weekend.

Verity Gett (Agriculture Teacher, Wee Waa High School)



Review of Gourmet Mushroom Cultivation Workshop: Milkwood Permaculture

Ever since attending the Term 4, 2016 network meeting at Elderslie High School, I have been intrigued by the processes involved in growing gourmet mushrooms. Over the last summer holidays I was able to successfully experiment with growing mushrooms. My experimentation went well but I felt I needed to learn more about the mushroom cultivation process before I would feel competent enough to deliver and transfer my knowledge to students. The staff at Elderslie High called on their experience and recommended that I do the Milkwood Permaculture Course.

I procrastinated for quite some time but I finally enrolled this November in a weekend Milkwood Permaculture Gourmet Mushroom Cultivation Workshop which was held in Sydney. Like any teacher at this time of the year I have been juggling marking, reports, burnout and students who feel as tired as I do. Enrolling in the mushroom course sounded good when I enrolled, but heading into Sydney on a Saturday morning trying to be ready for an 8:45 start was very challenging..



The course was held at a great venue in Redfern, complete with a rooftop garden made up of a food forest with an aquaponics system, herbs, vegetables and fruit trees. I would have been just as happy sitting in the garden for the day as anything else. The rooftop area was such a wonderful setting that I only was reminded I was in the city by the blaring of a siren. The amazing venue was partially created by Milkwood

Permaculture's Nick and his partner Kirsten. The

garden was created via government funding, crowd funding and private donations. It is a credit to everyone involved.

Nick Ritar, one of the directors of Milkwood, was the course presenter and he was assisted another Milkwood staff member, Heather. The workshop was attended by 25 people who had travelled from Brisbane, Canberra, Jindabyne and Sydney. Half of the attendees were at the workshop hoping to learn how to grow mushrooms so that they

could start their own business. Others simply had an interest in the area, while some, like me, were there to improve their knowledge base to aid in the education of students doing Agriculture. The workshop participants were a mixture of ages and the gender breakdown was almost identical. I made the observation that permaculture was no longer attracting only the so-called 'alternative types' as it had in years gone by. Today people are interested in what they eat and how it is grown.

The course I attended is held 5 to 6 times a year. Over 500 people have been taught about cultivating gourmet mushrooms and the art form connected to it. The course outline broke down the workshop into 1.5 hour segments. Unlike many courses and even, I must say, staff development days, the workshop kept strictly to time without at any time feeling forced. The fact that I took seventeen pages of notes is testament to the amount and quality of the information provided during the workshop. Added to this the presenter sent a copy of all the resources used to the participants via email.

It was enthralling to investigate the science behind the growing of mushrooms and the detailed information given on the various methods of growing and cultivating home mushrooms was particularly interesting. It was great to hear Nick discuss the cost cutting methods that can be used in production as well as outlining the standard method.

The second day included presentations of various case studies given by past students who had been through the Milkwood Workshops. Many of these were inspiring and it was pleasing to see how small scale production can, in the future, lead to large scale production.

The course included a degree of hands on activities that enabled participants to put into practise their acquired knowledge. Some of these hands on activities included pasturising bulk substrate using straw, gypsum, hydrated lime and hot water. Inoculating a log with spawn and preparing and inoculating agar. The presenters were approachable at all times



and often tailored his delivery to each participant depending on that person's individual needs and interests.



The venue provided an accessible location with numerous local cafes and eateries available during the lunch break. Tea and coffee was provided throughout the workshop and fresh organic fruit was also on offer during morning and afternoon tea.

We were all given a ready to grow mushroom bag, plates of already spawned agar of different varieties of mushrooms and useful tools to take away.

I walked away from the weekend feeling inspired and full of information. Within 48 hours I received an email with copies of all the presentations, links to suppliers and resources. Did I feel that the course had met my needs? Did I feel better informed and confident in the area? The answer to these questions is without doubt a resounding yes. A couple of days later the complimentary Oyster mushroom bag I was given was fruiting and I have excited students in my classes.

I highly recommend this course and any other course presented by Milkwood Permaculture. The Milkwood Workshop was excellent. I am logging this as Teacher Identified Professional Development.

Sky Van den Berge (Agriculture Teacher, Marian College, Kenthurst)



In the News - Upper Hunter Beef Bonanza

White Park at Scone awash with school students and beef cattle at the annual Upper Hunter Beef Bonanza

Vernon Graham - Acting livestock editor The Land



Students from 82 schools gather on the main judging area at the Upper Hunter Beef Bonanza for a group photograph on Sunday morning. The popularity of the event keeps growing.

Scone's White Park - normally a venue for horse events - was packed last weekend with school students and their cattle from across NSW there to compete in the Upper Hunter Beef Bonanza.

The Beef Bonanza, now in its 12th year, has grown into something of a phenomenon on the annual cattle show calendar.

It's a place where beef breeders and school students meet for competition, interaction and education with a bit of organised chaos thrown in.

While White Park may not be the flashiest livestock event venue in the state, it has the room for students to camp near where their cattle are housed and paraded.

This year's three-day event attracted 840 students from 82 secondary and primary schools with 430 prime young cattle sent to slaughter at JBS Australia's Scone plant to complete the hoof and hook competitions. The show also attracted 48 stud heifers.

President of the Upper Hunter Beef Bonanza, Doug Robertson, "Turanville", Scone, said the show had been growing strongly and this year entries had increased again across the board.

"All in all, it's been a really great success for all those involved," he said.

A highlight of this year's show happened on Saturday night at Scone saleyards' undercover selling arena which was packed with about 900 people for the announcement of the winners of the Beef Bonanza prime unled classes and supreme champion exhibit from the led and unled competitions (won by the champion led steer exhibited by St Johns College, Dubbo).

The evening was compered by leading local stock agent, Jim MacCallum, and featured some educational and, at times, amusing crowd participation.

Before the start many audience members - dominated by students - formed themselves into 125 teams of four and were given judging sheets.

Prior to the announcement of some of the five prime steer/heifer unled classes (judged by Ben Davies, Thomas Foods International) four entries from several classes were run into the selling arena and the teams were invited to do their own judging.

Audience members, including some teachers, were then chosen, on a show of hands, to explain their judging decisions to the crowd.

Mr Davies then discussed the attributes of each animal and announced his winners.

The Beef Bonanza kicked off last Friday with the School Steer Challenge. This competition provides an easy entry point for schools and students with little experience to get involved and learn valuable cattle skills.



HEAVYWEIGHT WINNER: Judge, Ben Davies, Don Riley, Tamworth, owner of the sire, Kathy De Jong, Calrossy, and Robert Gill, Alexander Downs, with Calrossy's champion heavyweight led steer paraded by Megan Sels, Dunedoo.

Tamworth's Calrossy Anglican School took the supreme carcass award at this year's Upper Hunter Beef Bonanza in a fiercely contested event.

The Calrossy team took home the MacCallum Inglis Supreme Champion Carcass trophy and \$2500 with their 580kg liveweight Charolais-Angus cross steer, "Bear", bred by A.J. and M. Scrivener, Yarrowitch.

He took the heavyweight division with 96.3 points out of a possible 100 which was enough to give him the supreme title.

Reserve heavyweight champion was a 594kg Angus steer exhibited by Coolah Central School which scored 93.13 points.

The champion lightweight carcase award went to a 423kg Limousin heifer exhibited by Wayne Davis, East Kurrajong, which scored 92.45 points. Second was a 409kg Angus steer from St Joseph's High School, Aberdeen.

St Gregory's College, Campbelltown, took the champion light middleweight award with a 468kg Limousin steer which scored 89.02 points, trumping a 490kg Limousin steer entered by Coonamble High School which scored 88.20 points.

The heavy middleweight trophy was won by Pymble Ladies College, Sydney, with a 522kg Angus steer which scored 95.78 points (the second highest in the competition).

A 536kg Shorthorn cross steer from St Joseph's High School was second with 93.92 points.

The champion unled carcase award was picked up by a Belltrees Public School with a 598kg liveweight Angus steer which just shaded a 505kg Limousin steer exhibited by St John's College, Dubbo.

Tuggerah Lakes Secondary College exhibited the School Steer Challenge champion carcase with a 536kg Angus steer.

Upper Hunter Beef Bonanza president, Doug Robertson, said the 34 Waverley Station Angus steers provide to participating schools in the School Steer Challenge (which involves led steer judging and parading on the first day of the event) were selected for their evenness but had performed remarkably well in the open carcase competition.

Among successes were reserve champion heavyweight carcase (Coolah Central) and champion unled carcase (Belltrees Public School).

Calrossy's head of agriculture, Brony Nielsen, warmly congratulated the organisers of the event.

"None of this would be possible without the tireless work and amazing organisation by Doug Robertson, Charles Mill and the rest of the Beef Bonanza committee.

"The popularity of this unique three-day show is testament to their awesome organisation and the educational opportunities they provide for cattle and ag students all over the state," she said.

A total 462 prime cattle were slaughtered at JBS Australia's Scone plant and Kuri Meats.

Charles Mill, one of the main organisers of the carcase competition, praised the quality of the carcasses in this year's competition, saying there had been minimal dark cutters and only four per cent of animals had a pH level of greater than 5.7.

He thanked event partner, Waverley Station, and major sponsors, Alexander Downs and MacCallum Inglis.

"Competitors must be congratulated on the quality of carcasses produced for this year's competition with some outstanding bodies and excellent results.

"We would like to thank JBS, Coles and Alexander Downs for the purchase of the carcasses and their support of the Beef Bonanza."

<http://www.theland.com.au/story/5023769/bonanza-weekend-in-scone/?cs=4933>
<http://www.theland.com.au/story/5040110/calrossys-supreme-carcase/>

In the News - UNE National Ag Day

The Armidale Express

NOVEMBER 30 2017 - 11:59AM

Clinic focuses on breeding and feeding



Low stress: Charlie Mill helped design the workshops and taught students about low stress stock handling techniques. The session was just one of many for the day. Photos: Courtesy of UNE

Feed them right and breed them right was the emphasis of the University of New England's Cattle Clinic held as part of National Agriculture Day celebrations last week.



Eat right: UNE meat scientist Dr Peter McGilchrist discussed meat judging and technology with the participants and held a master chef session.

About 170 students from 20 schools across northern NSW took part in the event, with participants travelling from as far away as Wee Waa, Lismore and Port Macquarie.

UNE's outreach and engagement officer for the Agriculture, Science, Business and Law faculties Sally Strelitz said she had wanted to create an event like this for school

<http://www.armidaleexpress.com.au/story/5091748/clinic-focuses-on-breeding-and-feeding/>

students involved in hoof and hook competitions and National Agriculture Day seemed like a great opportunity.



Good crowd: About 170 students from 20 schools across northern NSW took part in the University of New England's Cattle Clinic held as part of National Ag Day.

The day was designed so high school students and teachers could learn more about cattle nutrition, pasture and soil health, genetics and recording information, animal health and welfare, and meat judging and tasting.

Mrs Strelitz said the workshops were put together in collaboration with former Quirindi local and UNE meat scientist Dr Peter McGilchrist, Charlie Mill (Upper Hunter Beef Bonanza) and Briony Looker.

"We got our heads together and came up with a program that would be interesting and engaging for the students," she said.

"We had a live bull in the lecture theatre for the session on recording information so the kids could see how it was scanned."

Other presenters included: Olivia Twaddle (Guyra Milling); Georgie Oakes (Local Land Services); Dr Sam Clark and Dr Matt Woolcott focused on genetic selection and recording information; and Mr Mill and Ms Looker covered low stress stock handling.

In the News - Yanco Agricultural High School

10/12/2017

Drones taking agricultural education to new heights — EducationHQ Australia

Drones taking agricultural education to new heights



By [Chelsea Channing](#)

Published November 3, 2017

Is it a bird? Is it a crop dusting plane? No, there's another flying object that's been hovering above the paddocks of Yanco Agricultural High School lately.



Students have been taking farming into the future, employing the use of a drone to survey paddocks and generate maps, helping them to spot problems with crops and livestock.

Stuart McVittie, who teaches agriculture at the school, saw an opportunity when the school purchased a shiny new DJI Phantom3 Advanced drone this year.

While the drone was initially intended for producing audio-visual material around the school, McVittie was keen to see what else it could do.

Scouting around for apps online, McVittie found DroneDeploy, a software platform for drone mapping.

“We can do elevation maps, so we can find the high and low spots in the paddock, and that could be associated with water issues in the paddock,” McVittie says.

And primary industries students have benefitted from a bird’s-eye view of their livestock, using the footage gathered to map cattle movement and behaviour patterns.

“We can even look at ... how a paddock has responded with the application of chemicals and whether plants are healthy on one side of the paddock, compared to the other, when they’ve changed tanks over or something like that,” McVittie says.

The students, many of whom have not flown a drone before, have been learning a range of new skills.

“They also get to learn how to use applications and set an application so that the drone will fly where it’s supposed to,” McVittie says.

“They look at processing software to get the right images, uploading them and things like that.

“[They’re] also looking at plant health, soil issues, being able to analyse maps ... and then, from the maps, determining if there’s a problem and then finding a solution to that.”

The educator has recently added a Sentera Normalised Difference Vegetation Index (NDVI) camera to the drone for further use.

As opposed to an RGB camera, which comes standard with most drones, an NDVI camera can return accurate results regardless of weather conditions and levels of sunlight.

It also helps students gain a unique insight into their crops.

“Essentially what happens is ... a healthy plant will absorb lots of visible light, and reflect lots of near infrared light,” McVittie says.

“And then if the plant is stressed or unhealthy, or dead, it will reflect visible light, but absorb infrared light.

“And what happens is ... if the plant is really sick but still alive, it might be a yellow colour on the map. If it’s picked up bare ground or a dead plant, it’ll be red, and then if it’s a really healthy plant it’ll be dark green.”

McVittie is excited about the effect the drone work is having on his students’ learning, but also potentially, on their livelihoods.

“At the end of the day, we want students out in the paddocks learning the skills, so that when they go home to their own farms, they’re able to say, ‘mum, dad’ ... ‘we did this at school today, this is really cool, we should be looking at doing this on our own farm’,”.

“And hopefully that improves the way that they farm, or helps them save money ... or look at their crops from a different perspective and be able to be successful farmers for the future.”

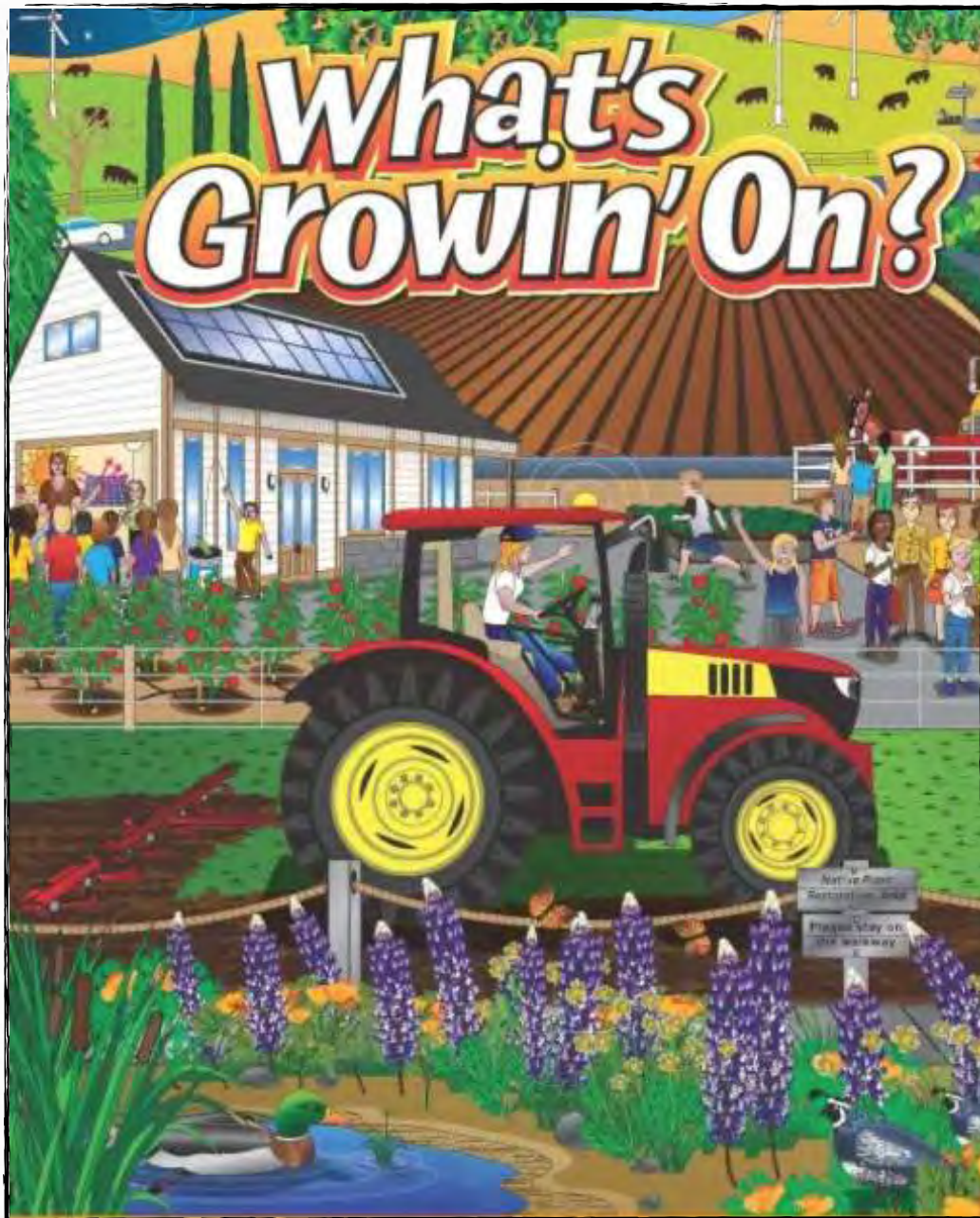
This story appeared in the December 2017 edition of *Australian Teacher Magazine*.



6

What's On?

Do you know of an upcoming Ag event. Please email details to baateditor@nswaat.org.au





There's less than 120 days until the 2018 Sydney Royal Easter Show

To help teachers prepare for a School's Program Excursion we have put together the Sydney Royal Easter Show School **Pre-Excursion Planner** – including excursion details, session descriptions, student note templates and risk assessments.

Tickets are on sale 7 February 2018 - at only \$16.50 per student, it is a huge excursion for a fraction of the cost!

Primary School Preview Day

Your exclusive invitation to attend the Show with your students before the general public. An action-packed excursion with engaging and educational agri-focused workshops. for only \$15 per student! Visit our [website](#) for more information.

**22
Mar**

Primary School Preview Day

An exclusive invitation for students to attend the Show before the general public.

[Buy tickets](#)

23 Mar - 3 Apr

School Program

Select dates: 23, 26 - 29 March and 3 April 2018. Plan your excursion to visit the Show.

[View Planner](#)

**27
Mar**

Junior Young Farmer Challenge

Students battle it out in a time trial of agricultural challenge to be named Champion Team.

[Register your interest](#)

**29
Mar**

Twilight Teacher Networking Evening

Teachers are invited to join the RAS Education team at the Show.

[Find out more](#)

South Coast Beef

Champion Steer

Champion Carcase

School Steer Spectacular

Steer Judging Competitions

Champion School

Calf Rearing Competition

Parader Competitions

Information & Demonstration Sessions

A hoof and hook competition for
secondary schools will be held at
Nowra Showgrounds, 10-11 April 2018.

Great learning, great fun.

Register your interest now:

Contact Rob Stafford on 0467 767 375 or
execofficer@southcoastbeef.asn.au





Rotary Club of Narromine Inc



Rotary Youth in Cotton(RYCOTT) 2018.

Following on the successful RYCOTT Camp of 2013, our club has decided to maintain its projects by continuing a camp for **year 9 to 12 agriculture students**, specifically designed for the cotton industry. This will be a live-in, three day camp, based at Narromine Showground from **1st May to 4th May, 2018**. The camp will provide the students with a broad overview of the cotton industry, as a stepping stone to entering the industry. Visits to cotton farms, cotton gins, machinery retailers where professionals will explain their operations. Insurance brokers, financiers, agronomists etc will provide the students with an outline of what is required to grow a cotton crop. Numbers are limited to **16 students** and the cost is **\$140 per student**. Rotarians will be in attendance 24/7 and all meals will be made in the Rotary Food Van. Games and entertainment will occur in the evenings. A cadetship is available.



2014 Testimonials

Amazing! A whole new field of agriculture.....Dave

I had no idea how cotton was ginned. Thanks Rotary.....Joe

We see this camp as a wonderful opportunity for agriculture students to broaden their agriculture horizons. Nomination forms are available from the co-ordinator of RYCOTT 2017. **Geoff Smith Ph 6889 5447** gsmi2709@bigpond.net.au



Show Dates



Date	Show	Show	Show	Show
January 2018				
13th - 14th January	Bowral Show			
13th January	Pambula Show			
20th to 21st January	Albion Park Show			
21st January	Candelo Show			
26th - 28th January	Bundarra Show & Rodeo			
26th - 27th January	Kiama Show			
27th - 28th January	Eurobodalla Show			
28th January	Bungendore Show			
February 2018				
2nd - 3rd February	Berry Show			
3rd February	Nimmitabel Show	Rydal Show	Uralla Show	
9th - 11th February	Glen Innes Show	Tenterfield Show		
9th - 10th February	Nowra Show			
10th February	Henty Show			
10th - 11th February	Oberon Show	Morisset-Lake Macquarie Show	Cobargo Show	Crookwell Show
16th - 18th February	Bega Show	Maitland Show		
16th - 17th February	Gulgong Show	Guyra Show	Gundagai Show	Guyra Show
	Kangaroo Valley Show			
17th - 18th February	Ashford Show	Luddenham Show		
18th February	Gunning Show			
23rd - 25th February	Canberra Royal Show	Inverell Show		
23rd - 24th February	Cessnock Show	Rylstone-Kandos Show		
24th February	Binnaway Show	Comboyne Show		
25th February	Sofala Show			

Date	Show	Show	Show	Show
March 2018				
2nd - 3rd March	Armidale & New England Show	Boorowa Show	Robertson Show	Deniliquin Show
	Coonabarabran Show	Milton Show		
2nd - 4th March	Barraba PA & Assn Inc.	Mudgee Show	Newcastle Show	
3rd March	Blayney Show	Braidwood Show	Delegate Show	Tumut Show
	Wallamba Show			
3rd - 4th February	Goulburn Show			
4th March	Koorawatha Show	Dalgety Show	Tarago Show	
9th - 10th March	Moss Vale Show	Cooba Show	Dunedoo Show	Gresford Show
	Walcha Show			
9th - 11th March	Wingham Show			
10th - 11th March	Castle Hill Show	Taralga Show		
10th March	Baradine Show	Cumnock Show	Wakool Show	
11th March	Adelong Show	Bemboka Show		
16th - 17th March	Upper Hunter Show	Gloucester Show	Lithgow Show	Camden Show
17th March	Bombala Show	Tumbarumba Show		
17th - 18th March	Mendooran Show	Yass Show		
23rd March - 3rd April	Sydney Royal Easter Show			
24th March	Batlow Show	Jingellic Show		
April 2017				
2nd April	Jerrawa Show			
6th - 7th April	Stroud Show	Wauchope Show		
7th - 8th April	Blacktown City Show			
10th - 11th April	Kempsey Show			
13th - 14th April	Bonalbo Show	Macksville Show		
13th - 15th April	Bathurst Royal Show	Gunnedah Show		
14th - 15th April	Central Coast Regional Show (Gosford)			
15th April	Woodenbong Show			

Date	Show	Show	Show	Show
17th - 18th April	Maclean Show			
20th - 22nd April	Hawkesbury Show			
20th - 21st April	Gilgandra Show	Grafton Show		
27th - 28th April	Coffs Harbour Show			
28th April	Bourke Show			
28th - 29th April	Orange Show			
May 2018				
1st May	Yeoval Show			
4th - 5th May	Cobar Show			
4th - 6th May	Narrabri Show			
5th - 6th May	Bellingen Show			
5th May	Wellington Show			
6th - 7th May	Nyngan Show			
10th - 12th May	Warialda Show			
11th - 13th May	Dubbo Show			
12th - 13th May	Walgett Show			
15th - 16th May	Coonamble Show			
18th - 20th May	Wee Waa Show			
19th - 20th May	St Ives Show			
19th May	Gulargambone Show			
26th - 27th May	Bingara Show			
26th May	Warren Show			

7 Members of NSWAAAT

Financial to end of	First Name	Surname	Location
2017	Andrew	ABERCROMBIE	Hunter River High School
2019	Bryon	ADAMSON	Corowa High School
2017	Melinda	ADDERLEY	Granville Boys High School
2017	Asifo	AJUJAH	Picton High School
2017	Danielle	ALEXANDER	Xavier College, Llandilo
2017	Lauren	AMOR	St John's College
2018	Philip	ARMOUR	Yass High School
2017	Robbie	ASHHURST	James Ruse Agricultural High School
2017	Catherine	ATKINS	Northmead CAPA High School
2017	Megan	ATKINSON	Elderslie High School
2018	Sunrae	BAILLIE	Great Lakes College, Forster Campus
2018	Annie	BALDWIN	Singleton High School
2017	Dianna	BEALE	Tumut High School
2017	Romy	BENNETT	St Paul's College
2018	Tim	BINET	Barker College
2018	Carol	BLACKWOOD	James Sheahan Catholic High School
2017	Erin	BLAKE	Hurlstone Agricultural High School
2017	(William) David	BLOWES	Molong Central School
2017	Craig	BOURNE	Singleton High School
2017	Ben	BOWMAN	Peel High School
2017	Graham	BRAMLEY	St Paul's College
2017	Cathy	BREENE	Oakhill College
2017	Alison	BRIGGS	Cotton Australia
2017	Deborah	BUNN	Galston High School
2017	Lynda	BUTTSWORTH	Jamison High School
2018	Jennifer	CAINES	Mount Annan Christian College

Financial to end of	First Name	Surname	Location
2018	Samara	CALLAGHAN	Tomaree High School
2018	Brianna	CALLUM	Barker College
2017	Paul	CANNINGS	Pittwater High School
2018	Erin	CARTER	Rutherford Technology High School
2017	James	CAUGHEY	Hay War Memorial High School
2017	Dale	CHADWICK	Gundagai High School
2018	Carl	CHIRGWIN	Griffith High School
2018	Ben	CHRISTOFERSON	Barker College
2018	Geoffrey	CLERKE	Caroline Chisholm College
2018	Clint	COLE	Casual Teacher
2017	Stephanie	COLGAN	Dubbo College Senior Campus
2017	Louise	COLLINS	Uralla Central School
2017	Luke	COLLINS	Yanco Agricultural High School
2019	Nikia	COLLINS	Parkes High School
2018	Angela	COLLIVER	Angela Colliver Consulting Services
2018	Justin	CONNORS	Manilla Central School
2017	Ben	COOMBES	Peel High School
2017	Elena	DAGHER	Bossley Park High School
2017	Eric	DATE	Crestwood High School
2018	Erika	DAYAGANON	Hurlstone Agricultural High School
2017	Donna	DEAN	Vincentia High School
2018	Ewan	DENNIS-SMITHER	Oakhill College
2017	Kathy	DOMAN	Kyogle High School
2017	Alice	DORMAN	Trangie Central School
2017	Christine	DUVER	Woolgoolga High School
2018	Nicole	DWYER	Gunnedah High School
2017	Susan	EARL	Red Bend Catholic College
2017	Anne	EARNEY	Condobolin High School
2018	Sarah	EYB	James Sheahan Catholic High School
2017	Guy	FAHEY	Albury High School
2018	Briony	FATTORE	Colleambally Central School

Financial to end of	First Name	Surname	Location
2017	Michelle	FIFIELD	NSW Department of Primary Industries
2017	Rob	FORSBERG	St Joseph's College
2017	Sarah	FOSTER	Dubbo Senior College Campus
2018	Ann	FRIZELL	Barham High School
2018	Alison	GATES	Barker College
2017	Teacher of Agriculture	GETT, Verity	Wee Waa High School
2017	David	GIBLIN	Chifley College, Bidwill Campus
2018	Scott	GRAHAM	Barker College
2017	Amy	GREENWOOD	Henry Kendall High School
2018	Lara	GRIFFIN	Pittwater High School
2017	Susan	GROTH	Galston High School
2017	Belinda	HAIGH	Dubbo School of Distance Education
2017	Leonie	HARRIS	Frensham
2017	Adrian	HARRISON	St Gregory's College
2019	Teacher of Agriculture	HAWKINS, John	Wingham High School
2019	Colin	HAWTHORN	Red Bend Catholic College
2018	Stuart	HEMMINGS	dotEdu Consulting
2017	Tanya	HENRY	Irrawang High School
2017	Teacher of Agriculture	HERWIG Kate	Lisarow High School
2018	Briony	HODGES	Nepean CAPA High School
2017	Michael	HOLLAND	Scone Grammar School
2018	Janet	HOLMES	Mulwaree High School
2017	Teacher of Agriculture	HORLEY, Ken	Yeoval Central School
2018	Kristina	HOTSON	Camden High School
2019	Peter	HUMPHRIES	Deniliquin High School
2017	Jane	HUNTER	Camden High School
2017	Maqsood	IQBAL	St Johns Park High School
2017	Tara-Jane	IRELAND	Lake Cargelligo Central School
2017	Rachel	JACKSON	Ungarie Central School
2018	Charlie	JAMES	Singleton High School

Financial to end of	First Name	Surname	Location
2017	Tara	JANE	CSU Student
2018	Samantha	JARRETT	Mount View High School
2017	Claire	JOHNSON	CSU Student
2017	Jacquie	JOHNSON	North Coast TAFE, Maclean
2018	Jarrod	KELLY	Denison College - Kelso High Campus
2017	Paul	KENDAL	Lisarow High School
2017	John	KILLEEN	Bossley Park High School
2017	Adela	KING	Gawler and District College
2017	Ilka	KLEPPER	Cootamundra High School
2018	Mykel	KOLLER	Nagle College
2017	Teacher of Agriculture	LAIDLAW, John	Mudgee High School
2018	John	LEHMAN	Yolla District High School
2018	Stephan	LEHMAN	South Grafton High School
2017	Veronica	LONGRIDGE	Chifley College - Dunheved Campus
2017	Steve	MAGINNITY	Alstonville High School
2018	Hayley	MAHONEY	Chevalier College
2018	Teacher of Agriculture	MARITA, Sofia	Kingswood High School
2017	Melissa	MARSHALL	Moruya High School
2017	Diana	MARTIN	Murwillumbah High School
2017	Clare	MATHIASON	RuralBiz Training
2018	James	McDONALD	Yass High School
2017	Alison	McGEARY	Evans River K-12 School
2017	Michael	McGUIGGAN	St Gregory's College
2017	Jo	McHUGH	McCarthy Catholic College
2017	Jacqueline	McINTOSH	Crookwell High School
2017	Leigh	McLEAN	Portland Central School
2017	Simone	McNEILL	Moss Vale High School
2017	Mick	MELINO	St Johns College
2017	Luciano	MESITI	Colo High School
2017	Beth	MIDDLETON	Richmond High School

Financial to end of	First Name	Surname	Location
2017	Christina	MIKAN	St Ignatius' College, Riverview
2017	Heidi	MITCHELL	Tamworth High School
2017	Amanda	MOORE	McCarthy Catholic College
2018	Katrina	MORAN	Oakhill College
2017	Sarah	MOSLEY	RuralBiz Training
2018	David	MULLER	St John Evangelist Catholic High School
2018	Simone	NEVILLE	Tuggerah Lakes Sec College - Berkeley Vale
2017	Eugenia	O'BRIEN	University of Sydney
2017	Erin	O'NEILL	Lake Cargelligo Central School
2017	Lucy	OSSINGTON	Quakers Hill High School
2018	Kylie	PARKER	Canowindra High School
2017	Evan	PAUL	Hawkesbury High School
2017	Trish	PEARCE	Trinity Anglican College
2017	Casey	PERKINS	WSU Student
2017	Justine	PHILLIPS	Xavier College, Llandilo
2017	Kirsty	PIONTEK	Jindabyne Central School
2018	Lucy	PITKIN	Barker College
2017	Kathleen	PLATTS	Bega High School
2017	Georgina	PRICE	Parkes High School
2018	Ellie	QUINN	Yanco Agricultural High School
2017	Graham	QUINTAL	Retired
2017	David	RANDALL	Retired
2017	Melissa	READY	Menai High School
2017	Elizabeth	RUIS	Windsor High School
2017	Peter	RYAN	Nowra High School
2017	Dani	SAXON	Cranebrook High School
2017	Natasha	SHANKELTON	Tullamore Central School
2018	Adam	SHARP	Bass High School

Financial to end of	First Name	Surname	Location
2018	Warwick	SHAW	Woodenbong Central School
2017	Kara	SHERWOOD	Canowindra High School
2017	Nadine	SIBBALD	McCarthy Catholic College
2017	Nicole	SIMMONS	Warialda High School
2018	Leanne	SJOLLEMA	WA College of Agriculture
2017	Nicholas	SKEVINGTON	Muirfield High School
2017	Sue	SMEDLEY	Wagga Wagga Christian College
2018	Geoff	SMITH	Oakhill College
2017	Jade	SMITH	Goulburn High School
2018	Paul	SMITH	Cowra High School
2017	Rachel	SMITH	Trinity Catholic College
2018	Deb	SNAITH	Macintyre High School
2018	Emma	SOALL	James Fallon High School
2018	Laura	SOUTHWELL	Canberra Grammar School
2017	James	STANTON-COOKE	Pennant Hills High School
2017	Carmen	STASSEN	UNE Student
2017	Amanda	STATHAM	West Wyalong High School
2017	Stuart	STOUT	Leeton High School
2017	Sarah	STREETER	Charles Sturt University (Student)
2017	Laura	TANDY	Red Bend Catholic College
2018	Laura	TOLLEY	Farrer Memorial Agricultural High School
2018	Dianne	TOYNTON	Broken Hill High School
2017	Brian	TRENCH	Camden Park Environmental Education Centre
2017	Katie	TWOMEY	James Ruse Agricultural High School
2018	Sky	VAN DEN BERGE	Marian College, Kenthurst
2017	Tom	VENABLES	Colo High School
2017	Jane	WALKER	Chatham High School
2017	Dean	WARD	Seven Hills High School
2019	Nikia	WATERS	Hillston Central School

Financial to end of	First Name	Surname	Location
2017	Gary	WEBB	Finley High School
2017	Nicolet	WESTERHOF	Elizabeth Macarthur High School
2018	Sarah	WESTERWAY	Ulladulla High School
2017	Wayne	WHALE	St Paul's College
2017	Kimberley	WHITE	Kandos High School
2018	Melissa	WILLCOCKS	Inverell High School
2018	Maurice	WOODMAN	Murray High School
2017	Jennifer	WOODWARD	Byron Bay High School
2018	Beth	WORTHY	Sapphire Coast Anglican College
2017	Jan	YOUNG	Murrumburrah High School
2017	Nathan	ZINGA	Kinross Wolaroi School

185 members @ 11 September 2017 E & O E (please advise the Treasurer)

Associate Membership

First Name	Last Name	Job Title/Organisation
Cameron	ARCHER	Chairperson PIEFA
Sally	BANNERMAN	SACEC, STEAM Leader, Secondary Curriculum DoE
Darren	BAYLEY	Principal, Tocal College
Jackie	BREDEN	Technology Project Officer NESA
Alison	BRIGGS	Education Coordinator, Cotton Australia
Carolyn	BURGESS	Senior Project Officer NESA
Dan	RYTMEISTER	TAS Advisor, Secondary Education DoE
Mark	TYLER	TAS Inspector NESA
NSW	ROYAL AGRICULTURAL SOCIETY	Sydney Olympic Park
Ben	STOCKWIN	CEO PIEFA
Kelly	SPENCE	Education Officer PIEFA

Life Members

First Name	Last Name
Ian	BAIRD
Tony	BARNETT
Don	BARTHOLOMEW
Lisle	BROWN
Tony	BUTLER
Peter	CRICK
Rod	FRANCIS
Ivan	GANT
Bob	GUEST
Graeme	HARRIS

First Name	Last Name
Phil	HURST
Peter	JONES
Arthur	KELLY
John	LEE
Robyn	O'LEARY
Graham	QUINTAL
Gail	ROBERTS
Norm	ROBINSON
Trevor	SEWELL
Jenni	WILKINS

Affiliate Membership – (NAAE)

First Name	Last Name	Job Title/Organisation
Alysia	KEPERT	Agriculture Curriculum Consultant (WA)
John	LEHMAN	Yolla District High School (TAS)
Hayward	PAYNTER	Walkerie High School (SA)

From the Treasurer

As you can see on the new membership forms, I have left Sydney, and we are now experiencing a sea change. We have moved to Caves Beach, and are now enjoying the coastal lifestyle. My postal contact is now:

Graham Quintal
Treasurer NSWAAAT
PO Box 84
Swansea
NSW 2281

The new NSWAAAT website is live (www.nswaat.org.au). A few more changes are going to be made progressively over the holidays. The main improvement is that you can now pay your membership online with a credit card. However, you can also still do a direct deposit or post a cheque. All memberships expiring at the end of 2017 are due to be renewed before the end of the year to maintain continuity. You can check the status of your membership by referring to the list in this BAAT. If you wish for your school to pay for your membership, I am more than happy to send you an invoice.

Another initiative we have implemented is reduced membership costs for multiple members from the one institution, and where all memberships are paid at the same time. Annual membership pricing is:

1 member \$60,
2 members \$95,
3 members \$120,
4 members \$140, and
every extra person is \$20 each

You will also notice we have new email addresses for the executive. You can still, however, use the old email addresses for the time being, however, we would prefer you use the new addresses. If you have feedback or suggestions, please forward them to the President.

Thanks

GQ

Membership Application



ABN: 81 639 285 642

TITLE		NAME				
INSTITUTION						
POSTAL ADDRESS						
					Postcode	
EMAIL						
PHONE				FAX		
MOBILE				DATE		
MEMBERSHIP	Work		Individual		Payment Method	

Email this Membership form to: treasurer@nswaat.org.au and make cheques payable to: **NSW Association of Agriculture Teachers** (not NSWAAAT).

Post cheque to: **OR**

Treasurer NSWAAAT
Graham Quintal
PO Box 84
SWANSEA
NSW 2281

Pay via Direct Deposit:

Account Name: NSW Association of Agriculture Teachers Inc
BSB: 082 939
Account Number: 639 757 522
Reference: Your **Initial**, **Surname** and **"Memb"**.

MEMBERSHIP FEE: \$60 / annum (\$30 for students / trainees)

MEMBERSHIP REQUESTED	No of Years	
PAYMENT \$		

* Membership is based on a calendar year.

(*\$5.00 of your NSWAAAT membership is paid annually to the National Association of Agricultural Educators (NAAE) for affiliate membership to the national body.*) (*\$11.00 of your NSWAAAT membership is paid annually to the Professional Teachers Council of NSW (PTC) which validates our Professional Development Activities.*)

Office Use Only

Date Received		Receipt #		Receipt Sent	
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The NSW Association of Agriculture Teachers is NOT registered to collect GST



Institutional Membership

ABN: 81 639 285 642

INSTITUTION			
POSTAL			
ADDRESS			
		Postcode	

NAME 1		Mobile	
EMAIL			
NAME 2		Mobile	
EMAIL			
NAME 3		Mobile	
EMAIL			
NAME 4		Mobile	
EMAIL			
NAME 5		Mobile	
EMAIL			

If more memberships need to be added, please use a separate form.

MEMBERSHIP	No. of Years:		Amount: \$		Payment Type:	
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ANNUAL MEMBERSHIP FEES: 1 — \$60, 2 — \$95, 3 — \$120, 4 — \$140; + \$20 for each extra person

Discounted Group Membership is only applicable when all fees are paid simultaneously.

Email this Membership form to: treasurer@nswaat.org.au and make cheques payable to:

NSW Association of Agriculture Teachers (not NSWAAAT).

Post cheque to:

Treasurer NSWAAAT
Graham Quintal
PO Box 84
SWANSEA
NSW 2281

OR

Pay via Direct Deposit:

Account Name: NSW Association of Agriculture Teachers Inc
BSB: 082 939
Account Number: 639 757 522
Reference: Your **Institution Initials** and "**Memb**".

[NSWAAT membership is based on a calendar year. \$5.00 of your membership is paid annually to the National Association of Agricultural Educators (NAAE) for affiliation fees. \$11.00 of your membership is paid annually to the Professional Teachers Council of NSW (PTC) for affiliation fees.]

Office Use Only

Date Received		Receipt #		Receipt Sent	
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The NSW Association of Agriculture Teachers is NOT registered to collect GST



Wishing you all a Merry Christmas and Restful New Year!

Thank you to the following people for their contribution to this edition of BAAT

- | | |
|---|---|
| ★ Robbie Ashhurst (James Ruse Agricultural High School) | ★ David Giblin (Chifley College, Bidwill Campus) |
| ★ Sally Bannerman (Animals in Schools) | ★ Lara Griffin (Pittwater High School) |
| ★ Aaron Bertham (Honey Flow) | ★ Jarrod Kelly (Kelso High Campus, Denison College) |
| ★ Debbie Bunn (Galston High School) | ★ Graham Quintal |
| ★ Carl Chirgwin (Griffith High School) | ★ David Randall |
| ★ Georgia Clark and Danielle Krix (RAS) | ★ Leane Regan (PBCRC) |
| ★ Angela Colliver | ★ Darren Smith (Farrer Memorial Ag High School) |
| ★ Michelle Fifield (DPI) | ★ Deb Snaith (Macintyre High School) |
| ★ Sarah Foster (Dunedoo Central School) | ★ Ben Stockton (PIEFA) |
| ★ Verity Gett (Wee Waa High School) | ★ Gary Webb (Finley High School) |
| | ★ Verity Gett (Wee Waa High School) |