

Final Report

2016 DAF Hermitage Research Facility Schools Plant Science Competition

'My Pulse Rules!'

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Education Queensland



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This publication has been compiled by Kerrie Rubie of Customer & Business Services, Department of Agriculture and Fisheries.

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2016 competition summary

Topic: My Pulse Rules!	
Experiments/activities:	PLANT SCIENCE PROJECT AWARDS (Years P-12) This year we helped celebrate the International Year of Pulses and asked students to have fun and perform a series of activities that show why the biology of pulse crops makes them as much an essential part of profitable, healthy, sustainable farming systems as they are part of a nutritious diet. Students completed these 2 compulsory activities: <ol style="list-style-type: none"> Why Plant Pulses? – a planting experiment to learn the value in using pulses in cropping systems (scientific report & journal) Feed the Farm, Feed the World – design a poster explaining the benefits of growing pulse crops (informative poster entry) Students also completed at least 1 of the following optional activities: <ol style="list-style-type: none"> Game of Pulses – design/construct a card or board game with a pulse theme Plot the Pulses – find the location of pulse end products in your local supermarket Pulse-ate-ing Dish – create, cook and capture your own tasty pulse recipe (video entry)
	ART IN AGRICULTURE AWARDS (Years P-12) Create a spectacular pulse mandala using nothing but pulse grains!
	Number of participating schools: 164
	Entries received: 247
Geographical reach:	QLD, NSW, VIC, TAS, SA, WA & NT
Number of free experiment kits posted to schools:	1130 - New Record!! Each kit contained: 1 vial of chickpea inoculum; 2 packets of chickpea seeds (approx. 20 seeds per packet); 8 planter bags and 1 nodulation score sheet.
Estimated number of students reached:	14,125
Schools visited by DAF staff/sponsors:	Kepnock SHS (Bundaberg) Millchester SS (Charters Towers)
Awards Day	DAF: Mr Malcolm Letts, Senior Leaders and staff from throughout south region Southern Downs Regional Council: Mayor Tracy Dobie (SDRC) Guest Speakers: Professor Sagadevan Mundree (QUT), Mr Malcolm Letts (DAF DDG Agriculture), Miss Ella Wheritt (UQ student) & Miss Michelle Springolo (year 6 student)
Hermitage Research Facility	Attending sponsors: Paul Johnston Memorial Trust, The Crawford Fund, QATC, University of Queensland, Susan Cruickshank Tutoring, John & Chris Purdie, Blue Ribbon Seed & Pulse Exporters (Foods from the Earth), Warwick Art Gallery
Warwick:	Media: Warwick Daily News
Tuesday, 16 August 2016	Attending schools: Pilton SS (via Warwick); Freestone SS (via Warwick); Federov Homeschool (Russell Is), Groves Christian College of Distance Education (Toowoomba), Faith Christian School of Distance Education (Kingaroy & Rockhampton), Davies Homeschool (Stanthorpe), Our Lady of the Southern Cross College (Dalby), Ferny Grove SS (Brisbane); DDSW Stem Futures (Darling Downs regional schools); Chevalier College (Sydney NSW); Windaroo Valley SHS (Beenleigh); Calvary Christian College (Brisbane); Pullenvale SS (Brisbane); Glasshouse Christian College (Sunshine Coast) and Toowoomba SHS
(approx. 300 students & guests)	

Background

In 1997 the Department of Agriculture and Fisheries (DAF) Hermitage Research Facility (HRF) celebrated its centenary year. A committee was formed to organise an activity that schools could participate in to help celebrate our centenary year. Dr Paul Johnston, Dr Bob Redden, Dr David Poulsen, Dr Andrew Borrell and Mr Darrell Fletcher from the Hermitage Research Facility and Ms Christina Dwyer and Mr Alwyn Powell, Key Learning Area Coordinators (KLARC) from Toowoomba were members of the first committee and together they created the idea of the schools plant science competition. The competition attracted interest from 21 schools from the Warwick, Toowoomba and Brisbane areas.

Today, 20 years later, the competition is attracting on average between 100 and 200 state wide and interstate schools each year.

Approximately 100,000 students, nation-wide, have gained further knowledge of a range of agriculture science topics and through this competition have learnt more about the research projects carried out by DAF staff and have been provided with information about science careers.

In recent years, the competition has attracted international interest from Saudi Arabia, USA, UK, Holland and British Columbia. Our staff would also be keen to see the competition, or a similar model, be incorporated into agricultural learning programs in under-developed countries, such as East Timor (as we already collaborate with this country in other crop research programs).

It is felt that this competition has provided an excellent means of stimulating young people's interest in science and we hope we have encouraged students to continue with agricultural science in their studies and career paths.

Planning the competition

Aims of the competition

- Stimulate an interest in science and agriculture in young people and to promote science and agriculture as a great long term career choice.
- Provide students and teachers an opportunity to interact with DAF scientists and to undertake plant science experiments and activities similar to those conducted in the 'real-world'.
- Encourage children to think about issues affecting the environment around them.
- Familiarise students with the concept and interpretation of scientific experiments.
- Foster an awareness of DAF, industry (sponsors) and the community working together.

The competition is based around a plant science/agriculture topic that is related to research projects/experiments carried out at the Hermitage Research Facility. Hands-on experiments and activities are designed for students in years prep to 12 to carry out in the classroom (or at home). We often try to feature the growing or use of field crops such as barley, sorghum, chickpeas and mungbeans in the experiments, as these are the main crops studied at Hermitage. Currently, a new topic is chosen each year. In the future, we may look at recycling past topics.

Links between the competition project and the Australian Curriculum are also highlighted so teachers can easily see how it can be used as a learning resource and assessment piece. (Please see [reference to the National Curriculum](#)).

Competition details are circulated to schools on our database via email and posted on the competition website (www.daf.qld.gov.au/hermitage-competition).

A flyer, briefly outlining the topic and tasks for the upcoming competition, is emailed to schools by the end of October each year so teachers can begin planning their involvement the following year. Full competition instructions are then sent to schools in December and again in January as a refresher that the competition is about to begin.

Previous competition topics

Year	Topic	Focus of study
2015	No Light...No Life!	Have fun with photosynthesis and perform a series of experiments that show what a plant needs to live, how plants defy gravity in their search for light, how plants react to different light wavelengths, discover that everything we eat comes from plants and that with no light...there's no life!
2014	Bug Attack!	Examine the biology and habits of stored grain and other insect pests that are problematic to farmers, merchants, exporters and consumers involved in the food value chain
2013	Food, farming and fungi	Investigate the fascinating world of fungi and how this kingdom of organisms interacts with every stage of the agricultural value chain
2012	What makes a weed a weed?	Perform experiments and activities in order to study weeds and discover how they spread and affect agricultural systems and the environment
2011	Are you a gene genius?	Perform experiments and activities to learn and understand the basics of genetics and how genetics is used in plant science
2010	Does climate impact crop growth?	Perform a multi-environment trial growing soybean and millet plants in 2 varying locations at school to help discover how climate affects plant growth
2009	There's a grain in my food!	Focussing on grain identification, germination, food processing, cooking and research into breakfast cereals
2008	Sums on seeding a super crop	Germination test and plant populations using sorghum
2007	What's Bugging Your Grain?	Focus on stored grain pests (pests in whole wheat and flour at varying temperatures)
2006	How Much Water Do Plants Use?	Mungbean and sorghum (basic lysimeter experiments)
2005	Insects & Crops	Mungbeans and the insects they attract
2004	Why Grow Hybrid Crops?	Focus on sorghum (growth of hybrid plants v's parent plants)
2003	Healthy Soils...Healthy Plants	Chickpeas (inoculated v's uninoculated chickpea seeds)
2002	Salinity...A Big Problem	Chickpeas and barley (grown in various salt rates)
2001	Problem Plants...Are They Weeds?	Weed identification at school
2000	Influence of Planting Depth on Seedling Emergence	Ability of 6 cereal varieties to emerge from different planting depths
1999	Study the Effect of Netblotch Disease in Barley	Barley (healthy barley v's diseased barley)
1998	How Does the Use of Fertiliser Influence Crop Growth?	Chickpeas & barley (compare growth with various rates of fertiliser)
1997	Plant Science – Identification of Crops; Mystery – Uses of Crops in 1906; Glasshouse Technology	Build a Glasshouse Model; Social Science/English – Life and Farming on the Downs in 1897

Planning diary

The competition is organised in the following manner:

January/February

- Information on competition emailed to all schools on database.
- Record competition registrations.
- Experiment kits are prepared and posted to schools.
- Competition begins at start of Term 1 (end of January).
- DAF media release prepared – to circulate competition details to the wider community.

March/April

- DAF staff visit participating schools to check on experiment progress, discuss careers and promote DAF.
- DAF media release prepared – to coincide with DAF staff school visits.
- An update on the competition is emailed to DAF management and competition sponsors.
- Minister for Agriculture, Fisheries and Forestry is invited to attend the Awards Day.

May/June

- Prizes (medallions, trophies and scientific/educational materials – books, DVDs, posters, kits, etc) are ordered/purchased before end of financial year (and in time for the Awards Day).
- DAF senior leaders, competition sponsors, media and schools are invited to attend the annual Awards Day.
- Competition closes on the last Friday of Term 2 (before June/July school holidays).
- Record and label all entries received (coordinate delivery of entries at other DAF centres – Twmba & Bris).
- A judging panel is organised and entries are judged over the June/July school holidays.
- Preparations for the Awards Day begin.

July

- Winners are notified in the week or two following the June/July school holidays.
- Certificates are printed for each participating student.
- DAF media release prepared to coincide with Awards Day.
- Competition entries and artworks are displayed in Rose City Shopping World Warwick, during the popular Jumpers & Jazz in July festival, to further promote the competition.

August

- The annual Awards Day is held during National Science Week in August.
 - program is prepared and circulated to attendees
 - labelling and packaging of prizes
 - preparation of agricultural/science careers information for students
 - set up for day (erecting of marquees/displays)
 - organise tour of HRF and ScienceShow Alley (various tour stops and presenters)
 - organise catering for Awards Day lunch
- State-wide prize presentations (for schools that couldn't attend Awards Day) are organised.

September/October

- Encourage winning students (with highest scores) to enter their projects in the Science Teacher's Association of Queensland (STAQ) & BHP Billiton Science Contests.
- Planning begins for next year's competition.
- Sponsorship letters are sent to previous competition sponsors and potential new sponsors to secure funding for next competition (prepare tax invoices for sponsorship payments and send to sponsors).
- Grains Research & Development Corporation (GRDC) Final Report on competition sent to GRDC within 3 months of competition completion.
- New funding application submitted to GRDC by the end of October.
- A comprehensive Final Report is compiled and circulated to DAF staff and competition sponsors.
- Competition information and experiment instructions for next competition are designed.
- Summary/flyer on next competition emailed to all schools on database (by end of October).

November/December

- Registrations for next competition start coming in.
- Schools are sent comprehensive instructions/information document for next competition.
- Order kit materials
- Ensure competition website is up to date.

Current organising committee

A core team consisting of staff from the DAF Hermitage Research Facility (HRF) and a staff member from the Department of Education and Training (DET) and occasionally other DAF staff (with specialist background/expertise in the selected topic) make up the Competition Organising Committee and plan the competition each year.

2016 Committee Members

Core team:

- **Ms Kerrie Rubie**, Administrative Officer (DAF HRF) (Competition Coordinator)
- **Dr Barbara George-Jaeggli**, Research Scientist (DAF HRF)
- **Ms Tracey Shatte**, Research Scientist (DAF HRF)
- **Dr Andrew Borrell**, Principal Research Scientist (DAF HRF and HRF Centre Leader)
- **Dr Merrill Ryan**, Senior Plant Breeder (DAF HRF)
- **Mr Simon Hamlet**, Teacher (DET, Warwick SHS) / Casual Scientific Assistant (DAF HRF)

2016 specialist members:

- **Mr William Martin**, Senior Experimentalist (DAF HRF)
- **Dr Nikki Seymour**, Senior Soil Microbiologist (DAF LRF)

This year the committee welcomed **Mr William Martin** from the pulse team at Hermitage and **Dr Nikki Seymour** from the DAF Leslie Research Facility (LRF) in Toowoomba. Theirs and Merrill's expertise in the pulse industry was extremely valuable in running the 2016 competition.



Schools Plant Science Competition Organising Committee (core team)

Back from left: Simon Hamlet, Tracey Shatte, Andrew Borrell

Front from left: Merrill Ryan, Kerrie Rubie, Barbara George-Jaeggli

Due to the popularity of the competition and the support received from DAF staff and sponsors, it has been decided the competition should continue indefinitely. HRF staff are asked to support and assist the committee by visiting schools and supplying seeds and information used in preparation of the planting experiments and activities. Staff are also required to assist with judging entries and participating in the annual Awards Day & Ag Science Expo.

In the past, Department of Education and Training (DET) Education Queensland staff (from the Warwick Office) have assisted the committee by ensuring the topic and planned experiments/activities are relevant to the science curriculum and are suitable for students from years prep to 12.

Mr Simon Hamlet, Teacher at Warwick State High School and past DAF Hermitage employee, is our current contact person (and committee member) from DET. Simon provides wonderful support with his extensive knowledge and background in science, his understanding of the national curriculum and how it links with our competition and his insights into classroom planning.

The topic 'My Pulse Rules!' was selected by the committee during 2015, to coincide with the International Year of Pulses in 2016. A flyer outlining the competition tasks was circulated to over 600 schools on our database at the end of October so teachers could begin planning their involvement. The full competition instructions were then emailed to schools in December (before the Christmas holidays) and were also posted on the DAF website.

Details on the competition were also distributed through other networks including Education Queensland (EQ) and the Primary Industries Education Foundation Australia (PIEFA) via emails, on-line newsletters, websites, social media, conferences and media releases. Through these networks and DAF's communication channels, we attracted 164 schools to the competition in 2016.

Acknowledgements

A big thank you goes to the following people for their support and contribution to the 2016 competition. Their involvement was very much appreciated and has contributed to another successful competition.

Competition sponsors

- Grains Research & Development Corporation (GRDC) (major sponsor 2008 – current)
- Woods Foods (new major sponsor 2016)
- Associated Grain (new major sponsor 2016)
- Paul Johnston Memorial Trust (PJMT) (sponsor 2008 – current)
- Queensland Agricultural Training Colleges (sponsor 2014 – current)
- University of Queensland (UQ) (sponsor 2010 – current)
- Education Queensland (sponsor 2002, 2005 – 2013, 2015 – current)
- Pioneer Seeds (sponsor 2007 – current)
- Grains Research Foundation Limited (GRFL) (sponsor 2007 – 2012, 2014 – current)
- Warwick Art Gallery (sponsor 2012 – current)
- Susan Cruickshank Tutoring (sponsor 2015 – current)
- Ag Institute of Australia (AIA) (sponsor 1997 – current)
- Blue Ribbon Seed and Pulse Exporters (sponsor 2007 – current)
- Nuseed (sponsor 2014 – 2015)
- The Crawford Fund (sponsor 2013 – current)
- Selected Seeds (sponsor 2007-2010, 2013 – current)
- Professor & Mrs Joe Baker (sponsor 2004 – current)
- John & Chris Purdie (sponsor 2015 - current)
- New Edge Microbials (new in-kind sponsor 2016)

Competition Organising Committee members 2016

- Kerrie Rubie – Coordinator (DAF Hermitage) (member since 1999)
- Dr Barbara George-Jaeggli (DAF Hermitage) (member since 1998)
- Tracey Shatte (DAF Hermitage) (member since 2013)
- Dr Andrew Borrell (DAF Hermitage) (member since 2013)
- Simon Hamlet (DET, Teacher, Warwick State High School) (member since 2007)
- Dr Merrill Ryan (DAF Hermitage) (member since 2014)
- Mr William Martin (DAF Hermitage) (new member 2016 only)
- Dr Nikki Seymour (DAF Leslie Research Facility (LRF), Toowoomba) (new member 2016 only)

General Support

- Merrill Ryan, William Martin, Col Douglas and Nikki Seymour (DAF HRF & Toowoomba) for spending many hours researching and providing information and details for the 2016 instructions.
- Connie Brown (DAF HRF) for assisting with preparation of kits, purchasing materials, mail out and regular AO2 duties during peak competition organising periods.
- Jaymin Rubie and Riley Skerman for assisting with kit preparation during their school holidays.
- Nikki Seymour (DAF LRF) for packaging over 1000 vials of inoculum for kits.
- Bernie Ryan (DAF HRF) for assisting with the competition budget.
- Laura Hutton (Media & Communication Officer, DAF Brisbane) for assisting with marketing, media releases, social media posts and organising web edits throughout the year.
- Chris Purdie (Primary Science Educator) for promoting the competition via her networks.
- Ben Stockwin of the Primary Industries and Education Foundation Australia for promoting the competition via the foundation's website and newsletters.
- Tracey Shatte, Cassie Martinez, Susan Cruickshank and Merrill Ryan (DAF HRF) for judging competition entries.
- Jenny Giesemann, Sue-Ann Top (DAF Tor St), Harpreet Kochhar (DAF Coopers Plains, Brisbane) and Andrew Ridley (DAF Dutton Park, Brisbane) for assisting with receipt of competition entries at their DAF offices.

School visits

- **Leanne Donaldson** (Minister for Qld Agriculture & Fisheries) for visiting Kepnock State High School students to take a look at their competition projects.
- **Kelli Pukallus** (DAF Charters Towers) for providing support to students at Millchester State School and to present prizes at the school.

Awards Day

- **Mr Malcolm Letts** (DAF Deputy Director General, Agriculture) for representing DAF and Minister Leanne Donaldson in her absence, being a guest speaker and presenting awards.
- **Mayor Tracy Dobie** for representing the Southern Downs Regional Council and presenting Awards.
- **Professor Sagadevan Mundree** (Director, Centre for Tropical Crops and Biocommodities, QUT) for being keynote speaker and presenting awards.
- **Associate Professor Dr Andrew Borrell** (UQ Principal Research Fellow/Hermitage Centre Leader) for representing the Hermitage Research Facility, being MC and presenting awards on behalf of UQ (sponsor).
- **Miss Ella Wherritt** (UQ student studying a Bachelor of Science and past competition major award winner) for being a guest speaker.
- **Miss Michelle Springolo** (year 6 student from Groves Christian College of Distance Education and 2016 Joe Baker Outstanding Achievement Award winner, for being a guest speaker.
- **Mrs Mary Johnston** for representing the Paul Johnston Memorial Trust (sponsor) and presenting the Paul Johnston Memorial Senior Science Awards.
- **Dr Bruce Pengelly** for representing The Crawford Fund (sponsor) and presenting the International Agricultural Science Award.
- **Ms Julie McKerrow** for representing QATC (sponsor) and presenting the TASTE Scholarship Awards.
- **Mrs Susan Cruickshank** for representing Susan Cruickshank Tutoring (sponsor) and presenting the Junior Scientific Research and Writing Award.
- **Mr & Mrs John & Chris Purdie** (sponsors) for presenting the Best Young Science Investigator Award.
- **Ms Karina Devine** for representing the Warwick Art Gallery (sponsor) and for presenting the Art in AgRiculTure Awards.
- **Mr Jared Baxter** (DAF HRF) for being our technical support during the Awards Ceremony.
- **Ms Colleen Hunt, Ms Sue Behan, Ms Katie McIvor, Ms Judy McIlroy, Mr Andrew Skerman, Ms Tracey Shatte & Dr Barbara George-Jaeggli** (DAF HRF) for being group tour guides during the tour of Hermitage.
- **Dr Nikki Seymour** (DAF, LRC, Toowoomba), **Mr Greg Horrocks** (DAF, Tor St, Toowoomba), **Mr Coby Walker** (DAF HRF), **Ms Taylor Mentha** (DAF HRF), **Ms Anna Price** (DAF HRF), **Ms Janet Barsby** (DAF HRF), **Dr Greg Daglish** (DAF EcoSciences Precinct, Brisbane), **Dr Manoj Nayak** (DAF EcoSciences Precinct, Brisbane), and **Mr Alan Cruickshank** (DAF HRF) for being tour stop presenters during the tour of Hermitage – setting up displays and speaking to students and guests about their project research.
- **Ms Michele Cooper** (Foods From the Earth – sponsor), **Mr Ken Laws** (DAF HRF), **Dr Heidi Parkes/Mr Peter Nimmo/Mr Alan McWaters** (DAF Applethorpe Research Facility), **Mr Bill Winner** (Capilano Beekeepers Ltd), **Ms Di Werner** (DAF HRF), **Mr Bryan Potter** (DAF HRF), **Ms Tanya Nagle** (AgForce), **Ms Karen George** (DET) and **Mr Alan Gamgee and students** (Warwick State High School) for setting up displays and speaking to students and guests in 'ScienceShow Alley'.
- **Mr Ken Laws** (DAF HRF) for being videographer/photographer and **Teilah Skye Photography** (professional photographer) for also taking photos on the day.
- **Mr Andrew Douglas, Mr Don Browne, Mr Anthony Collins, Mr Terry Keogh, Mr Stephen Lamb, Mr Bruce Hempel, Assoc. Prof. Andrew Borrell, Mr Bernie Ryan and Mr Jared Baxter** (DAF HRF) for assisting in the set up for the Awards Day.
- **Mr Stephen Lamb** (DAF HRF) for building the new peg-board frame for display behind the Awards Day stage.

Competition sponsors

Sponsors 2016

Last year's sponsors were approached again for sponsorship to cover prizes and running costs in 2016. The majority of sponsors continued their support and we welcomed **Woods Foods**, **Associated Grain** and **New Edge Microbials** as new sponsors.

Sponsorship funds enabled the committee to award a variety of prizes to the winning students, purchase materials for project kits, produce promotional materials, present competition details at various conferences and events and covered other administrative expenses and catering for the awards day.

DAF In-kind support

We would like to thank DAF's Agri-Science Qld and Customer & Business Services for contributing to the competition with in-kind support for staff wages for coordination of the project and for operational, technical and professional staff who contribute their time to the project through school visits, meetings and participation in the Awards Day.

Budget summary

Revenue

Grains Research & Development Corporation (GRDC) Funding		
	Cost collector: 7-03231-01 (updated to 8101965)	\$ 5,500.00
Sponsors	Incl GST	
Woods Foods	\$ 3,300.00	
Associated Grain	\$ 2,200.00	
Queensland Agricultural Training Colleges – Longreach & Emerald Campuses (4 x TASTE Scholarships)	\$ 1,980.00	
DAF Agri-Science Qld	\$ 1,862.71	
Paul Johnston Memorial Trust	\$ 1,500.00	
University of Queensland – The Faculty of Science	\$ 1,100.00	
Education Queensland	\$ 550.00	
Pioneer Seeds	\$ 550.00	
Grains Research Foundation Ltd	\$ 500.00	
Warwick Art Gallery	\$ 425.00	
Susan Cruickshank Tutoring	\$ 300.00	
Blue Ribbon Seed & Pulse Exporters	\$ 275.00	
Ag Institute of Australia	\$ 275.00	
The Crawford Fund	\$ 250.00	
Selected Seeds	\$ 165.00	
John & Chris Purdie	\$ 110.00	
Professor & Mrs Joe Baker (donation \$100/year until end of 2017)	\$ 100.00	
New Edge Microbials	In kind (inoculum for kits)	
Department of Agriculture, Fisheries and Forestry – Agri-Science Queensland and Regional Business Administration Services	In kind (staff time on project)	
	Cost collector: 3303819 (updated to 8100777)	\$ 13,580

Grand Total of funding/sponsorship: **\$19,080**

Expenditure – GRDC Funding

Expenses	Description	Cost
Stores & Stationery	Supplies for Awards Day	\$ 168.49
Freight, cartage & Postage	Posting of correspondence, certificates & prizes	\$ 294.60
Catering	Catering for Awards Day (300 attendees)	\$ 2,400.00
Computer consumables	3 x USB sticks for presentations	\$ 25.91
Equipment Hire	Journal voucher (incorrect debit)	\$ 1,740.00
Gifts/prizes	Prizes for competition winners (incl Conference Awards x 2)	\$ 1,935.88
	GST (on above):	\$ 656.49
Total expenditure:		\$ 7,221.37
<i>Approx. deficit – covered by DAF Agri-Science Queensland</i>		<i>\$ 1,721.37</i>

Expenditure – Sponsorship

Sponsors:		
Expenses	Description	Cost
Materials and stores	Kit materials for 1,130 kits (planter bags, vials for inoculum), display board for Awards Day ceremony, materials for Awards Day displays, booking of Noah's Animal Farm, etc	\$ 3,679.13
Freight, cartage & postage	Postage of kits and correspondence	\$ 2,485.10
Printing	CanStock image library credit (for image downloads)	\$ 71.04
Travel/Accomm	Kerrie Rubie's attendance at the 2016 PIEFA Conference, Canberra	\$ 1,251.68
Gifts/prizes	Prizes for competition winners (PJM Awards, Crawford Fund Award, digital microscopes, science kits, DVDs, trophies, medallions, art packs)	\$ 5,513.88
	GST (on above):	\$ 952.08
Total expenditure:		\$ 13,952.91

Sponsors 2017

We look forward to the 2016 sponsors supporting the competition again in 2017. Letters have been sent to our current sponsors to ask if they are willing to continue sponsorship.

GRDC are kindly providing \$5,500 funding each year for the next 3 years (until the completion of the 2018 competition).

We were also successful in receiving an **Advance Queensland 'Engaging Science' Grant for \$10,000** which will help boost funds for our 2017 competition.

Relevance to Qld Government objectives

The Queensland Government's objectives for the community are:

Creating jobs and a diverse economy:

- Increasing workforce participation
- Ensuring safe, productive and fair workplaces
- Stimulating economic growth and innovation
- Delivering new infrastructure and investment

Delivering quality frontline services:

- Achieving better education and training outcomes
- Strengthening our public health system
- Providing responsive and integrated government services
- Supporting disadvantaged Queenslanders

Protecting the environment:

- Protecting the Great Barrier Reef
- Conserving nature and heritage
- Ensuring sustainable management of natural resources
- Enabling responsible development

Building safe, caring and connected communities:

- Ensuring an accessible and effective justice system
- Providing an integrated and reliable transport network
- Encouraging safer and inclusive communities
- Building regions

(Ref: <http://dafintranet.lands.resnet.qg/our-department/strategic-direction/-the-governments-objectives-for-the-community>)

The Queensland Plan

Queenslander's vision for our state

In 30 years Queensland will be home to vibrant and prosperous communities. Our state will be well planned with the right infrastructure in the right places to support a population that has grown across every region. We will value education as a lifelong pursuit where we gain practical skills, enrich our lives, find secure jobs and improve the competitiveness of our economy. Our brightest minds will take on the world and we will work collaboratively to achieve the best results for Queensland. We will be the greatest state in which to live, work and play, and guardian of a sustainable natural environment that inspires an active lifestyle and supports healthy communities. We will have a community spirit that embraces our diversity and unique culture and gives everyone the opportunity to shine. We will not leave anybody behind. Government can't do this alone but as a community working together we can achieve everything we want for our state's future.

(Ref: <http://www.queenslandplan.qld.gov.au/assets/images/qld-plan.pdf>)

The Hermitage Research Facility Schools Plant Science Competition relates to Government objectives and The Queensland Plan by:

- stimulating an interest in science and agriculture in young people
- encouraging children to pursue a career in science and agriculture
- offering Hermitage Research Facility as a workplace in which students may carry out their school work experience – working alongside agricultural scientists and staff
- enabling students to interact with “real live scientists” during school visits and the competition Awards Day at Hermitage Research Facility
- developing children's understanding of the issues facing Australian farmers and agricultural produce exporters and become more aware of the importance of maintaining and developing future markets for Queensland businesses
- creating an awareness of the DAF Hermitage Research Facility staff working towards a sustainable future, through crop improvement
- involving students in stimulating scientific activities and experiments that relate to their environment
- increasing children's knowledge base about agriculture and cropping processes (eg, paddock to plate – growing crops to make healthy foods)
- further developing children's skills in science, maths, English, report writing, team work, communication and technology
- providing a quality and rewarding educational experience for children



Relevance to the National Curriculum

The competition has been created with an awareness of the Australian Curriculum, Assessment and Reporting Authority (ACARA) and Queensland Essential Learnings requirements. Given that most of our competition topics focus on plants (field crops) or insects, it fits well with many of the learning objectives outlined under science understanding, inquiry and human endeavour within the new national curriculum (as shown in table below).

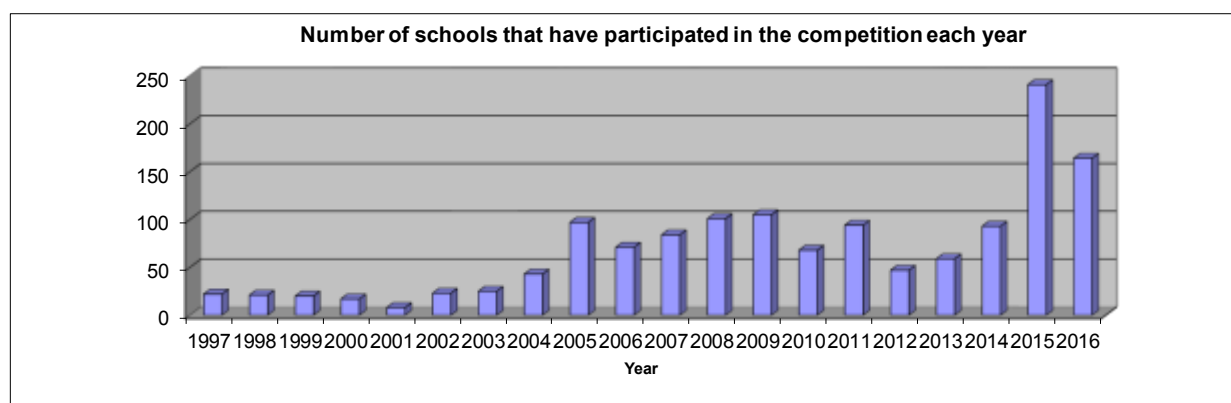
Australian Curriculum (P-10 Science)	
Prep	Living things have basic needs, including food and water
Grade 1	Living things have a variety of external features (ACSSU017)
Grade 2	Living things grow, change and have offspring similar to themselves (ACSSU030)
Grade 3	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)
Grade 4	<ul style="list-style-type: none"> - Living things have life cycles (ACSSU072) - Living things, including plants and animals, depend on each other and the environment to survive (ACSSU073)
Grade 5	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)
Grade 6	The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)
Grade 7	<ul style="list-style-type: none"> - There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111) - Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions (ACSSU112)
Grade 8	Cells are the basic units of living things and have specialised structures and functions (ACSSU149)
Grade 9	<ul style="list-style-type: none"> - Multi-cellular organisms rely on coordinated and interdependent internal systems to respond to changes to their environment (ACSSU175) - Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)
Grade 10	<ul style="list-style-type: none"> - The transmission of heritable characteristics from one generation to the next involves DNA and genes (ACSSU184) - The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence (ACSSU185)
Australian Curriculum (Senior Secondary)	
Agricultural Science	<ul style="list-style-type: none"> - plant science, animal science and agribusiness (anatomy & physiology of agricultural plants and animals) - agronomy and animal husbandry - agriculture is central to national & international economies, supplying food, fibres and other products
Biology	<ul style="list-style-type: none"> - survival and reproduction of species - structure and function of living things - continuity and change in the living world
Agriculture & Horticulture	study of plants, insect pests, soils, harvesting, storage
Geography	Feeding the world's people: A key element of food production is agricultural systems. Such systems involve inputs to the land and a series of processes, to generate a range of outputs
Science 21	Environment, catalysts for discovery, living systems
Science in Practice	<ul style="list-style-type: none"> - Identify and explain scientific procedures and processes - plan investigations, collect, select and record data, use practical scientific skills - analyse data, predict outcomes and draw conclusions - present scientific data
Extended Experimental Investigation (EEI)	planning and problem solving through hands-on experimentation

Competition statistics

Number of schools participating

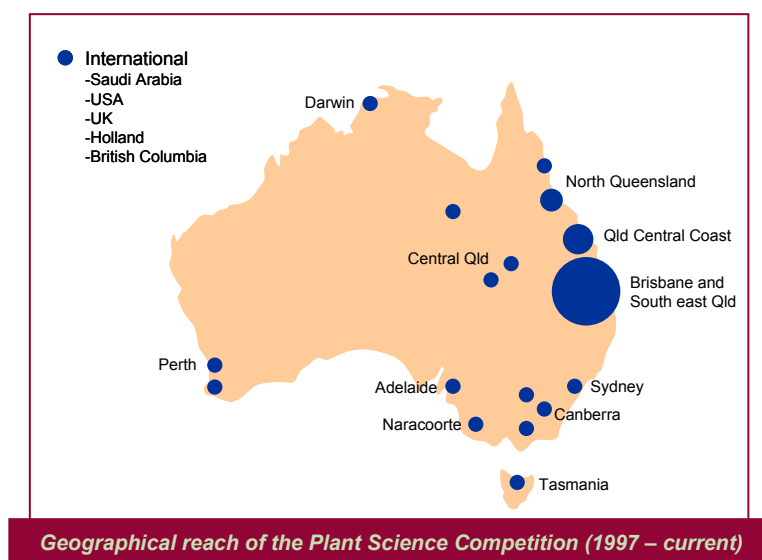
This year, we received interest from 164 schools comprising of a mix of past competitors and new schools to the competition. (For a detailed list of participating schools please see appendix 3: [Schools registered for 2016 competition](#)).

As shown in chart below, the number of schools that participate year to year is unpredictable but continues to be relatively high, with a recent jump in registration numbers over the past 2 years. Perhaps this is due to the high level of media exposure (including an increase in the use of social media) and growing reputation as a prestigious agricultural science competition available to all students across Australia. Through word of mouth too (teacher networks, educational conferences, etc) more and more schools are learning that the competition is a wonderful resource available and one that can be used as a unit of study relevant to the national curriculum. Many schools continually participate in our competition year after year, as they find it a valuable learning tool.



Geographical reach

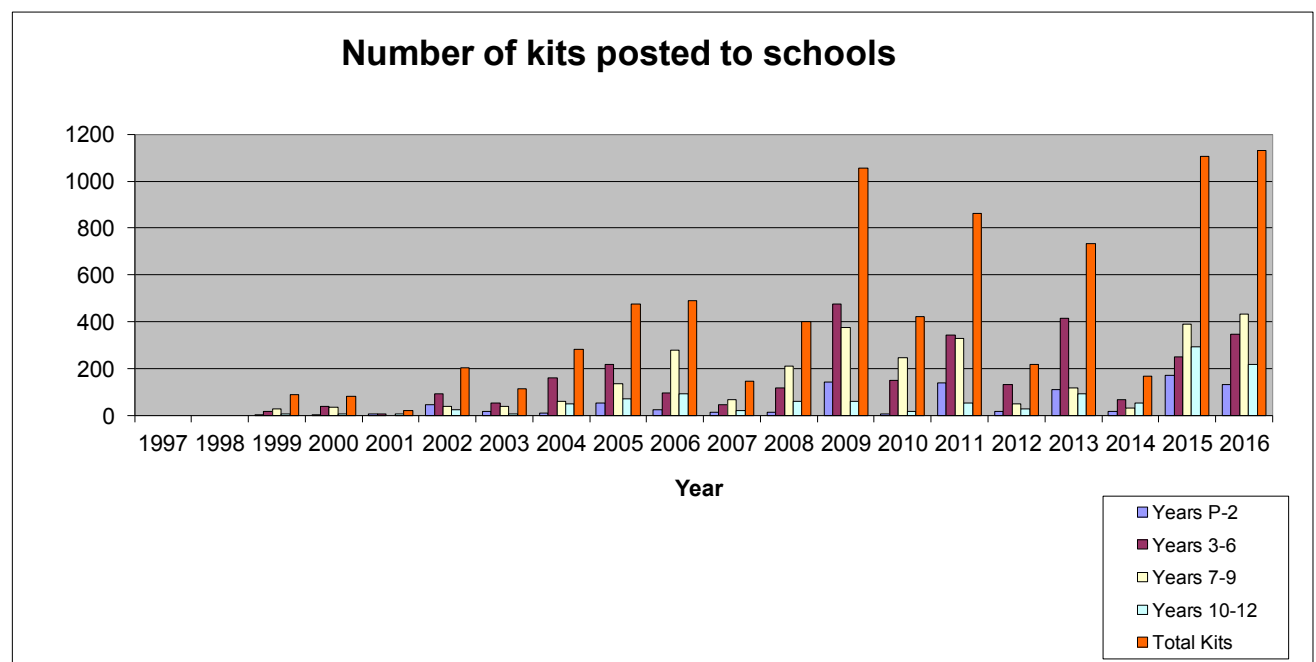
The majority of registered schools in 2016 were from a wide range of regions throughout Queensland, with some participants also from New South Wales, Victoria, Tasmania, South Australia, Western Australia and the Northern Territory. As mentioned earlier, the competition has also attracted interest from some international schools and organisations.



Number of free experiment kits sent to schools

This year a record breaking total of 1130 experiment kits (each containing 2 x packets chickpea seeds, 8 x planter bags and 1 x vial of inoculum) were sent to 164 schools across Australia. The following table and chart shows the number of kits ordered for each of the competition's year categories:

Year category	Kits ordered
P-2	132
3-6	347
7-9	434
10-12	217
Total:	1130



As this graph shows, students from years 3-6 and 7-9 are our keenest participants, ordering the most kits. Both 2015 and 2016 show a sharp increase in the number of high school students (yrs 10-12) participating, which is great to see.

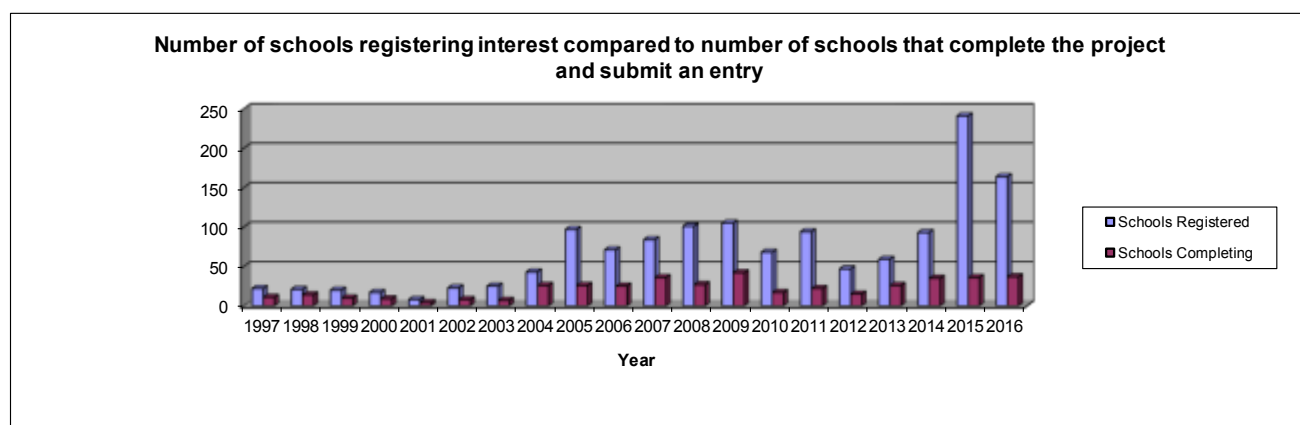


Kit preparation

Number of schools completing competition

Out of the 164 registered schools, 37 schools submitted entries in the competition. From these schools we received a total of 247 science project and artwork entries. The following table shows the break-up of entries received over each year category:

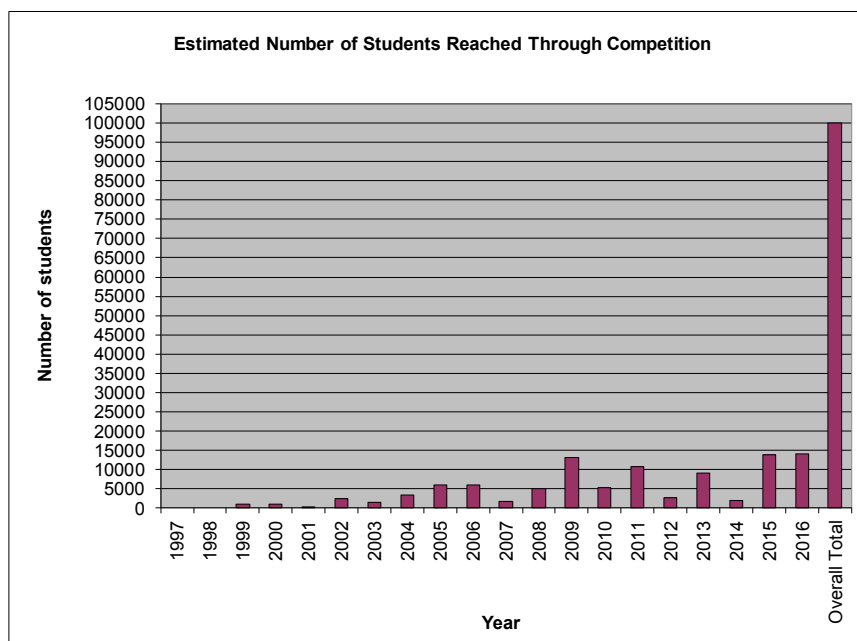
Year category	Number of entries
P-2	13
3-6	40
7-10	44
11-12	39
art competition	111
Total: 247	



A number of factors influence whether schools can finish the competition experiments and submit a project entry on time. Some reasons why schools do not submit entries include: other schoolwork commitments (eg NAPLAN), not enough time, teachers leaving and experiment failure.

Number of students reached

An average 4,000 students are reached each year in the schools plant science competition. The estimated number of students reached each year is calculated by multiplying the number of kits requested by the average number of students per class (12.5 students). This year, the number of students reached was approximately 14,125. Over the competition's 20 year history, we have reached approx. 100,000 students Australia wide!



DAF staff visits to schools

Upon request, we organise for DAF staff to visit to schools to provide support and talk about our research projects and/or possible careers in agricultural science. This is a wonderful opportunity for staff (DAF) to build great relationships with teachers and students (the education sector and the general community). Teachers and students are always keen to meet our staff, as this provides an excellent opportunity for one-on-one interactions between students and professionals working in the field of agricultural science. Hermitage Research Facility staff usually visit schools across SE Qld. If we are unable to organise a visit to a particular school we offer assistance via email, phone and on-line chat rooms.

State-wide school visits

With the increase in numbers of schools participating from outside the SE Qld area, it is not always possible for Hermitage staff to travel long distances to visit students. In these cases we ask staff from DAF centres nearest to the school to visit them. Even though staff from other regions may not know the details of the competition or have expertise in the competition topic area, they are usually most happy to visit schools to take a look at the student's plant science projects, talk about their work in DAF and possible career paths towards agricultural science.

The following schools were visited in 2016:

School	Year level	Date for visit	Time	Visiting officer/s
Kepnock State High School	7, 9 & 11	22 March 2016	9am	Minister for Agriculture and Fisheries Leanne Donaldson

Photo gallery from Minister Donaldson's visit to Kepnock SHS





Selecting competition winners

Plant Science Project Awards

Judging Panel

Each year, a judging panel consisting of HRF staff and sponsors is formed. Their job is to rate each entry against criteria developed by committee members. Entries range from posters and creative PowerPoint shows to well-presented written reports and video clips. Students put a lot of effort into their entries and it is a difficult task for judges to choose winners from the large number of quality entries received.

Judges 2016

- **Merrill Ryan** (year category P-2)
- **Cassie Martinez** (year category 3-6)
- **Susan Cruickshank** (year category 7-9)
- **Tracey Shatte** (year category 10-12)

Judging criteria

- **Presentation**
 - Neatness, grammar/spelling
 - Layout of text/images
 - Creativeness
 - Use of scientific report layout/headings
- **Method/content**
 - Evidence of completed experiments/activities
 - Demonstrated understanding of scientific method and process
 - Science journal content
 - Observations made
 - Data displayed in tables/graphs
 - Photographs, sketches, samples
 - Background research/information on topic
 - Demonstrated understanding of topic
- **Discussions/conclusions**
 - Class discussions and/or own conclusions about aims/predictions compared to outcomes/findings
 - What went wrong and what worked well
 - Comments on the importance of fair testing
 - What would you do differently next time
 - Conclusions linked to current information on topic/agricultural issues



Please see appendix 4: [Judging Sheet](#)

Art in AgRiculTure Awards

Judging Panel

The Warwick Art Gallery are sponsors of the competition's Art in AgRiculTure Awards. Karina Devine (Director of the Warwick Art Gallery) is invited to Hermitage to judge the student artworks each year. Unfortunately, Karina was unavailable for judging this year, so a team of Hermitage staff and a professional photographer were selected to judge the artworks on behalf of the Warwick Art Gallery.

Judges 2016

- **Kerrie Rubie, Cassie Martinez, Sue Behan & Teilah Skye McKelvey** (professional photographer)

Judging criteria

Artworks that adhere to the brief, demonstrate creativeness, uniqueness, great effort and skill with a hint of scientific flair are awarded prizes. (Please see appendix 10: [Photos of pulse mandala artwork](#) to see examples of submitted artwork).

The prizes

Thanks to our sponsors, a large variety of prizes are awarded to students in each of the year categories P-2, 3-6, 7-9 and 10-12.



Conference Awards (years 10-12) – *New Award in 2016*

Awarded to the top two most outstanding entries.

Prize: *Winners x 2 – \$1000 towards costs to attend the 2016 Australian Pulse Conference in Tamworth.*



Paul Johnston Memorial Senior Science Awards (years 10-12)

Awarded to the top two most outstanding entries.

Prize: *Winner – \$1000 for books/reference materials for first year of tertiary education, plus a newly designed plaque and a certificate.*

Prize: *Runner up – \$500 worth of science journal subscriptions, plus a newly designed plaque and a certificate. (Sponsored by the Paul Johnston Memorial Trust)*



Crawford Fund International Science Award (years 10-12)

Awarded to the most outstanding entry linking the project topic to global agricultural issues.

Prize: *\$250 gift voucher for use at a pre-approved store, medallion and a certificate.*

(Sponsored by The Crawford Fund)



TASTE Scholarship (years 10-12)

Awarded to students who complete a TASTE application and submit a science entry in the DAF Schools Plant Science Competition.

Prize: *\$495 scholarship to attend a 5 day TASTE camp at Emerald, Longreach or Mundubbera campuses and a certificate. (Sponsored by QATC)*



AIA Junior Achievement Awards (years 7-9)

Awarded to the top two most outstanding entries.

Prize: *Winner – engraved AIA medallion plus a book prize and a certificate.*

Prize: *Runner up – book prize and certificate. (Sponsored by the Ag Institute of Australia)*



Susan Cruickshank Tutoring Award (years 7-9)

Awarded to entrant with most outstanding research and writing skills

Prize: *\$150 Visa gift card, medallion and a certificate.*

(Sponsored by Susan Cruickshank Tutoring)



Joe Baker Outstanding Achievement Awards (years P-6)

Awarded to the most outstanding entry in each of the year categories P-2 and 3-6.

Prize: *Medallion, scientific/educational prize and a certificate.*

(Sponsored by Professor and Mrs Joe Baker)



John & Chris Purdie Best Young Science Investigator Award (years P-2)

Awarded to the entrant who demonstrates the most enthusiasm and curiosity towards science.

Prize: *Medallion, scientific/educational prize and a certificate.*

(Sponsored by John & Christine Purdie)



Highly Commended Awards (all year categories)

Awarded to excellent entries within each year category.

Prize: *Medallion and a certificate.*



Overall First, Second & Third Class Prizes (all year categories)

Awarded to class groups with the highest overall scores in each year category.

Class Prize: *trophies, scientific/educational prizes and certificates (per class).*



Art in AgRiculTure Awards

- Most Outstanding Art in AgRiculTure Award - Awarded to a winner and runner-up for the overall most outstanding art in agriculture submitted by a class. **Prize:** *trophy.*
 - Individual Winners (each year level). **Prize:** *art & science magazine packs and certificates.*
 - Highly Commended Prize (each year level). **Prize:** *certificate and science magazine.*
- (Sponsored by the Warwick Art Gallery)*



Participation Certificates

Awarded to all students that participate in the competition who do not receive any of the above awards.

Prize: *certificates.*

(Please see appendix 7: [Awards Day program](#) which includes the list of 2016 competition prize winners).

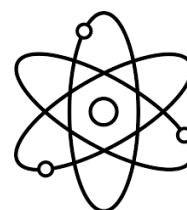
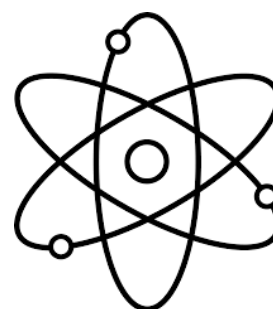
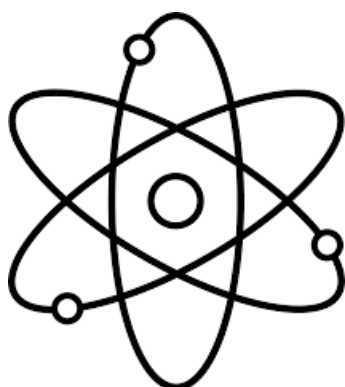
'My Pulse Rules!' projects in state and national science contests



For the past few years, we have been encouraging competition winners to submit their plant science competition projects in the state-wide Science Teachers Association (STA) Science Contests and the national BHP Billiton Science Awards.



This year **Michelle Springolo** (year 6, distance education student from Toowoomba, Qld) entered her 'My Pulse Rules' project in the STAQ Science Contest and she **received 1st place** in her year category! This great result means Michelle's entry will automatically go through to the national BHP Billiton Science Awards and will be judged later in the year.



In previous years, the following students have received great results with their plant science competition projects at state and national level as well.

DAF Hermitage Schools Plant Science Competition winners success at state and national competitions					
Year	Student name	School	Plant science competition result	STA State Science Contest result	BHP Billiton Science Awards result
2015	Emit Jonsson (Year P)	Charters Towers Home School	John & Chris Purdie Young Science Investigator Award	2nd Place – 'No Light...No Life' photosynthesis project	Encouragement Prize
2014	Ethan (Year 7) & Morgan (Year 8) Jonsson	Charters Towers Home School	Ethan – AIA winner Morgan – Highly Commended	Ethan – 2nd Place Morgan – 2nd Place (Bug Attack projects)	Ethan – Encouragement Prize
2013	Sean Callister (Year 7)	Tasmanian eSchool	AIA Award Winner	1st Place – Soils Mind Map Board Game Highly Commended – 'Food, Farming & Fungi project'	No Prize
2012	Tanya Sinha (Year 2)	Westside Christian College, Brisbane	Joe Baker Outstanding Achievement Award	3rd Place – 'What Makes A Weed a Weed?' project	Encouragement Prize
2011	Tanya Sinha (Year 1)	Westside Christian College, Brisbane	Joe Baker Outstanding Achievement Award	3rd Place – 'Are You A Gene Genius?' project	Encouragement Prize

Awards Day & Ag Science Expo

The annual 'Awards Day & Ag Science Expo' was held on Tuesday, 16 August 2016 (during National Science Week) to formally acknowledge competition prize winners and further promote agricultural science to students and the general community.

Aim

The aims of the Awards Day & Ag Science Expo are to:

- Express to children that there is a future in science and agriculture and that science is a great choice for a long-term, rewarding career.
- Provide students an opportunity for personal interaction with DAF scientists and to learn about 'real-world' plant science research projects conducted at HRF and other DAF centres.
- Reward students for their excellent effort and achievements in the competition.
- Formally recognise our sponsors and give them the opportunity to participate in the awards ceremony.

Invitees

The following people were invited to attend the 2016 Awards Day & Ag Science Expo (*please see appendix 6: [Awards Day invitation](#)*):

- School students that submitted a competition entry
- Teachers/principals and parents/family of those students
- The Honourable Leanne Donaldson, Minister for Queensland Agriculture and Fisheries
- DAF Senior Leaders
- Mayor Tracy Dobie (Southern Downs Regional Council)
- Competition sponsors
- Representatives from educational and agricultural organisations
- PROBUS (Warwick)
- GRDC RAC Committee
- Hermitage Research Facility and other DAF staff
- Media (local and regional journalists)
- General community

The following schools attended the Awards Day:

- Pilton State School (via Warwick)
- DDSW STEM Futures (Darling Downs regional schools)
- Freestone State School (via Warwick)
- Federov Homeschool (Russell Is, Brisbane)
- Groves Christian College of Distance Education (Toowoomba)
- Faith Christian School of Distance Education (Kingaroy & Rockhampton)
- Pullenvale State School (Brisbane)
- Ferny Grove State School (Brisbane)
- Toowoomba State High School (SEU, Wilsonton Campus)
- Davies Homeschool (Stanthorpe)
- Our Lady of the Southern Cross College (Dalby)
- Calvary Christian College (Brisbane)
- Windaroo Valley State High School (Beenleigh)
- Glasshouse Christian College (Sunshine Coast)
- Chevalier College (via Sydney, NSW)

The awards day attracted approx. 300 students, teachers, family members, sponsors and DAF staff.

This is the highest number of attendees we've catered for at this event!



Program

Once again, the Awards Day & Ag Science Expo was held outdoors, under a large marquee. The formal awards ceremony began at 9am and the event concluded at 2:30pm, after a tour of Hermitage, ScienceShow Alley displays and lunch for all attendees (please see appendix 7: [Awards Day program](#) to view the full program). The program included:

Formal awards ceremony:

- Welcome and presentation by **Associate Professor Andrew Borrell** (UQ Principal Research Fellow/Hermitage Centre Leader/Ceremony MC).
- Keynote address by **Professor Sagadevan Mundree** (Director, Centre for Tropical Crops & Biocommodities at QUT).
- Address by **Mr Malcolm Letts** (DAF Deputy Director-General of Agriculture).
- 'My Science Journey So Far' presentation by **Miss Ella Wherritt** (UQ student and past competition major award winner).
- 'My Pulse Rules' project entry presentation by **Miss Michelle Springolo** (year 6 student from Groves Christian College of Distance Education).
- Presentation of awards by DAF leaders, sponsors and invited guests.

Ag Science Expo:

- **Guided tour of Hermitage Research Facility** including presentations/displays by:
 - DAF Soil Health
 - DAF Biosecurity Residue Detection Dog Team
 - DAF Qld Boating & Fisheries Patrol
 - DAF Barley Pathology
 - DAF Pulse research
 - DAF Post Harvest Grain Protection
 - DAF Sorghum research

The aim of the tour is to further promote agricultural science and to educate children and guests about the research facilities and scientific research programs undertaken at Hermitage and to show how the competition's experiments and activities are based around what our DAF research scientists are doing in the 'real-world'.

- **'ScienceShow Alley'** interactive displays including:
 - Foods From the Earth (sponsor)
 - Drones, Droids & Robots
 - Count the Chickpea competition
 - DAF Horticulture & Entomology (by Applethorpe staff)
 - DAF Qld Biosecurity Beekeeping
 - DAF Animal Biosecurity & Welfare
 - DAF Farm Machinery (new & vintage)
 - Noah's Farm – animal nursery
 - Warwick State High School – agriculture program and angora goats
 - Ag/Science information and careers
 - Competition science and art entry display
 - BBQ lunch (provided by the Hermitage CWA ladies)

The aim of ScienceShow Alley is to; further promote agriculture in the broader sense; highlight various other research programs undertaken by DAF; showcase the business of our sponsors and other educational/agricultural organisations; and promote agricultural programs at our local schools.

Overall, the Awards Day is a very positive experience for all involved. It provides a wonderful opportunity for DAF staff, the community (schools and families) and industry (sponsors) to come together and build strong relationships. It is also an excellent opportunity for students and teachers to interact with our scientists and staff and understand that the agricultural research we do is helping to produce better crops for farmers to grow and therefore produce better food and fibre products for all Australians (and the world) to enjoy.

Hopefully these young students return home inspired to become Australia's scientists of the future!

Awards Day & Ag Science Expo photo gallery

Awards Ceremony



Associate Professor Andrew Borrell (DAF) gave the opening address



Professor Sagadevan Mundree (QUT) giving his keynote address



Guest speaker, Mr Malcolm Letts (DAF)



Miss Ella Wherritt (UQ student), guest presenter



Michelle Springolo (year 6 student) gave a presentation about her Pulse project



The prize table!

Awards Ceremony



Mary Johnston (sponsor) with the Paul Johnston Memorial Trust (and Conference Award) winners Joel Johnson & Stephanie Ferris



Dr Bruce Pengelly of The Crawford Fund (sponsor) with the International Agricultural Science Award Winner, Joel Johnson



Julie McKerrow of QATC (sponsor) with TASTE Scholarship winners Cameron McLeod and Savannah McIveen



Mr Malcolm Letts (DAF) presented the Joe Baker Outstanding Achievement Awards to Michelle Springolo and Amelie Robertson



Professor Sagadevan Mundree (QUT) presented the Highly Commended Awards



Michele Cooper of Foods From the Earth (sponsor) presented the Overall Class 1st Place prizes

Awards Ceremony



Associate Professor Andrew Borrell, representing UQ (sponsor) presented the Overall Class 2nd Place prizes



Southern Downs Regional Council Mayor, Tracy Dobie, presented the Overall Class 3rd Place prizes



Ms Karina Devine of the Warwick Art Gallery (sponsor) with the multitude of Art in AgRiculTure Award winners



Ms Karina Devine of the Warwick Art Gallery (sponsor) with the overall Most Outstanding Art in AgRiculTure winners from Freestone State School



Associate Professor Andrew Borrell, on behalf of DAF, presented Participation Certificates to students



Approx. 300 students, sponsors, presenters, guests and staff attended the Awards Ceremony

Ag Science Expo



Dr Nikki Seymour (DAF Toowoomba) presenting at the Soil Health tour stop



Greg Horrocks (DAF Biosecurity Qld, Toowoomba) put the residue detection dog team to work during the tour of Hermitage.



Coby Walker (DAF Qld Boating & Fisheries Patrol, Hermitage) talked about native and pest fish during the tour of Hermitage



Taylor Mentha & Anna Price (DAF Hermitage) gave a presentation about all things Pulses during the tour of Hermitage



Lisle Snyman & Greg Platz (DAF Hermitage) talked about barley diseases during the tour of Hermitage.



Dr Greg Daglish & Dr Manoj Nayak (DAF Eco-Sciences Precinct, Brisbane) talked about grain storage and pests during the tour of Hermitage.

Ag Science Expo



Alan Cruickshank (DAF Hermitage) with the sorghum display in the tour of Hermitage



Ken Laws (DAF Hermitage) with the 'Drones, Droids & Robots' display in ScienceShow Alley



Michele Cooper & colleague from Foods From the Earth (sponsor) with their display (including Not Nuts products) in ScienceShow Alley



Peter Nimmo and Heidi Parkes (DAF Applethorpe) added to ScienceShow Alley with an interesting Horticulture & Entomology display.



Mr Bill Winner (Capilano Beekeepers Ltd) spoke to guests about all things beekeeping and handed out popular sample bags at ScienceShow Alley



Di Werner (DAF Biosecurity Qld, Hermitage) informed guests about animal biosecurity and welfare issues at ScienceShow Alley.

Ag Science Expo



Warwick State High School set up their display including Angora goats and other farm animals at ScienceShow Alley



All competition entries were on display in the conference room as part of ScienceShow Alley



Karen George (DET) and Tanya Nagle (AgForce – not pictured) manned a great agricultural careers and information stand in the conference room for ScienceShow Alley



A 'Count the Chickpea Competition' was a bit of fun for all the students. Can you guess how many chickpeas were in the jar?



The Animal Nursery was a popular destination in ScienceShow Alley!



I ♥ Pulses, I ♥ Chickpeas & I ♥ Mungbeans badges produced for all Awards Day students and guests

Award presentations at schools across Australia

As the number of schools participating in the competition increases each year, so do the number of schools that are located in regions outside the Warwick area. Many winning schools are unable to attend the Awards Day at Hermitage Research Facility due to the many hours it would take to travel here.

Rather than just posting prizes to these students, we like to make the award giving more personal and memorable by having DAF staff present prizes. This involves asking staff from DAF centres across the state to volunteer their time to visit schools and present prizes during school parades. This is a great way to formally acknowledge the prize winners and often involves the whole school plus teachers, principals and family members. If a presentation cannot be organised, prizes are posted to the school. The following prize presentations took place this year:

School	Year level	Date for visit	Time	Visiting officer/s
Chancellor State College	7	11 October 2016		Presentations by class teacher
Millchester State School	2/3	4 October 2016	morning	Kelli Pukallus (DAF Charters Towers)

Photo gallery of award presentations across Australia



Prize winning students from Chancellor State College, Sippy Downs



Ioana Oprescu, year 7, Chancellor State College, winner of the AIA Junior Achievement Award



Kelli Pukallus (DAF Charters Towers) presented a Highly Commended Award to Kingston Crowley, year 2, Millchester State School



Kelli Pukallus with the year 2/3 class at Millchester State School who took out Overall 2nd Place in the year P-2 category

Promoting the competition & agricultural science

PIEFA National Conference

Canberra (Realm Hotel) | 1-3 May 2016



The promotion of agricultural science to the education and rural industry sectors and the general community is a key component to encouraging students to pursue higher studies in agriculture and therefore developing a competitive, nation-wide agricultural industry.

PIEFA holds their national conference every 3 years and I attended both previous conferences in 2010 and 2013 to promote the schools plant science competition and DAF on a national level, to learn about other primary industries based programs/resources available to teachers throughout Australia and to network with others involved in the promotion of science and agriculture in schools. In 2016 I was keen to attend the conference again, this time as a 'lightning presenter' with 5mins to promote the competition to the entire audience of 168 conference delegates including teachers/educators, industry and government representatives and national/international key presenters.

During the 3 days, I attended the following conference sessions:

- **Agricultural education for the 21st Century** by Michael D'Occhio and Brett Whelan (University of Sydney)
- **Connecting agriculture education research and practice with the future** by Angela Colliver (Consulting Service), Ku Lacey (Rockhampton Girls Grammar School) & Dr Susumu Takakuwa (Kyoto Women's University)
- **Food and fibre in the Australian Curriculum** by Julie King (ACARA)
- **The value of investing in education to a Research & Development Corporation** by Ashely Norval (Australian Pork Limited)
- **Partnerships in Education, Agriculture & STEM** by Julie Aldous
- **A snapshot of agricultural education across the country** by Alysia Kepert (NAAE)
- **The virtual classroom** by Nicolet Westerhoff (Aurora College)
- **Taking the Lego approach: simple connections** by Michelle Fifield and Jo Hathway (NSW DPI)
- **'Lightning Session' highlighting a series of agricultural programs**
 - **Bridges to Country program** (Kilbreda College)
 - **How mentoring can improve learning experiences in ag education** (Rockhampton Girls Grammar School)
 - **Dairy Science and Technology at Belgenny Creamery** (NSW DPI)
 - **Raising aspirations for food and fibre** (Charles Sturt University)
 - **QATC PACE Program**
 - **Archibull Prize** (Northlakes High School)
 - **'George the Farmer'** (Hello Friday)

My attendance at this conference helped further promote and hopefully attract new nation-wide schools to our competition, provided professional development opportunities (presenting skills), provided further insights into how agriculture can be implemented in the national curriculum and provided networking opportunities. I was particularly impressed with the 'George the Farmer' presentation and spoke with Ben and Simone from the company Hello Friday about the possibility of having them attend a future competition Awards Day to add value to our program with an interactive performance for young students.



'George the Farmer' live show



Robyn Rolfe (Clifton SHS), Mandy Lindsay (Mareeba SHS), Jacqui Schiller (Pittsworth SHS) & Kerrie Rubie



The Realm Hotel and conference delegates



Kerrie Rubie presenting

2016 Australian Pulse Conference

Tamworth War Memorial Town Hall | 12-14 September 2016

The Queensland Government (QG) DAF Hermitage Research Facility and the Australian Pulse Conference Committee joined forces this year in celebration of the 2016 International Year of Pulses and offered two \$1000 Awards to two senior high school students (and an accompanying adult each) to attend the 2016 Australian Pulse Conference in Tamworth (NSW) in September.

Each Award covered two night's accommodation in Tamworth, tickets to attend the conference dinner, the conference tour program and travel funds (to the value of \$1000).

As part of the Award, the winning students, **Joel Johnson** (Faith Christian School of Distance Education, Rockhampton) and **Stephanie Ferris** (Glasshouse Christian College, Sunshine Coast) were asked to present their competition poster entry during the conference to an audience of approximately 300 researchers, agronomists, growers and industry representatives.

This new Conference Award provides an excellent opportunity for students to gain confidence in presenting, communicating and networking with those working in the field of science and agriculture, to discover various career paths and to expand their knowledge on how science and agriculture is used in sustainable food production to deliver food security and nutrition to the world's growing population.

“

Dear Mrs Rubie,
I just wanted to thank you for the opportunity that you presented me on being able to attend the Australian Pulse Conference. I have never been to Tamworth so it was a great experience. At The conference I learnt lots of new information and it was exciting listening to all the different speakers. I really enjoyed presenting my poster and talking to other people as it made me feel proud of what I have achieved. The people who organised and involved in the conference were very kind and I enjoyed their company and going out for dinner with them. They made us feel very welcome. This has given me new knowledge on that there is more to agriculture than just planting a seed in the ground and that there is a lot of hard working people involved in feeding the population. It has made me more interested in the industry and I thank you very much for the experience.

Yours Sincerely, Steph Ferris

I thought the conference was great. Definitely a worthwhile experience, as it provides a chance to meet real scientists & learn about their work. I found the sessions quite interesting - I only wish I could have been there on the Monday when they were presenting the scientific studies. The opportunity has given me a much better perspective on agricultural science, and, along with the Schools Plant Science Competition, led me to think about a career in or related to agricultural science. I think in the future this would be a great addition to the current prizes, as it is very motivational for people interested in science.

Joel

”



Taylor Mentha, William Martin & Merrill Ryan (DAF Hermitage Chickpea Team) with Joel Johnson & Stephanie Ferris



Joel with his parents at the Conference Dinner



Stephanie with her father at the Conference Dinner



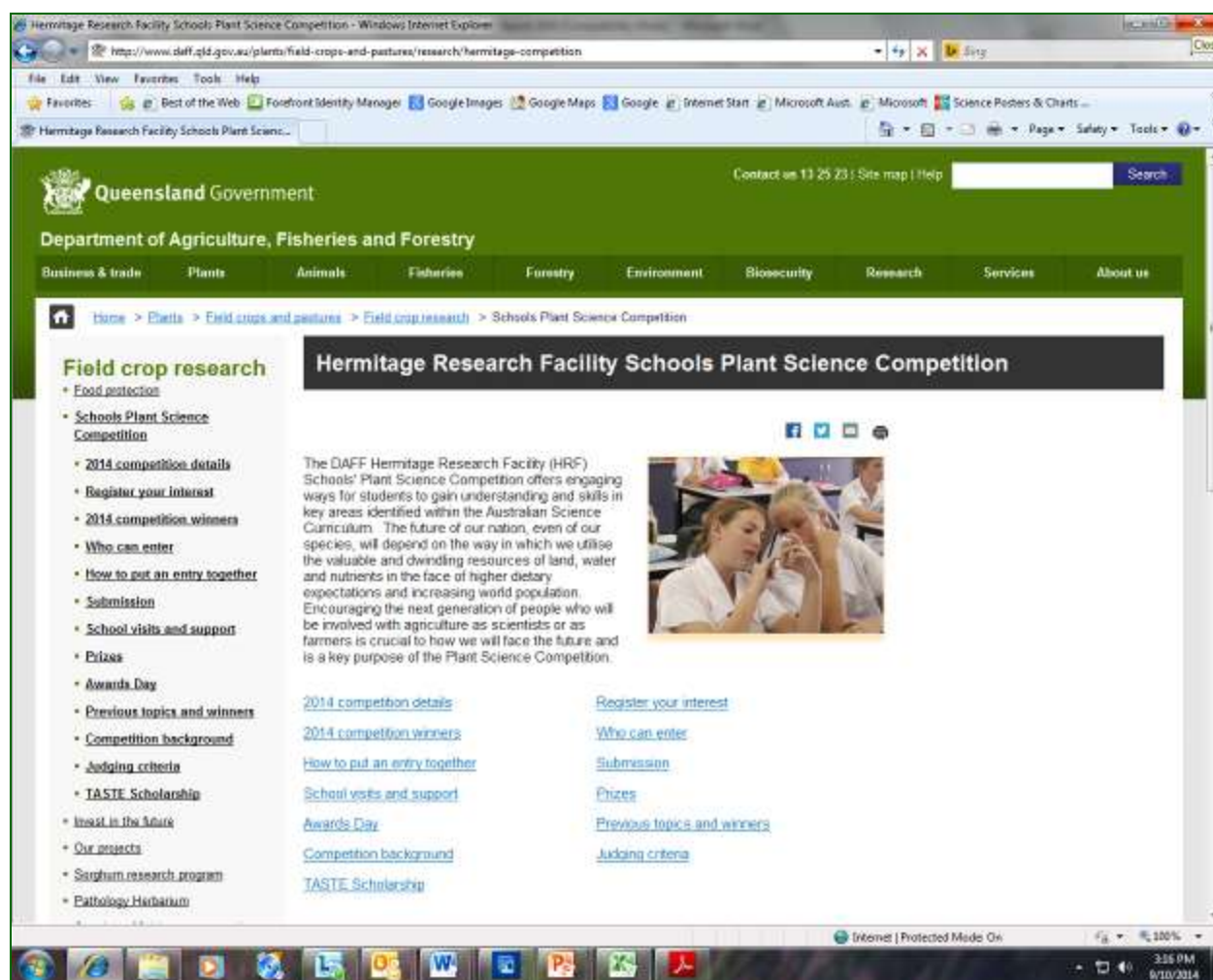
Stephanie and her father enjoy the tour of a nearby research facility glasshouse, with William Martin, during the Conference

Media and web coverage

Publicity of the competition has been widespread reaching many Queensland, interstate and international locations via DAF, sponsor, education and industry websites and networks. (Please see appendix: [Media attention 2016](#)).

Competition website

The competition website can be found at www.daf.qld.gov.au/hermitage-competition. It contains all relevant background and current information on the competition.



Other networks

There are a number of people and organisations who see the value in the plant science competition and promote it through their networks:

- Sponsors
- Educators
- Primary Industries Education Foundation Australia
- National Science Week

Feedback on the competition

We again received favourable feedback from students, teachers, DAF staff and competition sponsors who enjoyed participating in the competition and the Awards Day/Ag Science Expo.

Many teachers thanked us for the opportunity to take part in the competition and said it was a valuable learning resource for students. Here is some of the feedback we received this year:

“

"Hi Kerrie. Thank you for the MSDS. Just thought I'd provide you with a process update on our investigation. I have my Year 10 students doing the competition this year and am excited about their curiosity and excitement that it has generated. Setting the experiments up was a massive task that I greatly underestimated, but we managed it in the end, just! The students have now been taking measurements and getting excited about their progress. Some have extended on their experiment and added lime to the equation. They have also started to grow a number of other pulses just to check them out and will be doing some sprouts as a bit of fun and possibly for ingredients for their recipes. Thank you for such a great opportunity!"

Teacher

"Hi Kerrie, the moment the students are back I will ask Cassandra and Jess for some feedback. They both really enjoyed the experience (TASTE camp) and have decided that they would love to attend an Ag college after school."

Teacher

"Thank you Kerrie, you are an amazing organiser. I am so impressed with all your care and attention to detail and your thoughtfulness. The Pulse Competition, Awards Day & Ag Science Expo are all so well organised. You are the best, Kerrie! We appreciate all your excellent work."

Parent

"Hi Kerrie. Thank you very much for the fantastic opportunities at the Awards Day today. My group of three boys were excited to see each of the tour stops, the ScienceShow Alley stands and could barely contain their excitement as we listened to the speakers and presentations. We were also very impressed with the quality of the other art entries- we'll have to lift our game next year!"

I could not have asked for anything else on the day and you have made an amazing effort to prepare and organise everything. Thank you to all staff and volunteers who worked on the Science Competition and the Awards Day. I am very glad that the competition has become Australia wide and very popular with the numbers of kits and entries received.

When you've had a good rest, a deep breath and you're ready to do it all over again, please sign us up for 2017!"

Teacher

”

“

"It (Awards Day & Ag Science Expo) was a great day. It gets better and better. I loved the involvement of the students in the opening formal part of the programme. Congratulations again for what you have created. Yes, a team effort but you are the key and the glue that sticks it all together. It is a great credit to you."

Invited guest

"Hi! Many thanks for the kind invitation to speak at the Awards Day and Ag Science Expo at Hermitage yesterday. The event was exceptionally well-organised. I was very impressed and moved by the impact you, Kerrie and the Team at Hermitage are having on the next generation of Ag Scientists. I am definitely keen to see QUT participate more actively at next year's event by hosting an exhibition/interactive booth, sponsoring a prize, etc."

Guest presenter

"Excellent! The competition is a firm fixture in our Year 10 curriculum now so you will keep seeing us for the foreseeable future. 😊"

Teacher

"Thanks Kerrie for the excellent hospitality and organising this exciting function, heartiest congratulations! Thanks for sending the photos too."

Tour presenter

"Hi Kerrie, many thanks for another very enjoyable and so-well organised Plant Science awards day. As always we really enjoyed attending and were delighted to meet the winner of the P-2 Young Science Investigator award. It was extra-special meeting Samuel's family and sharing his excitement about his prize as he explained to us, how the robot worked."

"After the awards presentations, while looking at the entries in the conference room, we were also able to have a chat with Mary Johnston. Having Ella Wheritt speak about her 'science journey so far' was an excellent idea and hopefully will inspire other students to continue to study and enjoy science, as well as gently reminding us and many others, of our own journeys in science."

Sponsor

”

Young scientists of the future

As outlined in previous reports, our plant science competition is playing a role in encouraging students to take up careers in science. We will continue to gather feedback and updates from students and teachers (via email, surveys and general communications) about how the plant science competition has encouraged children to continue with science studies and careers.

To help capture the impact our competition is having on participants, a document containing a series of student profiles, highlighting their competition achievements and developing interest in science has been compiled. Please contact kerrie.rubie@daf.qld.gov.au (4660 3601) for a copy.

Below is a snap shot of students who have developed further interest in science after participating in our competition:



Tori Faithful during work experience in the lab at Hermitage in 2011

Student name	School attended	Competition Award	Further studies/career/achievements
Joel Johnson	Faith Christian School of Distance Education	2016 Paul Johnston Memorial Senior Science Award Winner; Conference Award; and Crawford Fund International Agricultural Science Award. 2015 Paul Johnston Memorial Senior Science Award Runner-up.	<ul style="list-style-type: none"> 2017 enrolling in Bachelor of Science at CQU (majoring in Biology or Chemistry). Successful in securing a CQU Robert James Diamond Science Trust Scholarship for 2017.
Ella Wherritt	Gin Gin SHS	2011 & 2012 Paul Johnston Memorial Senior Science Award winner. 2010 Joe Baker Outstanding Achievement Award winner.	<ul style="list-style-type: none"> 2016 Guest speaker at DAF Awards Day & Ag Science Expo. 2013 enrolled at UQ for a Bachelor of Science (majoring in Plant Science & Ecology).
Tori Faithful	Killarney SS (P-10)	2011 AIA Junior Science Achievement Award winner.	<ul style="list-style-type: none"> 2011 recipient of an Agricultural Award at the Killarney State School Awards Night. 2011 completed 2 weeks work experience at Hermitage Research Facility.
Aleisha Strom	Pimlico SHS	2009 Paul Johnston Memorial Senior Science Award winner.	<ul style="list-style-type: none"> 2012 returned to Warwick to complete practical assessment at the Warwick Hospital. 2011 intended to enrol in either Science or Medicine at the James Cook University.
Thomas Bradford	Toowoomba SHS	2008 Paul Johnston Memorial Senior Science Award winner and Joe Baker Outstanding Achievement Award winner.	<ul style="list-style-type: none"> 2015 employed as a casual Technical Officer in the lab at DAF Leslie Research Facility in Toowoomba. Completed a Degree in Engineering with honours and during this time worked as a casual Scientific Assistant with DAF in Toowoomba.
Amanda McCosker	Stanthorpe SHS	2007 Joe Baker Outstanding Achievement Award winner.	<ul style="list-style-type: none"> 2009 selected as one of twelve student participants for the 12 day National Youth Science Forum in Canberra. 2008 completed work experience at Hermitage Research Facility.
Jillian Jackson	Warwick SHS	2000 Incentive Award winner (later renamed the Joe Baker Outstanding Achievement Award)	<ul style="list-style-type: none"> 2007 employed at Charles Darwin University as a Technical Assistant in the science labs. 2006 transferred studies to a Bachelor of Nursing/Bachelor of Science (majoring in peri-operative nursing and genetics). 2004 changed to Bachelor of Nursing. 2003 enrolled at USQ for a Bachelor of Science.

Future of the competition

The competition, now in its 20th year, continues to be very successful. We continually attract a high number of schools to the competition and many schools have become regular participants, registering each year ready to take on a new and interesting plant science challenge.

Many teachers incorporate the competition project as a unit of study within the national curriculum. The competition also successfully links with the Primary Connections program. This program links science with literacy and is an innovative approach to teaching and learning which aims to enhance primary school teachers' confidence and competence for teaching science.
(<http://primaryconnections.org.au/index.html>)

We frequently receive positive feedback from the education sector, students, the general community, sponsors and DAF staff which is great encouragement for the organising committee.

We believe the DAF Hermitage Research Facility Schools Plant Science Competition will continue to grow in popularity and stature and with support from sponsors, DAF and the Education department we will continue to offer the competition to schools throughout Australia.



Appendix 1: 2016 competition flyer

Department of Agriculture and Fisheries

**2016
Hermitage
Schools
Plant
Science
Competition**





2016
INTERNATIONAL
YEAR OF PULSES

Opens 25 January 2016 | Closes 24 June 2016 | Awards Day 16 August 2016

Your tasks:

Plant Science Project Awards (P-12)

- 'Game of Pulses' design/construct a card or board game with a Pulse theme
- 'Why Plant Pulses?' a planting experiment to learn the value in using Pulses in cropping systems (scientific report)
- 'Feed the Farm, Feed the World' case study on Pulses (poster entry)
- 'Plot the Pulses' map the location of Pulse end products in your local supermarket
- 'Pulse-ate-ing Dish' create, cook & capture your own tasty Pulse recipe! (video entry)

Art in Agriculture Awards (P-12)


- Create a Pulse mandala using nothing but Pulse grains!

PRIZES!

\$1000 towards tertiary education
gardening goods
science books & art packs
experiment kits
\$189 science journal subscription
\$250 voucher for science/educational materials
\$495 TASTE scholarships
class trophies
medallions worth \$500
digital microscopes

Register now!


📞 www.daf.qld.gov.au/hermitage-competition | ✉ kerrie.rubie@daf.qld.gov.au | ☎ 07 4660 3666




Appendix 2: 2016 full competition instructions

Department of Agriculture and Fisheries

2016 Hermitage Schools Plant Science Competition




**My
Pulse
Rules!**



2016
INTERNATIONAL
YEAR OF PULSES

Opens 27 January 2016
Closes 24 June 2016
Awards Day 16 August 2016



Queensland
Government

Competition sponsors

GRDC

Grains
Research &
Development
Corporation

Your GRDC working with you



AssociatedGRAIN



Paul Johnston Memorial Trust



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA



EMERALD
AGRICULTURAL
COLLEGE



LONGREACH
PASTORAL
COLLEGE

Education Queensland



PIONEER.
BRAND • SEEDS



GRAINS
RESEARCH
FOUNDATION



warwick
art
gallery

Susan Cruickshank
Tutoring



AG
INSTITUTE



BLUE
Ribbon
SEED & PULSE EXPORTERS



nuseed



THE CRAWFORD FUND
For a Food Secure World

Professor & Mrs
Joe Baker

**SELECTED
SEEDS**

John & Chris Purdie



NewEdge
Microbials

Competition aim

The DAF Hermitage Research Facility Schools Plant Science Competition is an annual competition open to all primary and secondary school students from years P-12. The aim of the competition is to stimulate an interest in science and agriculture in young people and to promote science as a rewarding and exciting career choice.

In this year's competition we are celebrating the International Year of Pulses and will ask students to have fun and perform a series of activities that show why the biology of Pulse crops makes them as much an essential part of profitable, healthy, sustainable farming systems as they are part of a nutritious diet!

Registration

Please register your interest in participating by contacting the Hermitage Research Facility:



<https://www.daf.qld.gov.au/plants/field-crops-and-pastures/research/hermitage-competition/register>



kerrie.rubie@daf.qld.gov.au



07 4660 3666

If registering by email or phone, please supply the following registration information:

- Teacher/contact name
- Teacher/contact email
- School name
- School postal address
- School phone number
- Year level/s participating
- Amount of kits required

Each free kit contains

- 1 x vial of chickpea inoculum
- 2 x packets of chickpea seeds (approx. 20 seeds per packet)
- 8 x planter bags
- 1 x nodulation score sheet (to be supplied via email)

Kit orders will be mailed to registered schools from late January 2016 onwards.

Visit the DAF HRF Schools Plant Science Competition website at
www.daf.qld.gov.au/hermitage-competition



Page 1

Competition tasks

The DAF Hermitage Schools Plant Science Competition is open to all students from years prep to 12 and is made up of two sections (1) **Plant Science Project Awards** and (2) **Art in AgRiculTure Awards**. Students can choose to complete only the Plant Science Project Awards section, only the AgRiculTure Awards section or both sections of the competition (recommended).

1

Plant Science Project Awards

A series of hands-on experiments and activities designed to increase students' knowledge, awareness and interest in agriculture and science.

All year levels (P-12) are asked to complete 2 compulsory activities and at least 1 optional activity as outlined below. Students will need to perform research on the topic and present results from the activities and experiments in a scientific report. Students are also required to keep a science journal to record notes, raw data, thoughts, diagrams, drawings, etc for each of the experiments/activities completed.

Topic: My Pulse Rules!

Tasks: Years P-12

Compulsory activities

1. Why Plant Pulses? – a planting experiment to learn the value in using pulses in cropping systems (scientific report & science journal)
2. Feed the Farm, Feed the World – design a poster explaining the benefits of growing pulse crops (poster entry)

Optional activities (complete at least 1)

1. Game of Pulses – design/construct a card or board game with a pulse theme
2. Plot the Pulses – map the location of pulse end products in your local supermarket
3. Pulse-ate-ing Dish – create, cook & capture your own tasty pulse recipe! (video entry)

2

Art in AgRiculTure Awards

An art project with a theme related to the topic studied in the Plant Science Project Awards. Students link science and art in a fun, interesting and creative way to enhance their learning of the given topic.

Task: Years P-12

- Create a spectacular pulse mandala using nothing but pulse grains!

Note: a google image search on 'mandala' will show you an array of templates you can choose from to use for your artwork.



Page 2

Why study Pulses?

Our major crops fall into one of the two main groupings of plants, the grasses and the broadleaves. Food crops which are grass plants are typically grown for cereal grains. Temperate cereals such as wheat, barley, oats and rye and the tropical cereals rice, sorghum, maize and millet form the staple diet in many cultures.

Broadleaf crops may be grown for oil (soybean, sunflower) or in the case of pulses for protein. Pulses are grain legumes, grown as annual crops, they are harvested when seed or grain is mature. The grain is marketed and sold as a dry product.

Pulses are rich in protein and in the B vitamins however they tend to be low in the essential amino methionine. As such they are not a direct replacement for protein and the nutrition that humans can obtain from an omnivorous diet that contains meat.

Cereal grains are rich in carbohydrate, and while lower in protein than pulses, are a suitable source of methionine. In this way a balanced diet can be composed of cereal grains and pulses.

Similarly our farming systems which are heavily skewed to meet demand for cereals and cereal products cannot exist as a monoculture. Healthy farming systems require a mix of grasses and broadleaved crops. Pulses play a vital role in this balance.

Pulses are legumes, a group of plants that have the unique capacity to fix atmospheric nitrogen and capture it. In this way pulses increase the fertility of our soils and also make use of the nitrogen that they store as protein in their seeds. Through domestication and plant breeding pulses have been bred and improved to have larger grains and more protein. Like cats and dogs pulse grains come in a wide range of size, shapes and colours.

In Australia pulse crop production in 1990 was just 1.3 million tonnes. This had doubled by the year 2000 with pulses worth more than \$700 Million at the farm gate, and a further \$300 million in farming system benefits. Projections are that Australian production of pulses could rise to over 4 million tonnes, with a value of over \$2 billion (farm gate + farming system benefits (source: Pulse Australia)



Page 3

Australian curriculum linkages

Engaging in the activities provided in this competition supports the ACARA Science Curriculum across the three strands (*Science Inquiry, Science Understanding, Science as a Human Endeavour*). The focus on pulse crops including nitrogen fixation and plant sources of protein supports the development of understanding of scientific concepts, processes and practices through hands-on experiments and activities inside and outside the classroom. Students also develop scientific inquiry skills including the ability to make predictions, ask questions, use materials, tools and equipment to measure and record observations, and use evidence to explain scientific findings.

Across curriculum linkages can be made between multiple sciences (eg, biology, agriculture, chemistry, geography) and other subjects such as maths, English, ICT and art. Curricula elements/areas (for each year level) that are relevant to the competition's experiments and activities (in general) are detailed in the following table.

Australian Curriculum (P-10 Science)	
Prep	Living things have basic needs, including food and water
Grade 1	Living things have a variety of external features (ACSSU017)
Grade 2	Living things grow, change and have offspring similar to themselves (ACSSU030)
Grade 3	Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044)
Grade 4	- Living things have life cycles (ACSSU072) - Living things, including plants and animals, depend on each other and the environment to survive (ACSSU073)
Grade 5	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)
Grade 6	The growth and survival of living things are affected by the physical conditions of their environment (ACSSU094)
Grade 7	- There are differences within and between groups of organisms; classification helps organise this diversity (ACSSU111) - Interactions between organisms can be described in terms of food chains and food webs; human activity can affect these interactions (ACSSU112)
Grade 8	Cells are the basic units of living things and have specialised structures and functions (ACSSU149)
Grade 9	- Multi-cellular organisms rely on coordinated and interdependent internal systems to respond to changes to their environment (ACSSU175) - Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)
Grade 10	- The transmission of heritable characteristics from one generation to the next involves DNA and genes (ACSSU184)
Australian Curriculum (Senior Secondary)	
Agricultural Science	- Plant science, animal science and agribusiness (anatomy & physiology of agricultural plants and animals) - Agronomy and animal husbandry - Agriculture is central to national & international economies, supplying food, fibres and other products
Biology	- Survival and reproduction of species - Structure and function of living things - Continuity and change in the living world
Agriculture & Horticulture	Study of plants; insect pests, soils, harvesting, storage
Earth & Space Sciences	- Some of earth's resources are renewable, but others are non-renewable - Water is an important resource that cycles through the environment - Global systems, including the carbon cycle, rely on interactions involving the biosphere, lithosphere, hydrosphere and atmosphere
Geography (Core unit 4)	Feeding the world's people: A key element of food production is agricultural systems. Such systems involve inputs to the land and a series of processes, to generate a range of outputs
Chemistry	- Chemical change involved substances reacting to form new substances - Different types of chemical reactions are used to produce a range of products and can occur at different rates
Physics	Energy transfer through different mediums can be explained using wave and particle models
Science 21	Environment, catalysts for discovery, living systems
Science in Practice	- Identify and explain scientific procedures and processes - Plan investigations, collect, select and record data, use practical scientific skills - Analyse data, predict outcomes and draw conclusions - Present scientific data
EEI	Planning and problem solving through hands-on experimentation.

Useful links/resources

Check out these websites...

<https://www.daf.qld.gov.au/plants/field-crops-and-pastures/broadacre-field-crops>

The Queensland Department of Agriculture and Fisheries (DAF) has a wide range of on-line information available on various field crops, including pulses and their management. Take a look at all the information at your fingertips!

<http://www.grdc.com.au/Resources>

The Grains Research Development Corporation (GRDC), one of the competition's major sponsors, produce a wide range of factsheets and resources for farmers and advisers. Search for a fact sheet titled 'Rhizobial Inoculants - harvesting the benefits of inoculating legumes' for some handy information to compliment your chickpea experiment!

<http://www.crawfordfund.org/focus/food-security-task-force-2008/>

The Crawford Fund, one of the competition's long term sponsors, has produced a report titled 'A Food Secure World: how Australia can help'. Leader of the Crawford Fund Task Force, James Ingram introduces the report and describes how Australia can play a role in world food security. He notes that as the era of cheap food ends, the world faces daunting challenges of food production, climate change and of providing immediate relief for the poor affected by drought, natural disasters and conflict.

Even though this report is not targeted at student level, you may find it a useful resource for the poster (case study) activity.

<http://iyp2016.org/>

'IYP2016.org' was relaunched with a new design. Visit the website for information on resources, how to get involved in the year, access to images, videos, and upcoming competitions.

<http://www.pulseaus.com.au/about/international-year-pulses>

Australia is getting ready for pulses to take centre stage in 2016 in the United Nations declared International Year of Pulses (IYP16), with ambitious and innovative ideas to draw attention to an industry that has recently come of age in our country.

<http://www.pulseaus.com.au/using-pulses/what-are-pulses>

Information about what pulses are, health and environmental benefits and recipes.

http://www.pulseaus.com.au/storage/app/media/markets/2012_Australian-Pulse-Market-Facts.pdf

This document details the drivers of international and domestic pulse markets and provides background details of global production and market demand.

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

The Grains and Legumes Nutrition Council website provides information on the health and nutrition benefits of grains, grain-based foods and legumes.

<https://www.tes.com/teaching-resource/international-year-of-pulses-2016-6-lesson-plans-ks2-11119691>

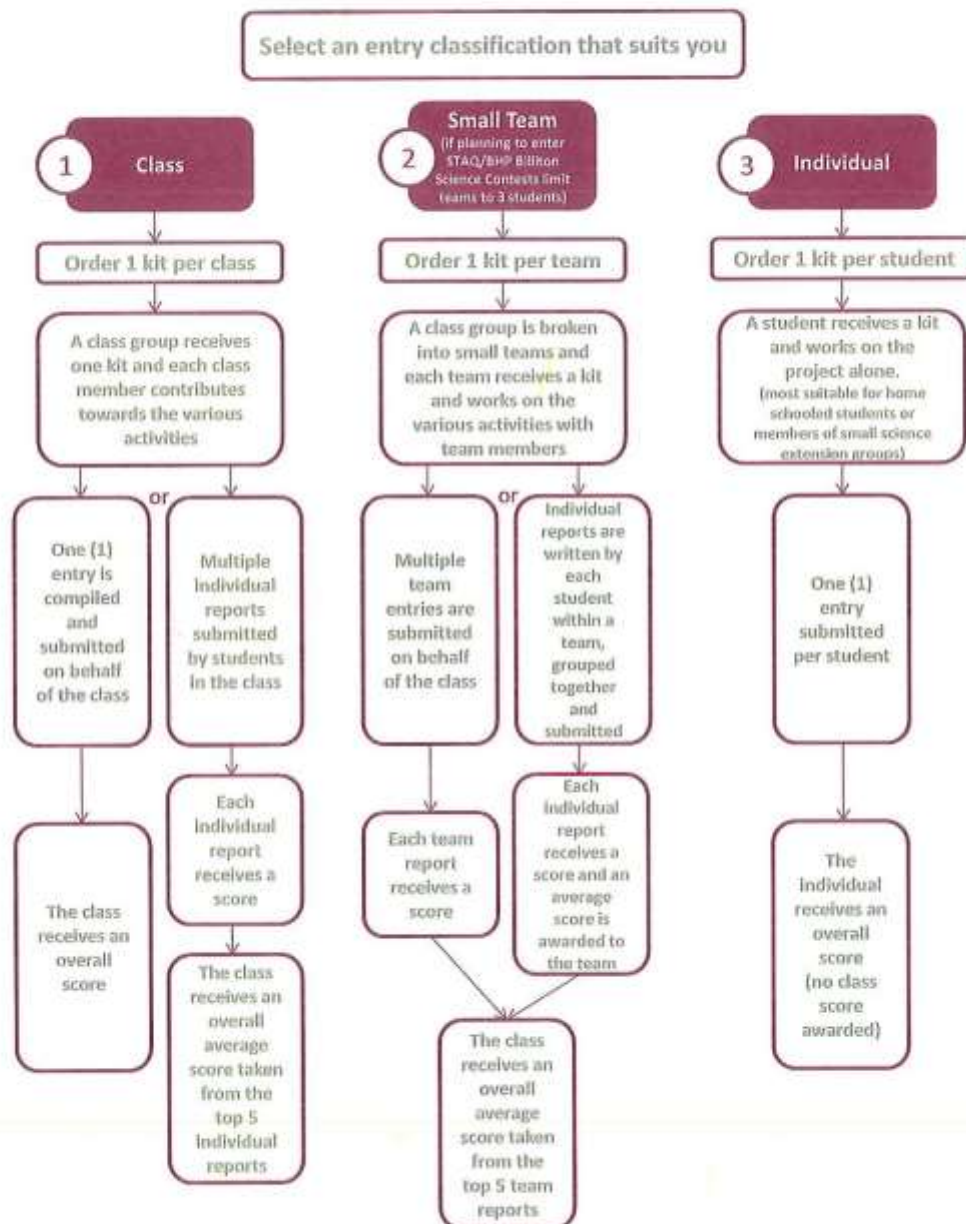
TES is the largest online community of teachers with 7.3 million registered users. The International Year of Pulses 2016 lesson plans are now available on their resource website. TES supports teachers around the world with access to different lesson plans available for download off their website.



Page 5

Setting up the class

The following flow chart provides an outline on how each competition entry classification works and the amount of kits you can order, depending on how you wish to set up your class to work on the project.



Preparing your entry

Science Journal

It is important that you keep a science journal (eg, an exercise book or diary, separate to your scientific report) containing your rough notes on observations (dates/times, temperature/weather recordings, counts, plant health, etc), raw data, thoughts, ideas, diagrams, sketches, research notes, details of farm/industry visits/interviews and any other information that relates to the experiments and activities you've completed. You should then refer to your science journal to write up your scientific report.

Scientific report

Scientific reports are used to communicate the results of science experiments and have a formalised structure usually consisting of the following sections:

- **Title** (either a title page or main heading)
- **Abstract** (paragraph summarising the project and tasks)
- **Introduction** (predictions or hypothesis, aims of the experiment, background information on the topic)
- **Materials & Methods** (how you set up your experiment/s and activities and the materials used)
- **Results** (a factual account of your findings, observations made, data displayed in tables/graphs, photos/samples/sketches)
- **Discussion or Conclusion** (interpretation and explanation of your experiment results, compare outcomes to original hypothesis, explore the importance/significance of your results, how do your results relate to agricultural issues and current information on the topic, outline any new research questions that your results have suggested, include answers to questions outlined with each activity (if applicable), how could the experiments be improved – what would you do differently next time)
- **References or bibliography** (alphabetical list of books, magazines, journals, websites, etc that were used to source information for your report)
- **Appendices** (other relevant information that is not essential to explain your findings but supports your results and conclusions (eg, interview questions/answers, notes from farm/industry visits, etc) – also include results of other activities/experiments completed in this section)

Presentation

You can present your project report using any of the methods below

- **Hard copy** (word processed or neatly hand written documents - stapled, bound or presented in display folder).
- **Electronic files** (compatible with Microsoft software e.g. Word, PowerPoint, Publisher – or convert files to Pdf and submit via email).
- **On-line format** (electronic learning environments on the web – please ensure appropriate logins/passwords are provided to the competition coordinator so judges can access your work).
- **Posters** (word processed or hand written text on cardboard sheets, or electronically designed posters) - scientific report headings to be included.
- **Videos/DVDs** (please ensure sound quality is clear).
- **Any combination of the above**



Submitting your entry

The **closing date** for submission of competition entries is **Friday 24 June 2016** (last day of term 2).

Entry checklist

- ☐ **Scientific report** for compulsory experiment (including Appendices with details of other optional activity/s completed)
- ☐ **Poster** for compulsory activity (either separate document or included as Appendix in your scientific report)
- ☐ **Science journal** (one journal for all activities completed – this is a separate booklet to your scientific report)
- ☐ **Artwork** for the Art in Agriculture Awards (if entering this section)
- ☐ **Each item is labeled** (all reports, journals, artworks, etc labeled with student name, year level and school name)
- ☐ Completed '**Competition Entry Submission Form**' (either hard copy attached with entry, or submit on-line form via website <https://www.daf.qld.gov.au/plants/field-crops-and-pastures/research/hermitage-competition/submission>)
- ☐ Completed '**QG Film/Photo Consent Form**' (hard copy attached with entry, or scanned and emailed to kerrie.rubie@daf.qld.gov.au)
- ☐ **TASTE scholarship application** (years 10-12 only, if applying)

TASTE scholarships



The Emerald Agricultural College and Longreach Pastoral College in conjunction with the DAF Hermitage Research Facility Schools Plant Science Competition are giving senior students a scholarship to attend TASTE 2016 valued at \$495!

All you have to do is complete a TASTE Scholarship Application Form (provided by the Hermitage Research Facility) and submit an entry in the 2016 DAF Schools Plant Science competition.

Email kerrie.rubie@daf.qld.gov.au to receive a copy of the TASTE Scholarship application form.

For more information about TASTE please visit: <http://www.qatc.edu.au/Learn%20with%20us/Pages/TASTE.aspx>

Send entries to



DAF Schools Plant Science Competition
Hermitage Research Facility
604 Yangan Road
WARWICK QLD 4370



kerrie.rubie@daf.qld.gov.au



DAF drop off locations, for receipt of entries, will be advised prior to the competition closing date



Judging criteria

1. Plant Science Project Awards

For judging purposes, students are grouped into 4 year categories (P-2, 3-6, 7-9 & 10-12).

We are only seeking very basic reports from our youngest competitors in years P-2 and teachers/parents are welcome to assist students in writing/compiling their reports. However, we would like to see some evidence of the student's own work (eg, some of their own writing and/or drawings). As the year levels increase, we will look for more detailed content in the reports.

The judging team consists of Hermitage Research Facility staff and/or competition sponsors.

Students are awarded a total score out of 50 based on the following elements evident in their project submission:

Presentation (score out of 10)

- neatness, effort
- grammar/spelling
- layout of text/images
- use of scientific report structure

Content (score out of 20)

- evidence of completed experiments/activities as outlined in this booklet
- information provided in abstract/introduction section
- information provided in materials/method section
- information provided in results section
- information provided in discussion/conclusion section
- science journal content
- demonstrated understanding of the topic and scientific method and process
- "going the extra mile" (evidence of extra experimentation & research into the topic)

Discussions/conclusions (score out of 20)

- was original hypothesis correct or not?
- outline the importance of fair testing
- how do your results compare to current information on the topic?
- what went wrong and what worked well?
- what would you do differently next time?
- how the topic of study and your experiment/activity results are linked to current agricultural issues

(Refer to page 7 for more details on what to include in your scientific report and science journal)

2. Art in AgRiculTure Awards

Artworks are judged by our Art in AgRiculTure Awards sponsors, the Warwick Art Gallery.

Judges are looking for creativity, uniqueness, effort and skill, together with an element of scientific flair.



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Awards and prizes

Senior high school students (years 10-12)

★ Paul Johnston Memorial Senior Science Awards

(two most outstanding entries received)

Winner – \$1000 towards books/materials for tertiary education & a plaque

Runner up – \$500 subscription to scientific journal/s & a plaque

★ The Crawford Fund International Agricultural Science Award

(most outstanding entry relating experiment findings and research to global agricultural issues)

Winner – \$250 voucher for scientific/educational goods & medallion

★ TASTE Scholarship

(awarded to student/s who submit a plant science project entry in the DAF Schools Plant Science Competition and a TASTE Scholarship Application)

Winner – \$495 scholarship to attend 5 day TASTE camp at Emerald, Longreach or Munduberra campuses

Junior high school students (years 7-9)

★ Ag Institute of Australia Junior Science Achievement Awards

(two most outstanding entries received)

Winner – Gold medallion & book prize

Runner up – Book prize

★ Susan Cruickshank Tutoring Junior Scientific Research & Writing Award

(entry demonstrating outstanding research and writing skills)

Winner – \$150 Visa gift card & medallion

Primary students (years P-6)

★ Joe Baker Outstanding Achievement Awards

(most outstanding entries received from both years P-2 and 3-6)

Winner – Scientific/educational based prize & medallion

★ John & Chris Purdie Young Science Investigator Award

(entry demonstrating the most enthusiasm and curiosity towards science from years P-2)

Winner – Scientific/educational based prize & medallion

All year levels

★ Overall 1st, 2nd & 3rd Class Awards

(class groups with overall highest scores within year category)

1st Prize – trophy & digital microscope

2nd Prize – trophy & scientific/educational prize

3rd Prize – trophy & scientific/educational prize

★ Highly Commended Medallions

(excellent/stand out entries within each year category)

Prize – medallion

★ Art in AgRiculTure Awards

(overall winner and runner-up for most outstanding art in agriculture; plus individual winners and highly commended awards per year level)

Overall school winner & runner-up – trophy (each)

Individual winners – art pack and science magazine

Highly commended – science magazine

★ Participation certificates

(to all participants who do not win above prizes)

State and national science contests

Entries in the DAF Hermitage Schools Plant Science Competition are also eligible to be entered into the relevant state Science Teachers Association (STA) Science Contests and the national BHP Billiton Science & Engineering Awards.

STA Science Contests



For more information on STA Science Contests in your state, please visit:

QLD	http://www.staq.qld.edu.au/student-competitions/
NSW	http://www.stansw.asn.au/default.aspx?nav_id=61&child_id=62
VIC	http://www.sciencevictoria.com.au/sts/index.html
WA	http://stawa.net/science-talent-search-2014/
NT	https://sites.google.com/site/stantsite/08---science-competitions
SA	http://www.sasta.asn.au/student_activities/oliphant_science_awards
TAS	http://stat.org.au/tsts/tsts-bhp-billiton-science-prizes/

BHP Billiton Science Awards



When submitting your entry at state level (STA Science Contests) you can also choose to participate in the national BHP Billiton Science Awards. An entry form for these awards needs to be attached with your entry in the state contest. Prize winners at state contests will automatically go through to the national BHP Billiton Science Awards. For more information on the BHP Billiton Science Awards please visit:

<http://www.scienceawards.org.au/default.asp>

Showcasing your entries!

A selection of high quality competition entries may be placed on display at various events throughout the year such as:

- Warwick's Jumpers & Jazz in July festival (<http://jumpersandjazz.com/>)
- Royal Queensland Show (Ekka, Brisbane) (<http://www.ekka.com.au/>)
- Queensland University of Technology (QUT) 'The Cube' (<http://www.thecube.qut.edu.au/>)
- Competition's Awards Day & Ag Science Expo, DAF Hermitage, Warwick, 16 August 2016
- Australian Pulse Conference, Tamworth (NSW), 12-14 September 2016



Plant Science Project Awards

Compulsory Activity 1: Why plant pulses? (experiment)



Pulse crops offer a number of benefits for our farming systems. Primarily, they grow in symbiosis with specific soil bacteria and 'fix' atmospheric nitrogen which makes our soils healthier and can produce grain rich in protein.

Pulses provide a break, or rotation, from the intensive production of crops such as wheat, barley, sorghum and even sugarcane. Growing pulses allows the 'eco-system' of our farms to recover, they break pest and disease cycles and reduce weed pressure. Deep-rooted pulses such as chickpea can improve the soil structure as well as fertility.

Experiment duration:

Approximately 8 weeks

Materials:

Provided by the Hermitage Research Facility:

- 1 x vial of inoculum (to be kept cool/cold until used)
- 2 x packets of chickpea seeds
- 8 x planter bags
- 1 x nodulation score sheet (provided via email)

You will need to supply:

- 2 x trays to place your planted chickpea pots in.
- A light sandy soil to put in the planter bags (a sandy soil makes washing the soil from the roots much easier).
- Scissors, to cut the planter bags at the end of the experiment.
- A bucket of water – to wash sand from the roots at the end of the experiment.



"Legumes are members of a family of flowering plants known as Leguminosae. It is one of the three largest families of flowering plants, with approximately 690 genera and about 18,000 species".



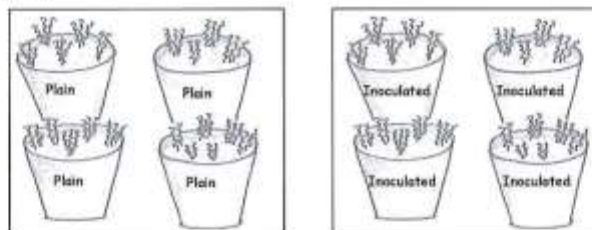
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Task:

Write a scientific report and keep a science journal with your notes, raw data, graphs, photos, drawings, results and research for the chickpea planting experiment.

Experiment method:

1. When you receive your experiment kit, place the inoculant in a cool place, ideally a fridge (not freezer), until you are ready to plant the seeds.
2. When you are ready to begin the experiment, fill the 8 planter bags with the sandy soil, divide them into 2 groups of 4 bags and place them on two separate trays, label 4 bags in one tray "plain" and 4 bags in the other tray "inoculated".
3. Plant the chickpeas from one packet in the 4 bags labelled "plain". (Around 4 seeds per bag at a depth of 4cms). **Please do not open the inoculum while you are planting the plain (untreated) seed. It is important that no inoculum comes in contact with this plain seed.**
4. Open the other packet of seeds and tip the inoculant into the packet. Close and shake the packet to coat the seeds with the inoculant. **Note: The inoculant won't harm you if you get it on your skin.**
5. Plant these treated chickpeas in the other 4 bags labelled "inoculated". (Around 4 seeds per bag at a depth of 4cms).



6. Water them regularly (2 or 3 times per week) and observe their growth.
7. Once the plants grow to 6cm in height or have grown for about 3 weeks, pull a couple out of each bag so that you are left with 2 plants per bag. They will then have enough room to grow properly.
8. Once the chickpeas have grown for about 8 weeks, cut the planter bags down the side (or tip the plants out of the pots) and immerse in a bucket of water. The water will gently wash the sandy soil away from the roots of the chickpeas. Carefully remove the plants from the bucket of water and observe. **(Note: Nodules will break away from roots if the soil is not washed away carefully).**
9. Compare what you find on the roots of the inoculated chickpeas with those of the untreated (plain) plants. You can use the rating chart (provided to you via email) to give your plants a rating.



Compulsory activity 2: Feed the farm, feed the world (poster)



'Feed the farm, feed the world' is the theme of the 2016 Australian Pulse Conference (APC). The aims of the APC are to heighten awareness of the benefits of pulse cultivation to the sustainability of farming systems, to increase food security as well as to improve human nutrition and to increase awareness and understanding of the challenges facing Australian farmers to produce high quality pulses.

<http://www.prdc.com.au/Media-Centre/Events/2016/09/Australian-Pulse-Conference>

Task/Scenario

You have been asked to present a poster at the upcoming Australian Pulse Conference. Chose **one or more** of the six major pulse groups grown in Australia: chickpea, faba/broad bean, field pea, lentil, lupin and mungbean and explain the benefits of growing pulse crops in relation to good farming practices, what research is being done, where they are exported to, how they are used and global food security, as outlined below:

1. **Where and when** - where in Australia is your choice of pulse grown, what season is it grown in? (e.g. states grown, climate etc).
2. **Why - Benefits to cropping systems** - using the results from your chickpea planting experiment as an example, briefly explain how pulses are beneficial in cropping systems (e.g. inoculum, nitrogen fixing, healthy soils). What are other agronomic benefits of growing pulses? (e.g. disease/weed break (rotation), sowing depth).
3. **How - Crop Improvement** - what current research is happening in Australia (breeding, pathology, entomology, legume quality) to ensure good quality crops are grown for human consumption?
4. **Export** - Where in the world is your choice of pulse exported to and how much does Australia export? (e.g. countries exported to, tonnage)
5. **End products** - what foods are made from the pulse you chose both domestically and overseas and how can they be used to improve our diet?
6. **Food security** - how could pulses be used to help feed an increasing world population? (e.g. nutrition, protein content, value to diet)



"Dahl is one of the most popular foods derived from chickpeas. Chickpeas are a staple food in the Middle East and the subcontinent. India is the largest buyer of Australian chickpeas."



Useful websites

The following websites from the Useful Links section will provide helpful information for this poster:
<http://www.glnc.org.au/> and <http://www.pulseaus.com.au/using-pulses/what-are-pulses> and
http://www.pulseaus.com.au/storage/app/media/markets/2012_Australian-Pulse-Market-Facts.pdf

Requirements

Your poster may be presented electronically or as a hard copy (printed document or assembled poster using cardboard and cut outs, etc). Your poster should include an overall title, main headings with responses to the 6 questions above and a series of photos, maps, diagrams and any other relevant information.

We are only looking for very basic posters from our youngest competitors in years P-2 and teachers/parents are welcome to assist students in writing/compiling their poster. However, we would like to see some effort from the students themselves (eg, some of their own writing and/or drawings, maps or graphs). As the year levels increase, we will look for more detailed content in the posters. A document further detailing content expected in scientific posters will be made available early in 2016.

Your poster may be submitted as a separate document or included as an Appendix (attached at the end) of the Scientific Report that you have done for your chickpea experiment.

The Crawford Fund International Agricultural Science Award

The student who submits the most outstanding poster in the year 10-12 year category will be named winner of The Crawford Fund International Agricultural Science Award and will receive a \$250 voucher to use at a pre-approved store!



Optional activity 1: Game of Pulses



Pulses are the product we farm and harvest from a diverse group of grain legume crops that grow in temperate and tropical regions.

Can you use your imagination to illustrate and educate others on the diverse range of pulse crops that are grown in Australia and/or recipes that are cooked in different cultures, through a fun and interactive game?

Try to include aspects of how and why we farm pulses - what products and recipes are different pulses used in, which countries are the most important producers of pulses, which countries consume the most, which are the most valuable pulses and which are the most nutritious? The answers might surprise you!

Task

Use your imagination to design an educational, fun, card or board game using information you've researched about Pulses. Write up your design process and game instructions as an 'Appendix' (attached at the end) of the Scientific Report that you have done for your chickpea experiment. Any rough designs, research notes, thought process, etc should be recorded in your science journal.

Some Ideas

- Card 'match up' game – find photos of a variety of pulse grains, mature plants/crop, seed pods and summarised information on each pulse crop and print these onto separate cards. Mix them around and ask players to successfully match up each photo card with the correct information card. An alternative could be to match pulses to their recipes and countries of origin.
- Board game – design a game similar to 'snakes and ladders' where you can move through a series of squares, falling down for example on a 'bad weather' square (crop damage, reduced harvest) and climbing up on a 'disease free' square (bumper harvest)! Consider insect pests, diseases, local markets, harvest/grain yield, grain storage, exports, imports, food products, etc for other squares in order to move forward or go backwards through the game!
- Farmer monopoly - where you go around the board and buy farms and machinery and must balance cereal and pulse crops instead of houses and hotels, watch out for Chance cards that bring drought or frost, or welcome rain or a plague of grasshoppers and caterpillars!
- 'Top Trumps' or 'Yugi Oh' style game – where game cards battle to be king of the pulses. Which is the largest grain size? Which is the most nutritious, has the highest content of protein?
- Think of other fun card or board games that you know...can you give them a Pulse twist?



"The expression 'blackball' comes from the ancient Greek and Roman practice of using beans for voting. A white bean signifies acceptance, while a black bean means rejection. The black-eyed pea is eaten on New Year's Day in the southern United States to bring good luck for the coming year".



Optional activity 2: Plot the pulses



Global society, mixing of cultures, exposure to new recipes and traditions, international travel and TV cooking shows are some of the factors that are influencing our changing eating habits. Ask your parents and grandparents about meals they remember. Did they eat pulses in their diets?

What pulses do you see at your local shops, grocers, delicatessen or supermarket?

In what form can we buy pulses – some you can recognise some are harder to spot.

Materials

You will need to supply:

- Clipboard
- Blank paper
- Pencil, eraser

Task

Visit your local supermarket, draw a rough layout (map) of the store and mark on your map where pulse products are displayed and provide answers to the following questions:

1. Are pulse products in a prominent (easily visible/accessible) position? If not, where do you think they should be placed in order to grab customer's attention?
2. Select 5 different pulse products and determine if they were made in Australia and what their nutritional value is (present your information in a table).
3. Do you think it's a good idea to include pulses in your diet and why?
4. Can you find any products in your kitchen pantry at home that contain pulse ingredients?

Attach your store map and answers to questions as an 'Appendix' (attached at the end) of the Scientific Report that you have done for your chickpea experiment.



"Did you know that chickpea flour makes great cakes and biscuits?"

Poppadums are made from lentil or mungbean flour. Have you ever tasted mungbean juice? No, really! It is a traditional remedy across Asia, taken in summer and works to cool down your body's metabolism.

Did you know that pulses are not just savoury and can be made into delicacies and desserts in some cuisines!"



Optional activity 3: “Puls-ate-ing” Dish



This researcher from the Hermitage Research Facility works as a plant breeder to develop new higher yielding and more resilient varieties of pulse crops for Australian farmers. As a former vegetarian he has extra special motivation for working on pulses!

He is tucking into a delicious, nutritious, salad with kabuli chickpea.

What recipe can you find and make that is based around pulses?

Materials:

You will need to supply:

- Ingredients/utensils (for cooking)
- Video camera (or smart phone)
- Video editing software (if required)
- A rating/score sheet (for taste testing survey)

Task and method:

1. Have your video camera/smart phone ready to capture all the fun of creating your own tasty “Pulse-ate-ing” Dish! Record the whole process and then edit (if required) to produce a short, fun and catchy video (no more than 5 mins duration).
2. Once you have decided on a recipe (or have created your own new recipe) write it out neatly and creatively on an A4 page/card (electronically or hard copy). Include a photo of your finished dish, plus a list of ingredients, method and nutrition panel.
3. Prepare and/or cook your pulse dish! (note: young students may require adult supervision for preparation/cooking).
4. Design a rating sheet and ask classmates or family members to taste test and rate your dish!
5. Include your recipe and rating sheet as an Appendix (attached at the end) of the scientific report that you have done for your chickpea experiment.

Sharing your recipes!

If enough entries are received for this activity, DAF staff at the Hermitage Research Facility will consider compiling all recipes and produce a ‘Pulse-ate-ing Recipe Book’ to share with all participating schools, DAF staff and sponsors of the 2016 competition!



“Did you know...”

Mungbeans are the most readily digestible pulse – the easiest on your tummy!

Most legumes, like lentils and beans are high in selenium, zinc, phosphorus, calcium, potassium and folate.

Certain varieties of beans, like soy bean, are packed with an anti-inflammatory compound known as saponins. This compound lowers the cholesterol levels, boosts the immune system and protects the body against cancer. However, cooking beans excessively destroys the saponins present in them.

For those who are vegetarian, legumes are the best forms of protein. Unlike meat, most legumes are low in cholesterol and fat, which is why they are much healthier in comparison.

There is a significant amount of fiber present in legumes, because of which they improve digestion. Other nutrients that are found in legumes include vitamins, iron, starch and lime.”

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Art in AgRiculTure Awards

Pulse mandala!

The Art in AgRiculTure Awards are designed to combine art and science and have students create an art piece related to the topic studied in the Plant Science Project Awards. Students link science and art in a fun, interesting and creative way to enhance their learning of the given topic.

Materials:

You will need to supply:

- Artboard, thick cardboard or thin ply wood
- Pulse grains in a multitude of colours
- Mandala template
- Craft glue
- Optional – clear, protective coating product



Task (years P-12):

Create a spectacular Pulse mandala using nothing but pulse grains!

Specifications:

- Recommended size for individual artworks is A4, however, you are not limited to this size
- Complete your artwork on thick cardboard or art board or thin ply wood (for strength and durability)
- Design your own mandala template or use a pre-existing one
- You can purchase a large range of pulse grains in an array of colours and sizes from your local supermarket
- Use a suitable, strong, craft glue to adhere pulse grains to your board
- You may like to protect the completed artwork by applying a clear 'lacquer' from your local hardware or art store

Submitting your entry

- **Preferred method** - submit your original artwork via post/courier/or deliver to one of the specified drop off locations (to be advised)
- Submit a digital version of your artwork (eg, a photograph or video) but please note, when it comes to judging, a digital version may not create as much visual impact as an original artwork

Showcasing your artwork

Submitted artworks are likely to be displayed at various events to showcase your wonderful work and to promote the competition. All care will be taken in transporting and displaying your artwork, but some damage may still occur.

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Appendix 3: Schools registered for 2016 competition

PARTICIPATING SCHOOLS, CONTACTS AND KITS REQUIRED									
'My Pulse Rules!'									
START DATE: 27 January 2016									
CLOSING DATE: 24 June 2016									
AWARDS DAY: 16 August 2016									
No. of Schs	School	Number of kits requested (for year groups)				Kits Posted	Comments	Comments	
		Prep-2	3 - 6	7 - 9	10 - 12				
	Networks (circulate info to):								
	Primary Science Educator								
	Ex AgForce & PIEF director								
	AgForce								
	VIDA								
	DAF Agnbusiness Skills								
	Landcare								
	Condamine Alliance								
	Darling Downs RAC								
	Ex GRDC								
	2016 registrations of interest:								
1	Jandowae P-10 State School								
1	Millchester State School	5	5			9.2.16		send 10 kits for multiple students doing experiments at school	
1	Oakey State High School				2	3.2.16		send 2 kits for year 10	
1	Corinda State High School			3		3.2.16		send 3 kits for year 9	
1	Calvary Christian College				10	8.2.16		send 10 kits for year 10 class of 20 students	
1	Homeschool (Mounser-Scott family)		1	1		3.2.16		Send 2 kits for children in years 5 & 7	
1	Chancellor State College			15		8.2.16		send 15 kits for year 7 (and maybe year 8)	
	Faith Christian School of Distance Education								
1		3	3	3	2	24.2.16		send 11 kits for years P to 10	
1	- Todd family		1	1	1	3.2.16		send 3 kits for Eleanor (yr 10), Benjamin (yr 8) and Clare (yr 6)	
1	- Johnson family		1	2	1	8.2.16		send 4 kits for students in yrs 4, 7, 9 & 12	
1	- Faint family			1		24.2.16		send 1 kit for Samuel in year 8	
1	- Perterson family							daughter Taylor doing the project (kit supplied by other teacher)	
	- Prochon family		1	1		12.4.16		send 2 kits for children in years 2, 5, 7, 10	

1	Pilton State School	2	2			10.2.16	resend 2 kits for years P - 6	send 4 kits for years P - 6
1	Berry Springs Primary School	5	40			8.2.16	send 45 kits for 5 x lower primary classes (1 kit each) and 5 x upper primary class	
1	Homeschool (O'Sullivan family)	1	1			10.2.16	send 2 kits for children in years 2 & 4	
1	Wynnum State High School			10		15.2.16	send 10 kits for years 8 & 9	
1	Townsville South State School	44				8.2.16	send 50 kits for 4 x classes (P/1)? working in pairs	
			6			8.2.16	send 6 kits for years 4/5/6	
1	Murray's Bridge State School	1				10.2.16	send 1 kit for years P-3	
1	Darling Downs South West STEM Futures		3	1		15.3.16	hand deliver enquired about competition for an activity for state wide gifted & talented group to c	
			6			20.4.16	hand deliver require another 6 kits	
1	Cummins Area School	10	10	10	10	15.2.16	send 40 kits for students in years F-10	
1	Roma State College				4	15.2.16	send 4 kits to 18 x year 11 Ag students	
1	Homeschool (McCambridge family)	2	1			8.2.16	send 3 kits for children in yrs P. 2 & 3	
4	had to pull out due to classroom changes						send 8 kits for year 3/4 class (24 students in groups of 3). Has been made part of	
1	The Hall State School		5			15.2.16	send 5 kits for year 4 students	
1	The Silkwood School		17	17	16	15.2.16	send 50 kits for students in years 4-11	
1	Warwick State High School						send information on the 2016 competition	
1	Homeschool (Radnedge family)		1	1	1	10.2.16	send 3 kits for children in years 5, 7 & 12	
1	Mareeba State High School				5	8.2.16	send 5 kits for year 10 class	
1	Chevalier College			1	1	8.2.16	send 2 kits for years 9 or 10	
1	Ormeau Woods State High School			2	1	10.2.16	send 3 kits - 2 for year 8 extension group and 1 for year 12	
1	Homeschool (Davies family)	3	2		2	15.2.16	send 7 kits for children in yrs P. 1, 2, 5, 6, 10 & 11	
1	Windaroo Valley State High School			10		16.2.16	send 10 kits for a lunch time science group of 30 x year 10 students	
1	Homeschool (Springolo family)		1			15.2.16	send 1 kit to child in year 6	
1	St Stephens Catholic College			2		15.2.16	send 2 kits for year 9	
4	had to leave went on long service and no other teacher followed through with the project						send 2 kits for years 1, 8 & 9	
4	Warwick State High School	2					send 2 kits for years 1 & 2	
1	Pittsworth State High School				3	10.2.16	send 3 kits for years 10/12	
1	Mapleton State School		9			16.2.16	send 9 kits for year 3 class	
1	Homeschool (Porter family)		2			15.2.16	send 2 kits for children in yrs 4 & 6	
1	Homeschool (Chun family)		2			10.2.16	send 2 kits for children in yrs 4 & 6	
1	Homeschool (Anderson family)		1			15.2.16	send 1 kit for child in yr 6	
1	Homeschool (Hughes family)	1	1	1		10.2.16	send 3 kits for children in yrs 2, 4 & 7	
1	Homeschool (Taylor family)			1		15.2.16	send 1 kit for child in yr 7	
1	Mount View Primary School		1			3.2.16	send 1 kit to Tanya (yr 6) to do project at home	
1	Homeschool (Illingworth family)	1	1			10.2.16	send 2 kits to children in yrs P & 5	

1	Teloopa Park School			11		8.2.16		send 11 kits for year 7
1	Daveen State School	1	2			10.2.16		send 3 kits for years P-6
1	Elomanga State School	1	1			10.2.16		send 2 kits for years P-5
1	Homeschool (Pepper-Martin family)		1	1		10.2.16		send 2 kits for children in yrs 4 & 7
1	Pimlico State High School			5	5	15.2.16		send 10 kits for students in years 7-10
1	Prince of Peace Lutheran College	7	7			16.2.16		send 2 kits for each year level in years P-6 (14 kits in total)
1	Kapunda High School			1	1	8.2.16		send 2 kits for years 9 & 11
1								Instructions sent, as per CSC request
1	Springsure State School			2		15.2.16		send 2 kits for year 9/10
1	Middle Park State School		5			16.2.16		send 5 kits for years 4-6
1	Homeschool (Berling family)		1			16.2.16		send 1 kit for children in years 4 & 7
1	Homeschool (Miller family)		1	1		10.2.16		send 2 kits for children in years 5 & 7
1	Dalby South State School		4			16.2.16		send 4 kits for years 4, 5 & 6
1	Homeschool (Wallace family)	1	2			8.2.16		send 3 kits for children in yrs 1, 5 & 5
1	New Moon Classroom	1	1			16.2.16		send 2 kits for children in yrs 1 & 4
1	Homeschool (Pye family)	2		1		10.2.16		send 3 kits for children in yrs 1, 2 & 7
1	Darling Downs Homeschool	1		1	1	10.2.16		send 3 kits for children in yrs 2, 7 & 10
1	Homeschool (Cuthbertson family)		1			16.2.16		send 1 kit for child in yr 4
1	Homeschool (??? Family)	2				16.2.16		send 2 kits for children in yr 2
1	Homeschool (Gluch family)	2				16.2.16		send 2 kits for Marika (yr 1) and Remi (Kindy)
1	Homeschool (Duckworths family)		2			16.2.16		send 2 kits for children in yr 5
1	Hilcrest Christian College			7	7	15.2.16		send 14 kits for years 9 & 10
1	Homeschool (Meier family)		2			16.2.16		send 2 kits for children in yr 3
1	Rosedale State High School			6	2	16.2.16		send 2 kits per class for years 7-10 (8 kits in total)
1	Normanton State School	2	4	2	2	16.2.16		send 10 kits for years P-10
1	Pullenmale State School		8			15.2.16		send 8 kits for years 3-6
			10			11.4.16		send 4 more kits for science club members
1	Burndberg Christian College			40		16.2.16		send 40 kits for year 9
1	Deception Bay State High School				2	16.2.16		send 2 kits for year 10
1	Centenary Heights State High School			7	7	16.2.16		send 14 kits for years 9 & 10
4	send info on experiment duration and copy of instructions							
1	Homeschool (Gander family)		1			8.2.16		send 1 kit for child in yr 5
1	Homeschool (deBeer)		2			16.2.16		send 2 kits for children in yrs 4 & 6
1	Mount Gravett State High School			10	10	24.2.16		send 20 kits for years 7-12

1	Homeschool (Fedorov family)?		1	1		16.2.16		send 2 kits for children in yrs 3 & 7
1	Riverview State School	1				16.2.16		send 1 kit for child in yr 2
1	Homeschool (Carriage family)		1			24.2.16		send 1 kit for child in yr 4
1	Namboo State College			2		16.2.16		send 2 kits for years 7-8
1	Homeschool (Blythe family)	1				8.2.16		send 1 kit for child in yr 1
1	Maymount College				4	24.2.16		sent instructions and Chris will check if he can fit it in. Send 4 kits for 16 x year 1
1	Kunwongbah State School		1			24.2.16		send 1 kit for year 3 class
4	unable to complete as had to do moderation with other class							send 30 kits for years 8 & 9
1	Dakabin State High School				30	24.2.16		send 30 kits for year 11 & 12 students
1	Homeschool (Handley family)	3	3	2	2	24.2.16		send 10 kits for "all" year levels?
1	Homeschool (Major family)			2		24.2.16		send 2 kits for children in yrs 7 & 9
1	Coomababah State High School			12		24.2.16		send 12 kits for years 7 & 8
1	Homeschool (Gonzalez family)		2			24.2.16		send 2 kits for children in yrs 3 & 4
1	Homeschool (Hammonds family)		1			15.2.16		send 1 kit for child in year 3
1	Cunnamulla P-12 State School	1		1		24.2.16		send 2 kits for years P/1 & 1/1/12
1	Creaiti Homeschool		1	1		24.2.16		send 2 kits for children in yrs 3 & 8
1	Homeschool (Bell family)	1	2			8.2.16		send 3 kits for children in yrs 1 & 4
1	Homeschool (March family)		1			24.2.16		send 1 kit for child in yr 5
1	Chirchilla State High School				15	24.2.16		send 15 kits for year 10
1	St Aidan's Anglican Girls School		11			24.2.16		send 11 kits for year 4
1	Dundee Beach School	2	2			15.2.16		send 4 kits for P-6
1	Freestone State School							participating in art comp only
1	Southern Vales Christian College			6		15.2.16		send 6 kits for years 8/9
1	Keebra Park State High School							send information on competition
1	Homeschool (Delamare family)	1	1			24.2.16		send 2 kits for children in yrs 2 & 6
1	James Baker of Hercules Road State School		1			24.2.16		send 1 kit for student in year 4 doing project on his own
1	Black Gully Homeschool		2			24.2.16		send 2 kits for students in years 3 & 5
4	The completed chickpea trial but unable to finish other tasks in time frame for various year levels							send 1 kit for child in year 6
1	Homeschool (Grace family)		1			24.2.16		send 2 kits for children in years 1 & 4
1	Homeschool (Williams family)	1	1			24.2.16		send information on competition
1	Woodville High School							send information on competition
1	New England Girls' School			7		29.2.16		send 7 kits for years 8-9
				2		14.3.16		send another 2 kits
1	Richmond River High School			8		29.2.16		send 8 kits for years 8 & 9
1	Einmaus College			4	1	29.2.16		send 5 kits for years 7/8/9/10

1	Goodenough Home Education		2			7.3.16		send 2 kits for children in years 3 & 5
1	Oakbank Area School			2		7.3.16		send 2 kits for year 7
1	Timboon P-12 School		3			8.3.16		send 3 kits for year 4/5 class
1	Kimberley Park State School		10			22.3.16		send 10 kits for year 5/6 G&T students
1	Cannon Hill Anglican College			10		11.4.16		send 10 kits for years 7-9
1	Hilliard State School		5			11.4.16		send 5 kits for year 3/4 class
1	Mitchellton State School		10			11.4.16		send 10 kits for extra-curricular science club
1	Noosa District State High School			4		12.4.16		send 4 kits for years 7 & 8
1	Grand Avenue State School		2			12.4.16		send 2 kits for year 4
1	Colac West Primary School	1				12.4.16		send 1 kit for year 2/3
1	Unity College		2	2	3	12.4.16		send 7 kits for years 6,7,10 (2 x classes) & 11
1	St Savour's Primary School		1			12.4.16		send 1 kit for year 3
1	Wishart Primary School		4			12.4.16		send 4 kits for year 6
1	Frenchville State School		3			12.4.16		send 3 kits for 3 x year 3 classes
1	Injune P-10 State School		5			20.4.16		send 5 kits for years 3-4
1	Cooktown State School				8	26.4.16		send comp instructions. Send 8 kits for years 10 & 11.
1	Our Lady of the Southern Cross				3	26.4.16		send 2 kits for years 11/12
						26.4.16		participating in art section only
1	Hillcrest Christian College			1		26.4.16		send 1 kit for year 9
1	Murgon State School		1			26.4.16		send 1 kit for years 2-6
1	St Philomenas	3	3	3	3	27.4.16		send 12 kits for years K-10
1	Highfields State Secondary College			1		5.5.16		send 1 kit for year 9
1	Mumshomeschool	2	1					TOO LATE TO ENTER -
1	Homeschool	1	2					TOO LATE TO ENTER -
1	Emerald Agricultural College		1					TOO LATE TO ENTER -
1	Homeschool (Smith family)		1					TOO LATE TO ENTER -
1	Indooroopilly State High School				1			TOO LATE TO ENTER -
164		132	347	434	217			
					1130		total kits on order	
Coloured cells (under 'kits posted' column) indicate the various batches of kits posted.								
	Interstate Schools							

Appendix 4: Example of 2016 judging score sheet

Judge's name: _____

STUDENT NAME/S: _____ GRADE: _____ SCHOOL: _____		ENTRY CLASSIFICATION: (see Entry Submission Form) <input type="checkbox"/> Class <input type="checkbox"/> Small team <input type="checkbox"/> Individual	ENTRY TYPES: <input type="checkbox"/> Scientific report <input type="checkbox"/> Science journal <input type="checkbox"/> Pulse Poster <input type="checkbox"/> Pulse game/map/video
TOTAL SCORE: 50	20	Scientific Report ('Why Plant Pulses?' – inoculated v's uninoculated chickpea experiment) * is the report well presented? <input type="checkbox"/> YES <input type="checkbox"/> NO /2 Does the scientific report, for the chickpea/nodulation experiment, contain evidence of: <u>Introduction/Method/Results:</u> * an introduction/aim/hypothesis? <input type="checkbox"/> YES <input type="checkbox"/> NO /1 * research or background information about the topic? <input type="checkbox"/> YES <input type="checkbox"/> NO /2 * a list of materials and methods used? <input type="checkbox"/> YES <input type="checkbox"/> NO /1 * observations made (eg, inspection/watering dates, temperature/weather, description of plant growth/health, nodulation count, etc) <input type="checkbox"/> YES <input type="checkbox"/> NO /3 * results presented in tables or graphs? <input type="checkbox"/> YES <input type="checkbox"/> NO /1 * photos, drawings/sketches, samples included? <input type="checkbox"/> YES <input type="checkbox"/> NO /1 <u>Discussion/Conclusion:</u> * initial predictions compared to actual outcomes? <input type="checkbox"/> YES <input type="checkbox"/> NO /2 * summary of results/findings? <input type="checkbox"/> YES <input type="checkbox"/> NO /2 * comments on the affect inoculum has on chickpea plants? <input type="checkbox"/> YES <input type="checkbox"/> NO /2 * comments on what went wrong/what you would do differently next time? <input type="checkbox"/> YES <input type="checkbox"/> NO /1 * comments on the importance of fair testing? <input type="checkbox"/> YES <input type="checkbox"/> NO /1 * have students related their findings to current information on the topic/agricultural issues? <input type="checkbox"/> YES <input type="checkbox"/> NO /1	
	5	Science Journal Students were required to submit a science journal for their chickpea/nodulation experiment. * does the science journal contain thorough content (raw data, notes, thoughts, ideas, sketches, etc)? <input type="checkbox"/> YES <input type="checkbox"/> NO /5	
	15	Pulse Poster ('Feed the Farm, Feed the World') Students were asked to present a poster about 1 or more of the 6 major pulse crops grown in Australia and explain the benefits of growing pulses (in their responses to the following questions): <i>(place a score beside each question for the level/amount of content provided on the poster)</i> 1. Where in Australia and what season is the pulse grown? /2 2. Using results from the chickpea experiment briefly explain how pulses are beneficial in cropping systems /2 3. What current research is happening in Australia to ensure good quality crops are grown for human consumption? /2 4. Where in the world is the pulse exported to and how much does Aust. export? /2 5. What foods are made from the pulse and how can they be used to improve our diet? /2 6. How can pulses be used to help feed an increasing world population? /2 * is the poster well-presented/designed? <input type="checkbox"/> YES <input type="checkbox"/> NO /3	
	5	Optional Activity (at least 1 should have been completed –provide score for 1 activity only) <input type="checkbox"/> 'Game of Pulses' (use your imagination to design an educational, fun, card or board game using information you've researched about pulses. Write up your design process and game instructions too. /5) <input type="checkbox"/> 'Plot the Pulses' (visit your local supermarket, draw a rough layout of the store and mark on your map where pulse products are displayed. Answer the 4 questions provided (see pg 17 of instructions). /5) <input type="checkbox"/> 'Pulse-ate-ing Dish' (create and cook a tasty pulse dish and record the whole process in a 5min video. Include a recipe sheet (list of ingredients, method, nutrition panel & photo of dish) and a taste testing rating sheet) /5	
	5	Have students "gone the extra mile"? * completed extra research, experiments or activities on the topic? <input type="checkbox"/> YES <input type="checkbox"/> NO /2 * participated in excursions/farm/industry visits, performed interviews with specialists, etc to gain further knowledge on the topic? <input type="checkbox"/> YES <input type="checkbox"/> NO /1 * demonstrated good/thorough knowledge and understanding of the topic? <input type="checkbox"/> YES <input type="checkbox"/> NO /2	
		Comments/Feedback: <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	
Prize Awarded:		If more than one individual or team report is submitted by a class, please provide an average score for the class from the top 5 entries.	
		50 CLASS AVERAGE:	

Appendix 5: Suite of certificates presented to students



Appendix 6: Awards Day invitation (sent via email)

RUBIE Kerrie A

From: RUBIE Kerrie A
Sent: Thursday, 21 July 2016 3:03 PM
Subject: Your Official Invitation - Awards Day & Ag Science Expo (DAF Hermitage Schools Plant Science Competition) - Tuesday 16th August 2016



Invitation – Awards Day & Ag Science Expo – Tuesday 16th August 2016

Time: 8:45am arrival for Sam start - finish at approximately 2:30pm
Venue: DAF Hermitage Research Facility, 604 Yangan Road, Warwick Q 4370
RSVP: Kerrie Rubie (via reply email or phone 4660 3601) by Friday, 5th August 2016
(please advise of any special dietary requirements and the numbers of students and adults attending)

"Reinforce what you've learnt about pulses this year and discover more from our guest speakers, key research scientists and staff about the importance of agricultural science and its relevance to our daily lives!"

Program highlights:

Awards ceremony (9:00am) *sharp*

- Master of Ceremonies: Associate Professor Andrew Barrell (Crop Physiology (UQ-QAAR) & Hermitage Centre Leader)
- Key speaker: Professor Sugadevan Mundree (Director of the Centre for Tropical Crops & Biocommodities at QUT)
- Guest speaker: Mr Malcolm Letts (DAF Deputy Director-General of Agriculture)
- Guest speaker: Miss Ella Wherritt (UQ student & past competition major prize winner)
- Guest speaker: *to be advised* (presentation about competition project by school student/group)
- Presentation of awards by DAF leaders, sponsors and Kerrie Rubie (including photographs on stage)
- Brief media session (photographs with presenters and students by media and roaming photographers)

Tour of Hermitage Research Facility (11:00am – 12:30pm) *approx.*

DAF research presentations: pulses | soil health | sorghum | barley | post-harvest grain protection | Qld boating & fisheries patrol | Biosecurity Qld residue detection dog team

'ScienceShow Alley' displays (11:00am – 2:30pm) *approx.*

Foods From the Earth (sponsor) | Woods Foods (sponsor) | DAF Biosecurity Qld beekeeping | DAF Biosecurity Qld (livestock & property management) | DAF - horticulture & entomology | DAF/UQ 'Drones, Droids & Robots' | Warwick State High School (Ag program/angawa goats) | Scots PGC College, Warwick (Ag program/cattle & sheep) *to be confirmed* | animal nursery | farm machinery (new & vintage) | competition entries & artwork display | science/ag information and careers | Free BBQ lunch by Hermitage Branch CWA Ladies @ 12:30pm

Further information:

- Student's family members are welcome to attend.
- Free BBQ lunch for all attendees (including all students) - please advise if you have any special dietary requirements and we will do our best to cater for your needs.
- There is no specific break time allocated for morning tea, however students may bring a snack to eat during the tour of Hermitage (if required).
- Please bring a coat as Warwick weather can be windy and cold in August. A hat/sunscreen is recommended for outdoor activities including tours, displays and lunch.
- A full program (including a map to Hermitage) will be emailed to attendees prior to the event. Hard copies will be available at the event.

The staff at the DAF Hermitage Research Facility look forward to seeing you at the Schools Plant Science Competition 'Awards Day & Ag Science Expo' this August!

Kind regards,



Kerrie Rubie
Administrative Officer
Regional Business & Administration Services
Department of Agriculture and Fisheries

T 07 4660 3601 E kerrie.rubie@daf.qld.gov.au W www.daf.qld.gov.au
Hermitage Research Facility, 604 Yangan Road
Warwick Q 4370

Customer Service Centre 13 75 28

Appendix 7: Awards Day program

Department of Agriculture and Fisheries

PROGRAM: Awards Day & Ag Science Expo 2016 Hermitage Research Facility Schools Plant Science Competition

Thank you for attending the Awards Day and Ag Science Expo for the 2016 'My Pulse Rules!' themed DAF Hermitage Research Facility Schools Plant Science Competition.

We hope the awards ceremony, tour of the Hermitage Research Facility, 'ScienceShow Alley' displays and BBQ lunch are enjoyed by all and that students become even more inspired to continue studies or consider careers in the field of agricultural science.

Enjoy the day!

*Many thanks to the Queensland Government
(Department of Agriculture and Fisheries) and our sponsors for enabling us to
conduct the 2016 Schools Plant Science Competition and Awards Day & Ag Science Expo*



AssociatedGRAIN



Paul Johnston, Minister of State



Education Queensland



Susan Cruickshank
Tutoring



Professor & Mrs
Joe Baker



John & Chris Purdie



PROGRAM | AWARDS DAY & AG SCIENCE EXPO | 16 August 2016

Time	Event	Presenter
8:45am	<i>Arrival - All guests please report to front office and sign in upon arrival, then make your way to the main marquee at the eastern side of the main building. (See map 1 for parking locations).</i>	
9:00am	Awards Ceremony	
9:00am	Welcome presentation: 'Why study science?'	Associate Professor Andrew Borrell (UQ Principal Research Fellow & DAF Hermitage Centre Leader)
9:10am	Keynote Speaker: 'Feed the Farm, Feed the World'	Professor Sagadevan Mundree (Director, Centre for Tropical Crops and Biocommodities at QUT)
9:20am	Guest Speaker: 'DAF's Pulse Research'	Mr Malcolm Letts (DAF Deputy Director-General of Agriculture)
9:30am	Guest Speaker: 'My Science Journey So Far'	Miss Ella Wherritt (UQ student and past competition major award winner)
9:40am	Guest Speaker: 'My Pulse Rules Project'	Miss Michelle Springolo (2016 Joe Baker Outstanding Achievement Award Winner, year 6 student, Groves Christian College of Distance Education, Toowoomba)
9:50am	<i>Presentation of Awards (students to remain on stage after receiving awards for group photo with presenter)</i>	<i>Presenters: DAF leaders, competition sponsors and competition coordinator, Kerrie Rubie</i>
9:50am	Paul Johnston Memorial Senior Science Awards	Mrs Mary Johnston (Paul Johnston Memorial Trust - sponsor)
9:55am	2016 Australian Pulse Conference Award recipients	Announcement of winners (certificates presented at Conference in Tamworth)
10:00am	The Crawford Fund International Agricultural Science Award	Dr Bruce Pengelly (The Crawford Fund - sponsor)
10:05am	TASTE Scholarship Awards	Ms Julie McKerrow (Communications & Marketing Manager, QATC - sponsor)
10:10am	AIA Junior Science Achievement Awards	Announcement of winners
10:15am	Susan Cruickshank Tutoring Junior Scientific Research and Writing Award	Mrs Susan Cruickshank (sponsor) Announcement of winner (award recipient unable to attend)
10:20am	Joe Baker Outstanding Achievement Awards	Mr Malcolm Letts (on behalf of Professor & Mrs Joe Baker - sponsor)
10:25am	John & Chris Purdie Best Young Science Investigator Award	Mrs Chris Purdie (sponsor)
10:30am	Highly Commended Awards	Professor Sagadevan Mundree (Director, Centre for Tropical Crops and Biocommodities at QUT)
10:35am	Overall First Prizes	Ms Michele Cooper (Foods From The Earth, Blue Ribbon Seeds - sponsor)
10:40am	Overall Second Prizes	Dr Andrew Borrell (Associate Professor, UQ Principal Research Fellow - sponsor)
10:45am	Overall Third Prizes	Mayor Tracy Dobie (Southern Downs Regional Council)
10:50am	Participation Certificates	Dr Andrew Borrell (Associate Professor, UQ/Principal Research Fellow & Centre Leader, DAF Hermitage)
10:55am	Art in Agriculture Awards	Ms Karina Devine (Warwick Art Gallery - sponsor)
	<i>Brief media session if time permits (local journalist/s with students and presenters) (Note: further photo opportunities will arise throughout the day)</i>	

Time	Event	Presenter
11:00am onwards	Ag Science Expo <ul style="list-style-type: none"> • <i>Tour of Hermitage</i> (assemble in groups with your tour guide, as outlined later in this program) • <i>ScienceShow Alley displays</i> (can be visited at any time after 11am) 	
11:00am	Guided tour of Hermitage Research Facility featuring presentations on current DAF research projects <ol style="list-style-type: none"> 1. DAF Soil Health 2. DAF Biosecurity Qld Residue Detection Dog Team 3. DAF Fisheries 4. DAF Pulse Research 5. DAF Barley Research 6. DAF Post-Harvest Grain Protection 7. DAF Sorghum Research 	Please see Map 1 for tour locations
12:30pm	BBQ lunch by the Hermitage CWA	
11:00am onwards	Interactive 'ScienceShow Alley' displays <ul style="list-style-type: none"> • Drones, Droids & Robots – in agriculture • Foods From the Earth – pulse food products • DAF Horticulture & Entomology • DAF Biosecurity Qld Beekeeping • DAF Biosecurity Qld Animal Welfare • Animal nursery • Farm machinery (new and vintage) • Warwick State High School (Angora goats & Ag) • Scots College, Warwick (Sheep & Ag) • Ag/Science information and careers • Competition science and art entries display 	Please see Map 2 for display locations
2:30pm	Finish	

**This program may be subject to change without prior notice*



AWARD WINNERS - 2016 DAF HERMITAGE RESEARCH FACILITY SCHOOLS PLANT SCIENCE COMPETITION

AWARD		SCHOOL / STUDENT RECIPIENT	PRIZE
Year 10-12	Paul Johnson Memorial Senior Science Award Winner	Joel Johnson (year 12), Faith Christian School of Distance Education, Rockhampton, QLD	\$1000 towards text books/resources for first year of tertiary education + plaque + certificate
	Paul Johnson Memorial Senior Science Award Runner Up	Stephanie Ferris (year 10), Glasshouse Christian College, Beenleigh, QLD	12 month subscription to a scientific journal of student's choice (valued at \$500) + plaque + certificate
	2015 Conference Awards	Joel Johnson (year 12), Faith Christian School of Distance Education, Rockhampton, QLD	\$1000 towards costs to attend the 2016 Australian Pulse Conference, Townsville, NSW + certificate
	The Crawford Fund International Agricultural Science Award	Joel Johnson (year 12), Faith Christian School of Distance Education, Rockhampton, QLD	\$250 gift voucher at approved store for scientific/educational materials + medalion + certificate
	GATC TASTE Scholarships	Lachlan Barr (year 10), Gateway State High School, QLD Cameron McLeod (year 10), Gateway Christian College, Brisbane, QLD Kyla Stoltz (year 12), Penzance State High School, Hyde Park, QLD Sarahah Matheson (year 12), Our Lady of the Southern Cross College, Coffs, QLD	Scholarship to attend GATC TASTE 2016 (or 2017) camp valued at \$450 (each) + certificate
	Highly Commended Award	Wileyla De Oliveira, Emma Morley-Stuchman and Alexandra Ryan (year 10), Gateway Christian College, Brisbane, QLD David Chiorita and Anna James (year 10), Gateway Christian College, Brisbane, QLD Lachlan Ross (year 10), Glasshouse Christian College, Beenleigh, QLD Jing Wong (year 10), Centenary Heights State High School, Toowoomba, QLD	Medallions + certificates
	Overall 1 st Prize	Gateway Christian College (year 10), Beenleigh, QLD	Trophy, digital microscope + certificates
	Overall 2 nd Prize	Glasshouse Christian College (years 10-12), Beenleigh, QLD	Trophy, raised garden bed + certificates
	Overall 3 rd Prize	Chancellor College (year 10), Brisbane, QLD	Trophy, science DVD + certificates
	Overall 4 th Prize	Chancellor College (year 10), Brisbane, QLD	Book + certificate
Year 7-9	AIA Junior Achievement Award Winner	Joanna Christou (year 7), Chancellor State College, Sippy Downs, QLD	\$150 visa gift card + certificate
	AIA Junior Achievement Award Runner Up	Joannah Hatt (year 8), Centenary Heights State High School, Toowoomba, QLD	Medallions + certificates
	Simon Groom Award (winning school) - Research & Writing Award	Kyrus Carr (year 8), Centenary Heights State High School, Toowoomba, QLD	Trophy, digital microscope + certificates
	Highly Commended Award	Sarthak Shrivastava (year 7), Chancellor State College, Sippy Downs, QLD Ben Howarth (year 7), Chancellor State College, Sippy Downs, QLD Mackenzie Brown (year 7), Chancellor State College, Sippy Downs, QLD	Trophy, raised garden bed + certificates
	Overall 1 st Prize	Chancellor State College (year 7), Sippy Downs, QLD	Trophy, science DVD + certificates
	Overall 2 nd Prize	Centenary Heights State High School (year 8), Toowoomba, QLD	Medallion + science prize + certificate
	Overall 3 rd Prize	Centenary Heights State High School (year 8), Toowoomba, QLD	Medallions + certificates
	Overall 4 th Prize	Michelle Springdale (year 8), Grimes Christian College of Distance Education, Toowoomba, QLD	Trophy, digital microscope + certificates
	Overall 5 th Prize	Lee Hollis (year 8), Hollis Home Education, Brisbane	Trophy, raised garden bed + certificates
	Overall 6 th Prize	Ryan Tausseff, Dylan Watson & Tejas Bhargava (year 4), Grand Avenue State School, Brisbane, QLD	Medallion + science prize + certificate
Year 3-6	Highly Commended Award	Ryan Clark & Aidan Hanson (year 6), Pullenvale State School, Brisbane, QLD	Medallions + certificates
	Overall 1 st Prize	David Murray (year 4), Faith Christian School of Distance Education	Trophy, digital microscope + certificates
	Overall 2 nd Prize	Ferry Grove State School (year 3), Brisbane, QLD	Trophy, raised garden bed + certificates
	Overall 3 rd Prize	Pilton State School (years 3-6), via Warwick, QLD	Trophy, science DVD + certificates
	Overall 4 th Prize	Calvin State School (years 3-6), via Warwick, QLD	Medallion + science prize + certificate
	Overall 5 th Prize	Calvin State School (years 3-6), via Warwick, QLD	Medallions + certificates
	Overall 6 th Prize	Calvin State School (years 3-6), via Warwick, QLD	Trophy, digital microscope + certificates
	Overall 7 th Prize	Calvin State School (years 3-6), via Warwick, QLD	Trophy, raised garden bed + certificates
	Overall 8 th Prize	Calvin State School (years 3-6), via Warwick, QLD	Trophy, science DVD + certificates
	Overall 9 th Prize	Calvin State School (years 3-6), via Warwick, QLD	Medallion + science prize + certificate
Year P-2	Encouragement Award	Calvin State School (years P-2), via Stanmore, QLD	Medallions + certificates
	Joe Baker	Amelle Robertson (year 2), Pilton State School, via Warwick, QLD	Trophy, digital microscope + certificates
	Outstanding Achievement Award	Samuel Murray (year 1), Faith Christian School of Distance Education	Trophy, raised garden bed + certificates
	John & Christine Purdie Young Science Investigator Award	Kingston Crowley (year 2), Milchester State School, Charters Towers, QLD	Medallion + science prize + certificate
	Highly Commended Award	Miriam Comberidge (year 2), Education State School, via Cawley, QLD	Medallions + certificates
	Overall 1 st Prize	Pilton State School (years P-2), via Warwick, QLD	Trophy, digital microscope + certificates
	Overall 2 nd Prize	Milchester State School (years 2), via Charters Towers, QLD	Trophy, raised garden bed + certificates
	Overall 3 rd Prize	Bilambil State School (year 2), via Cawley, QLD	Trophy, science DVD + certificates
	Overall 4 th Prize	Bilambil State School (year 2), via Cawley, QLD	Medallion + science prize + certificate
	Overall 5 th Prize	Bilambil State School (year 2), via Cawley, QLD	Medallions + certificates
All	Participation Certificates	To all students who did not receive an above mentioned prize	

Art in Agriculture results on next page...

CATEGORY	AWARD	SCHOOL / STUDENT RECIPIENT	PRIZE
School Award (years P-12)	Most Outstanding Art in Agriculture Award Winner	Freestone State School, via Warwick, QLD	Trophy
	Most Outstanding Art in Agriculture Award Runner-up	Delvaux State School, via Sandstone, QLD	Trophy
	Most Outstanding Art in Agriculture Award	Pilton State School, via Warwick, QLD	Certificate
	Most Outstanding Art in Agriculture Award	Pilton State School, via Warwick, QLD	Certificate
Year prep	Winner	Ellis Davies, Homestead, Stanmore, QLD	Art materials/science magazine & certificate
	Highly Commended	Ruth Murray, Faith Christian School of Distance Education	Science magazine & certificate
Year 1	Winner	Torran Summers, Pilton State School, via Warwick, QLD	Art materials/science magazine & certificate
	Highly Commended	Meg Tuckington, Pilton State School, via Warwick, QLD	Science magazine & certificate
Year 2	Winner	Kylie Drew, Pilton State School, via Warwick, QLD	Art materials/science magazine & certificate
	Highly Commended	Cheryl-Jane Davies, Homestead, Stanmore, QLD	Science magazine & certificate
Year 3	Winner	Ani Gill, Pilton State School, via Warwick, QLD	Art materials/science magazine & certificate
	Highly Commended	Cailey Spink, Pilton State School, via Warwick, QLD	Science magazine & certificate
	Highly Commended	Angela Curtis, Pilton State School, via Warwick, QLD	Art materials/science magazine & certificate
Year 4	Winner	Taylor Peterson, Faith Christian School of Distance Education	Science magazine & certificate
	Highly Commended	David Murray, Faith Christian School of Distance Education	Science magazine & certificate
Year 5	Winner	Stewart Statham, Pilton State School, via Warwick, QLD	Art materials/science magazine & certificate
	Highly Commended	Aimee Williams, The General Farm Homestead, Kinross, VIC	Science magazine & certificate
	Highly Commended	Isabella Walling, The General Farm Homestead, Kinross, VIC	Science magazine & certificate
Year 6	Winner	Michelle Springolo, Groves Christian College of Distance Education, Traralgon, QLD	Art materials/science magazine & certificate
	Highly Commended	Emilee Taylor, Faith Christian School of Distance Education, Brisbane, QLD	Science magazine & certificate
Year 7	Winner	Tenisha Hughes, Taylor Fahy & Morgan Simons, Windaroo Valley State High School, via Beenleigh, QLD	Art materials/science magazine & certificate
	Highly Commended	Rebecca Walker, St Oswald State High School, Brisbane, QLD	Science magazine & certificate
Year 8	Winner	Zoe Grenfell, Belle Allen & Tasha Schatz, Windaroo Valley State High School, via Beenleigh, QLD	Art materials/science magazine & certificate
	Highly Commended	Emilee Taylor, Faith Christian School of Distance Education, Brisbane, QLD	Science magazine & certificate
Year 9	Winner	Taylor Coplick, Kayla Morley & Cassie Warren, Windaroo Valley State High School, via Beenleigh, QLD	Art materials/science magazine & certificate
	Highly Commended	Stacy Patten, Alex Hyslop & David Patten, Windaroo Valley State High School, via Beenleigh, QLD	Science magazine & certificate
	Highly Commended	Kelly Smith, Glen Inis, WA	Science magazine & certificate
Year 10	Winner	Cathy Mitchell, Gleeshouse Christian College, Beervan, QLD	Art materials/science magazine & certificate
	Highly Commended	Marianne Wright, Windaroo Valley State High School, via Beenleigh, QLD	Science magazine & certificate
Year 11	Winner	Beth Murray, Faith Christian School of Distance Education	Art materials/science magazine & certificate
Year 12	Winner		
	Highly Commended		

Thank you to all participants of the 2016 DAF Hermitage Research Facility Schools Plant Science Competition!



Guided Tour Hermitage Research Facility 11:00am – 12:30pm

Students and guests will form 7 groups to participate in the tour and presentations, with each group starting at a different tour stop (see group information below and attached layout of Hermitage for the tour circuit). **10mins has been allocated per tour stop** so please make your way to each tour stop in a timely manner.

* Please refer to Map 1 for display locations *

<p>Group 1</p> <p><i>Pilton State School (42)</i></p> <p>Tour Guide: Ms Colleen Hunt</p>	<p>start at Tour stop ①</p> <p>DAF Soil Health</p> <p>Presenter: Dr Nikki Seymour (Senior Soil Microbiologist, DAF Toowoomba)</p>	
<p>Group 2</p> <p><i>Fedorov, Springolo, Murray, Peterson, Clark families & Ferny Grove State School (26)</i></p> <p>Tour Guide: Ms Sue Behan</p>	<p>start at Tour stop ②</p> <p>DAF Biosecurity Residue Detection Dog Team</p> <p>Presenter: Mr Greg Horrocks (Senior Biosecurity Officer, DAF Toowoomba)</p>	
<p>Group 3</p> <p><i>DDSW STEM Futures & Freestone State School (39)</i></p> <p>Tour Guide: Ms Katie McIvor</p>	<p>start at Tour stop ③</p> <p>DAF Fisheries</p> <p>Presenter: Mr Coby Walker (Queensland Boating & Fisheries Patrol Officers, DAF Hermitage)</p>	
<p>Group 4</p> <p><i>Davies, Johnson, McIveen families & Chevalier College (26)</i></p> <p>Tour Guide: Ms Judy McIlroy</p>	<p>start at Tour stop ④</p> <p>DAF Pulse Research</p> <p>Presenters: Ms Taylor Menthia & Ms Anna Price (Senior Plant Breeder, DAF Hermitage)</p>	
<p>Group 5</p> <p><i>Windaroo Valley State High School & Calvary Christian College (38)</i></p> <p>Tour Guide: Mr Andrew Skerman</p>	<p>start at Tour stop ⑤</p> <p>DAF Barley Research</p> <p>Presenters: Barley team (Technical Officer, DAF Hermitage)</p>	
<p>Group 6</p> <p><i>Glasshouse Christian College (20)</i></p> <p>Tour Guide: Ms Tracey Shatte</p>	<p>start at Tour stop ⑥</p> <p>DAF Post-Harvest Grain Protection</p> <p>Presenters: Dr Greg Daglish & Dr Manoj Nayak (Principal Research Scientists, DAF EcoSciences Precinct, Brisbane)</p>	
<p>Group 7</p> <p><i>Toowoomba State High School (Wilsonton Campus) & Chancellor College (21)</i></p> <p>Tour Guide: Dr Barbara George-Jaeggli</p>	<p>start at Tour stop ⑦</p> <p>DAF Sorghum Research</p> <p>Presenters: Mr Alan Cruickshank (Plant Breeder, DAF Hermitage)</p>	

SCIENCE SHOW ALLEY

Open between 11:00am – 2:30pm

Students and guests are welcome to visit the ScienceShow Alley displays at any time between 11am and 2:30pm. These displays do not make up part of the guided tour of Hermitage, so make sure you check them all out throughout the day!

* Please refer to Map 2 for display locations *



Animal nursery

(a range of baby farm animals to feed and interact with)



Foods From the Earth

(Competition Sponsor - Michele Cooper)



Drones, Droids & Robots

(Ken Laws & Tracey Shatte, DAF Hermitage)



DAF Horticulture & Entomology

(Heidi Parkes, Alan McWaters & Peter Nimmo - DAF Applethorpe)



DAF Biosecurity Qld Beekeeping

(Di Werner, DAF Hermitage & Bill Winner, Capilano)



DAF Biosecurity Qld Animal Welfare

(Bryan McGahan/Bryan Potter DAF Hermitage)



Warwick State High School

(Angora goats & Ag, Allan Gamgee and students)



Scots College, Warwick

(Sheep & Ag, Peter Collett and students)



Farm machinery

(new and vintage)



Competition science and art entry display

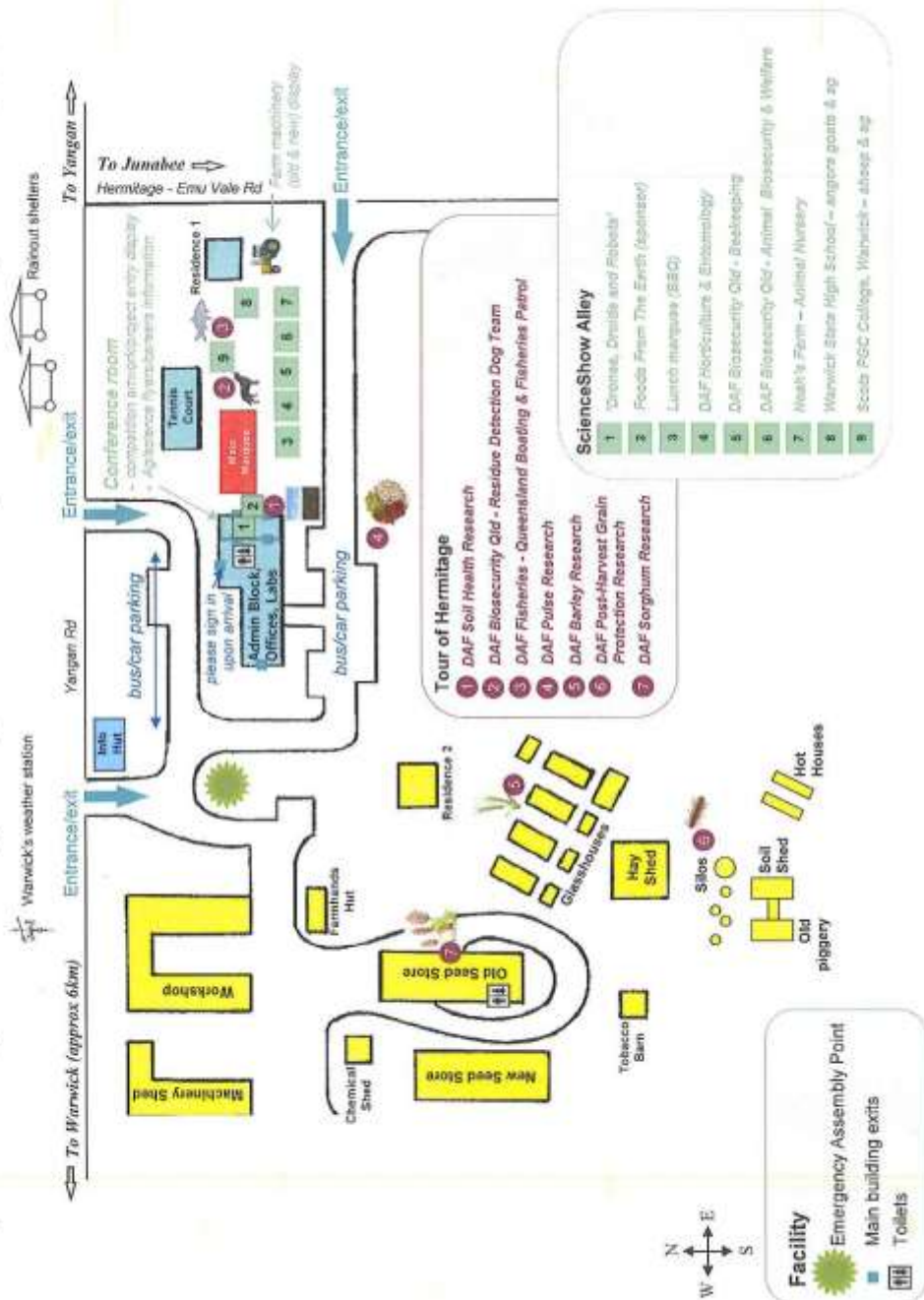
(all 2016 competition entries on display)



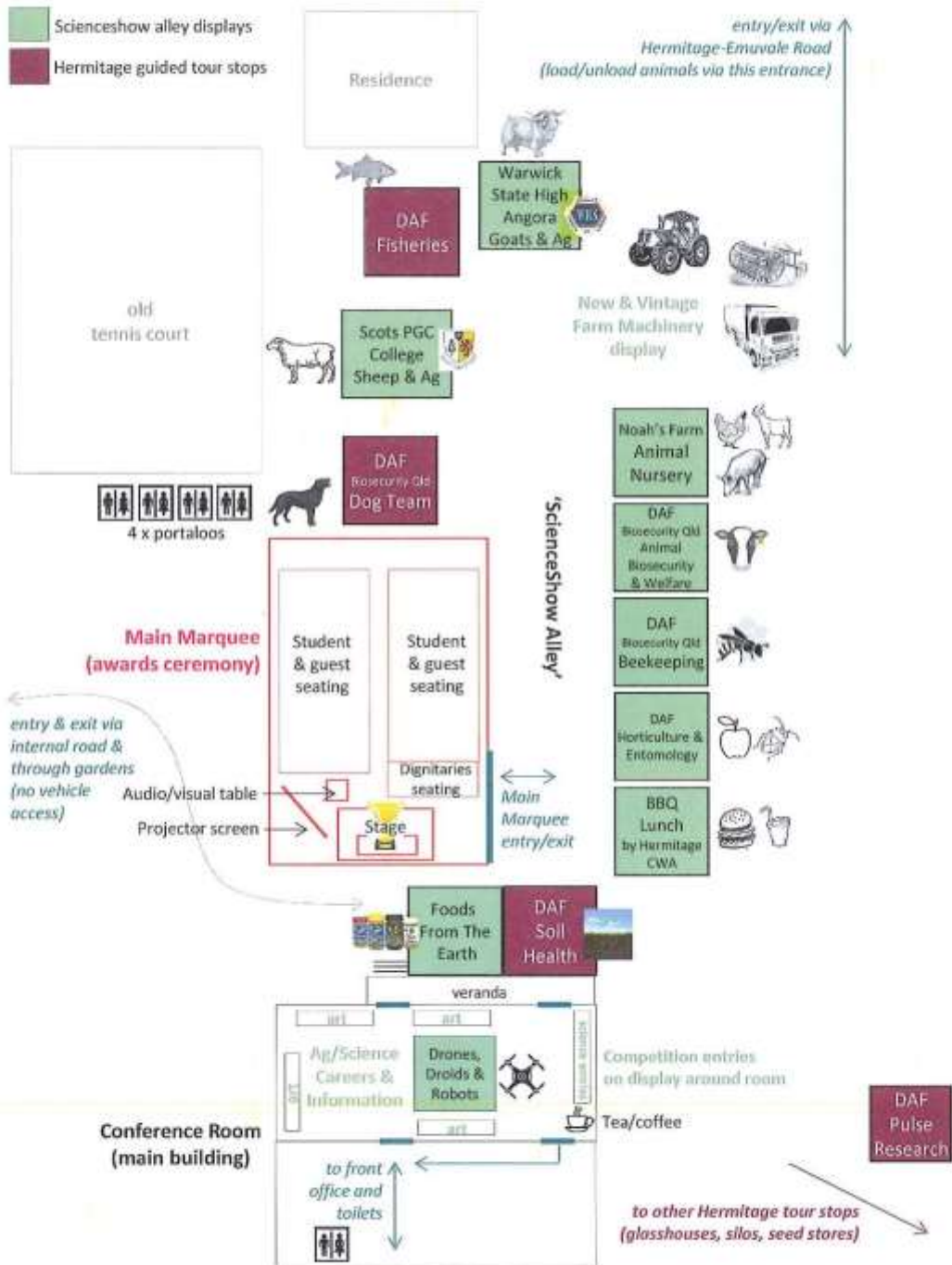
Ag/Science information and careers

(Tanya Nagle, AgForce and Karen George, DET)

Map 1. DAF Hermitage Research Facility (including locations of tour stops & scienceshow alley interactive displays)

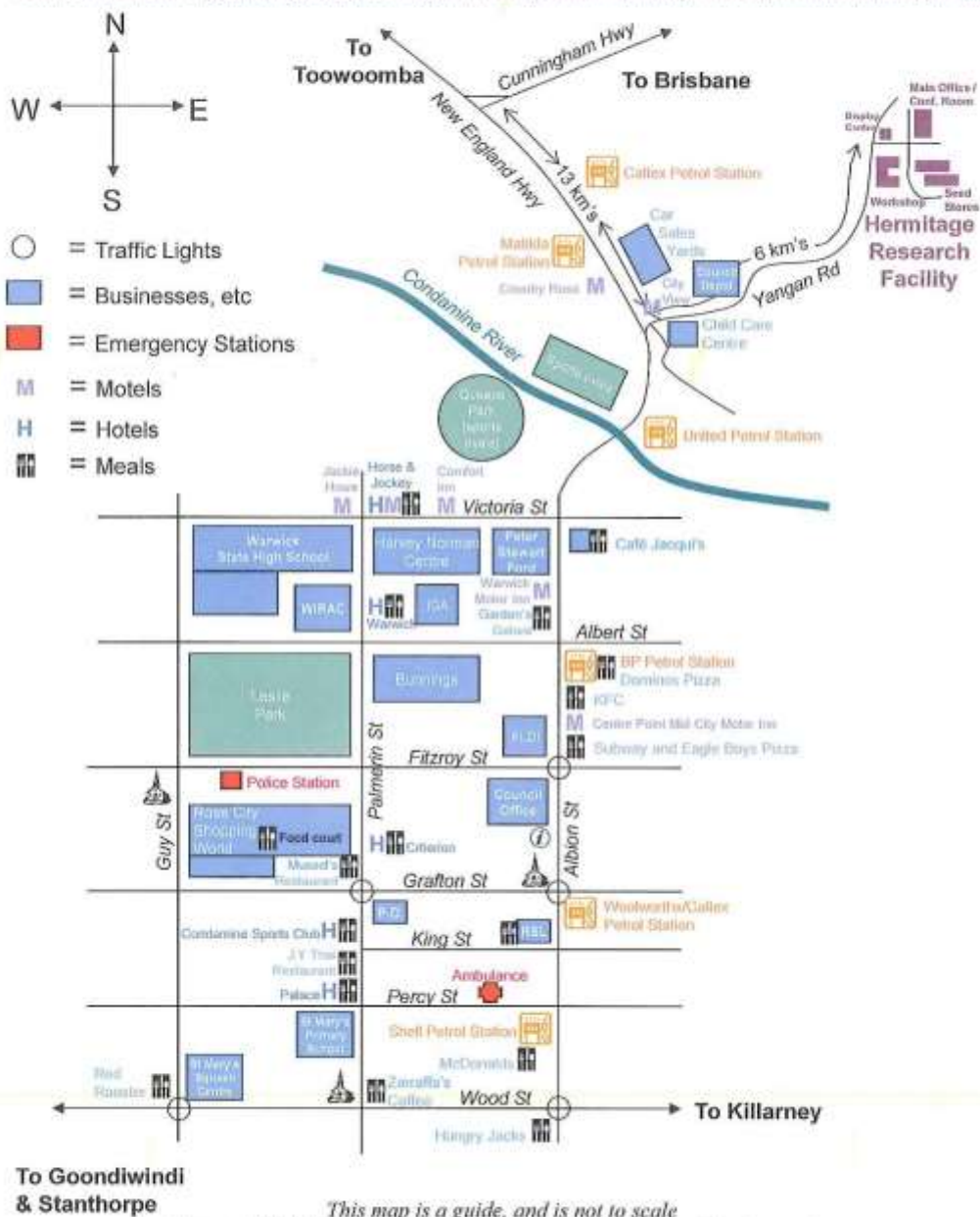


Map 2. Layout of 'ScienceShow Alley' at Hermitage 2016



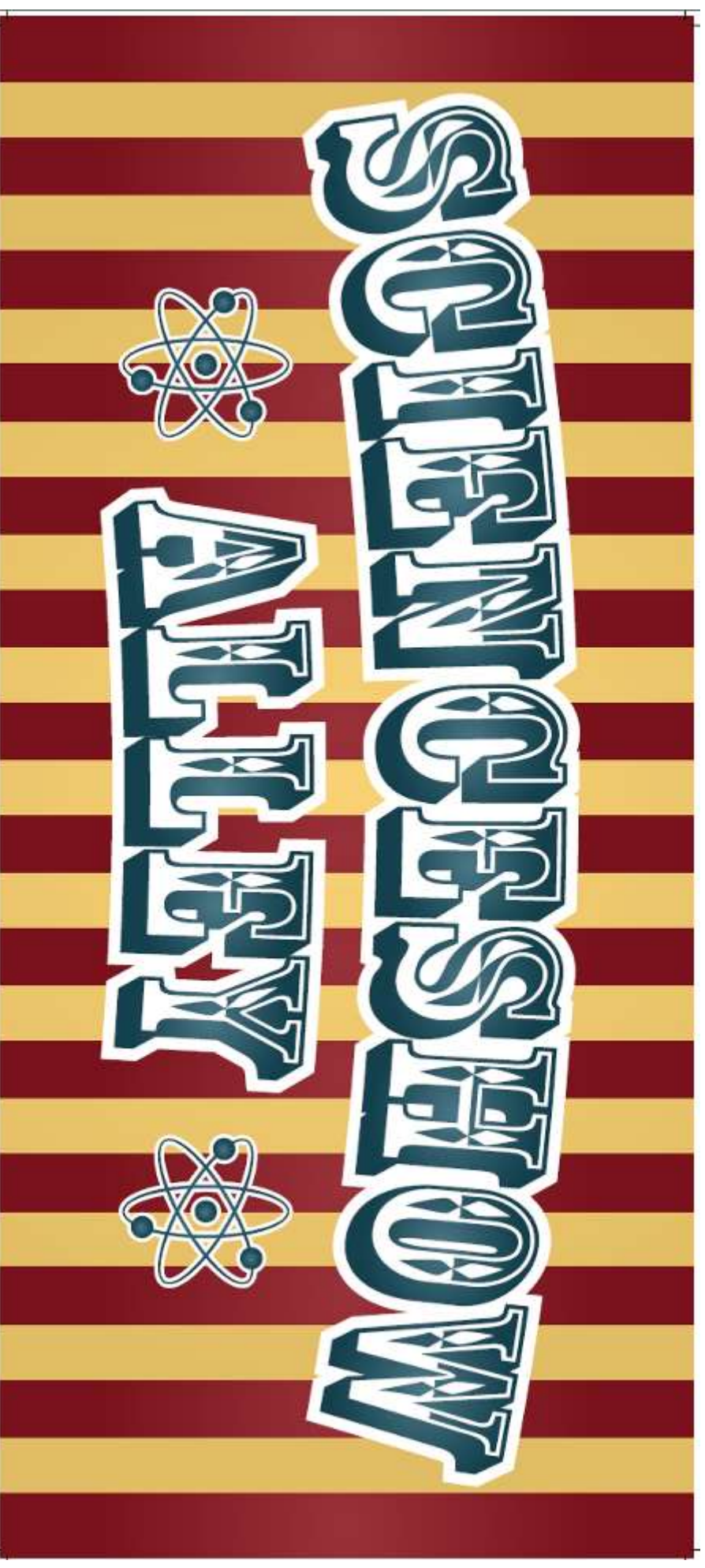
(and Warwick Business Centre)

Turn off the New England Highway at Yangan Road (Settlers Route) and follow road for about 6km



Appendix 8: “Scienceshow Alley” sign

(designed in 2015 for a metal sign (1800 x 800mm) on steel frame for use at Awards Day/Ag Science Expos)



Appendix 9: Media attention 2016

Ministerial Media Release, 27 January 2016



Media release

Minister for Agriculture and Fisheries
The Honourable Leanne Donaldson

Students urged to get their pulses racing to celebrate UN year

Agriculture Minister Leanne Donaldson is urging students from across Australia to enter her department's Hermitage Schools Plant Science Competition, which opens today in its 20th year.

"The United Nations has declared 2016 to be the International Year of Pulses so this is the perfect occasion for students to celebrate and be clever with legumes by entering a national competition," she said.

"Young people, harness your creative and scientific potential by experimenting with chickpea plants and designing a poster to show how pulses are feeding the world.

"You can also design a board game, make a video of yourselves cooking with pulses, or even create a work of art, with the prospect of winning a prize.

"So far, 109 schools have entered the competition but many more are expected, with entrants accepted from prep to year 12."

Department of Agriculture and Fisheries competition organiser Kerrie Rubie said the theme for 2016 was 'My Pulse Rules', in conjunction with the UN International Year of Pulses.

"It is terrific to see young Australians take an interest in agriculture and science through hands-on experiments and classroom activities," she said.

"Students from around the country will also learn important lessons about pulse crops, including sustainable farming practices and health benefits."

Each year, the competition's activities link to the Australian school curriculum, making it simple for teachers to incorporate it into their learning programs.

Competition entries will be showcased at various events throughout the year including the competition's Awards Day, Warwick's Jumpers and Jazz in July festival, the Brisbane Ekka, 'The Cube' at the Queensland University of Technology and the Australian Pulse Conference in Tamworth.

"The competition boasts some great prizes across all year levels, including \$1000 towards resources for tertiary education, and a range of vouchers, medallions, trophies, educational prizes and certificates," Ms Rubie said.

Winners may also be eligible to enter their pulse project in their relevant state Science Teachers Association Science Contests and the national BHP Billiton Science Awards.

The 2016 competition is proudly sponsored by:

- Grains Research & Development Corporation (GRDC)
- Paul Johnston Memorial Trust
- The University of Queensland
- Education Queensland
- Emerald Agricultural College and Longreach Pastoral College (QATC)
- Pioneer Seeds
- Warwick Art Gallery
- Grains Research Foundation Ltd
- Susan Cruickshank Tutoring
- Ag Institute of Australia
- Blue Ribbon Seed and Pulse Exporters
- NuSeed
- The Crawford Fund
- Selected Seeds
- Professor and Mrs Joe Baker
- John and Chris Purdie
- New Edge Microbials Pty Ltd.

The 2016 DAF Hermitage Schools Plant Science Competition closes on 24 June, 2016.

Schools and individuals can register their interest in participating at any stage throughout the competition.

For more information contact the Department of Agriculture and Fisheries on 13 25 23, visit www.daf.qld.gov.au, or follow us on Facebook [Queensland Agriculture](https://www.facebook.com/QueenslandAgriculture) and Twitter [@QldAgriculture](https://twitter.com/QldAgriculture)

Media Contact: 3719 7571

Queensland Government, The Queensland Cabinet and Ministerial Directory 27 January 2016

The screenshot shows the Queensland Government website with the following content:

Queensland Government
The Queensland Cabinet and Ministerial Directory

Home | About Cabinet | Cabinet documents | Ministers and Portfolios | Media Statements

Media Statements
Minister for Agriculture and Fisheries
The Honourable Leanne Donaldson
Wednesday, January 27, 2016

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"The United Nations has declared 2016 to be the International Year of Pulses so this is the perfect occasion for students to celebrate and be clever with legumes by entering a national competition," she said.

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The 2016 competition is proudly sponsored by:

- Grains Research & Development Corporation (GRDC)
- Raul Johnston Memorial Trust
- The University of Queensland
- Education Queensland
- Emerald Agricultural College and Longreach Pastoral College (EATC)
- Pioneer Seeds
- Warwick Art Gallery
- Grains Research Foundation Ltd
- Susan Cruckshank Tutoring
- Ag Institute of Australia
- Blue Ribbon Seed and Pulse Exporters
- NuSeed
- The Crawford Fund
- Select Seed
- Professor and Mrs Joe Baker
- John and Chris Purdie
- New Edge Microbiols Pty Ltd.

The 2016 DAF Hermitage Schools Plant Science Competition closes on 24 June, 2016.

Schools and individuals can register their interest in participating at any stage throughout the competition.

For more information contact the Department of Agriculture and Fisheries on 13 25 23, visit www.daf.qld.gov.au, or follow us on Facebook [Queensland Agriculture](#) (external site) and Twitter [@QldAgriculture](#) (external site).

Media Contact: 3719 7571

[Go to top](#)

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Queensland Government

Pulse Australia website

The screenshot shows the Pulse Australia website with the following content:

- Header:** PULSE AUSTRALIA logo, MEMBERS AREA link, and navigation tabs: HOME, ABOUT, GROWING PULSES, MARKETING, USING PULSES.
- 2016 INTERNATIONAL YEAR OF PULSES:** Australia is getting ready for pulses to take centre stage in 2016 in the United Nations declared International Year of Pulses (IYP16), with ambitious and innovative ideas to draw attention to an industry that has recently come of age in our country.
- LATEST PULSE NEWS:**
 - Record pulse crop season
 - Pulses feature at IPDC London
 - Field pea shows for UK growers
 - Weekly market update
 - Pulse Australia on Twitter
- IN THIS SECTION:**
 - These are my pulses' competition
 - Your Pulse Pledge and Pulse Feed
 - Australian lunch Gala dinner
 - National signature dish
 - Sponsorship opportunities
 - Events and product launches
 - Digital themes
- Facebook:** Find us on Facebook
- 2016:** Large graphic with a spoon and pulses.
- These are my pulses' competition:**
 - The Australian national committee, with the support of Pulse Australia, has launched a grower competition to capture and showcase Australian pulse growers' stories from the 2015-16 growing season.
 - Entries go in the draw for the chance to win the overall prize - a drone valued at \$2000, or a \$500 gift voucher from a leading camera store - for best photo and best video.
 - Check out this entry from Ash Teasdale, Rupanyup in the Victorian Wimmera, and be inspired to tell your story! You can find more great stories from around the world on the [International Year of Pulses website](#).
- Events and product launches:**
 - Submit an Australian IYP2016 event:** The Australian national IYP committee will be hosting several events throughout the International Year of Pulses. In addition, the committee is encouraging businesses, organisations and individuals to organise IYP events and activities of their own. If you are planning an activity to promote the value of pulses [please let us know the details](#) and we will add your event to this page.
 - Open now and until 24 June 2016 Hermitage Plant Science Competition:** Student science and art projects featuring pulses.
 - 1-8 May 2016 - Tasting Australia:** Adelaide and surrounding regions of South Australia. One of Australia's most anticipated culinary festivals.
 - 2 May 2016 - Australian Pulse Health, Nutrition and Food Innovation 'On the pulse' Symposium:** Adelaide.
 - 25-27 July - Australian Grains Industry Conference (AGIC):** Melbourne.
 - 12-14 September 2016 - Australian Pulse Conference:** Tamworth, contact conference secretariat [Nabe Balier](#) for details.
- Further information:** IYP Project Coordinator and National Committee Secretariat, [Stephena Freeman](#), tel: 0414 844 425.
- Announce an Australian pulse product launch:** IYP2016 provides an ideal launch pad for companies wishing to introduce new products to market. If you are planning a pulse product launch [please let us know the details](#) and we will add your product details to this page and

Queensland Agriculture Facebook Page, 27 January 2016

The screenshot shows the Queensland Agriculture Facebook page. The header features the Facebook logo and a 'Sign Up' button. Below the header is a large banner with the text 'Queensland Agriculture is on Facebook.' and a 'Sign Up' button. The page is divided into sections: 'Timeline', 'About', 'Photos', 'Videos', and 'More'. The 'Timeline' section shows a post from 'Queensland Agriculture' dated January 27 at 8:30pm. The post includes a video titled 'BQ/DAF Gatten R. Health & My Milk' and a photo of two young girls in school uniforms looking at a small red toy car. The post text reads: 'Students are urged to get their pulses racing, with entries for the DAF Hermitage Schools Plant Science Competition now open. The theme for 2016 is "My Pulse Rules", in conjunction with the UN's International Year of Pulses. Learn more about how your school or child can participate: <https://go.g9sp6V1>'. Below the post is a 'More' section with a link to 'Colleen Hunt and Regina Holden like this'. The 'About' section on the right lists 'Recent' posts from 2016 to 2011. The 'Create Page' button is visible on the right. The bottom of the page shows a Windows taskbar with various application icons and a system clock indicating 3:12 PM on 1/27/2016.

Pilton State School website, 4 February 2016

The screenshot shows the Pilton State School website. The header includes the school's logo, name, and tagline "Strong and willing". Navigation links for "Our school", "Enrolments", "Curriculum", "Calendar and news", and "Support and resources" are present. The "Calendar and news" section is active, displaying a sidebar with links to "Events calendar", "Term dates", "News", and "Newsletters". The main content area features the "2016 Hermitage Schools Plant Science Competition" announcement, dated 4/02/2016. It describes the competition's focus on pulses and lists three tasks: a planting experiment, a case study poster, and a pulse mandala art task. A photograph of a student working on a project is included. Contact information for the school is provided at the bottom, along with a footer containing copyright and accessibility information, and the Queensland Government logo.

Pilton State School
Strong and willing

Our school | Enrolments | Curriculum | **Calendar and news** | Support and resources

Home > Calendar and news > News

Calendar and news

- Events calendar
- Term dates
- News
- Newsletters

2016 Hermitage Schools Plant Science Competition
4/02/2016

The 2016 Hermitage Plant Science Competition is centred on Pulses. What is a pulse you ask. Pulses are grain legumes and are grown as annual crops. This group of plants has the unique capacity to fix atmospheric nitrogen, capture it and in the way pulses increase the fertility of our soils. We also make use of the nitrogen they store as protein in their seeds.

The tasks set for this year's competition are:

1. 'Why Plant Pulses?' - a planting experiment to learn the value in using Pulses in cropping systems (scientific report and science journal)
2. 'Feed the Farm, Feed The World' - case study on Pulses (poster entry)
3. Art Task - create a pulse mandala using nothing but pulse grains.

After our outstanding results at the 2015 Awards all students are excited to begin their entries.

Contact information

Address: 24 Winton Valley Road
Ofton QLD 4361

Telephone: (07) 4696 4321

Facsimile: (07) 4696 4388

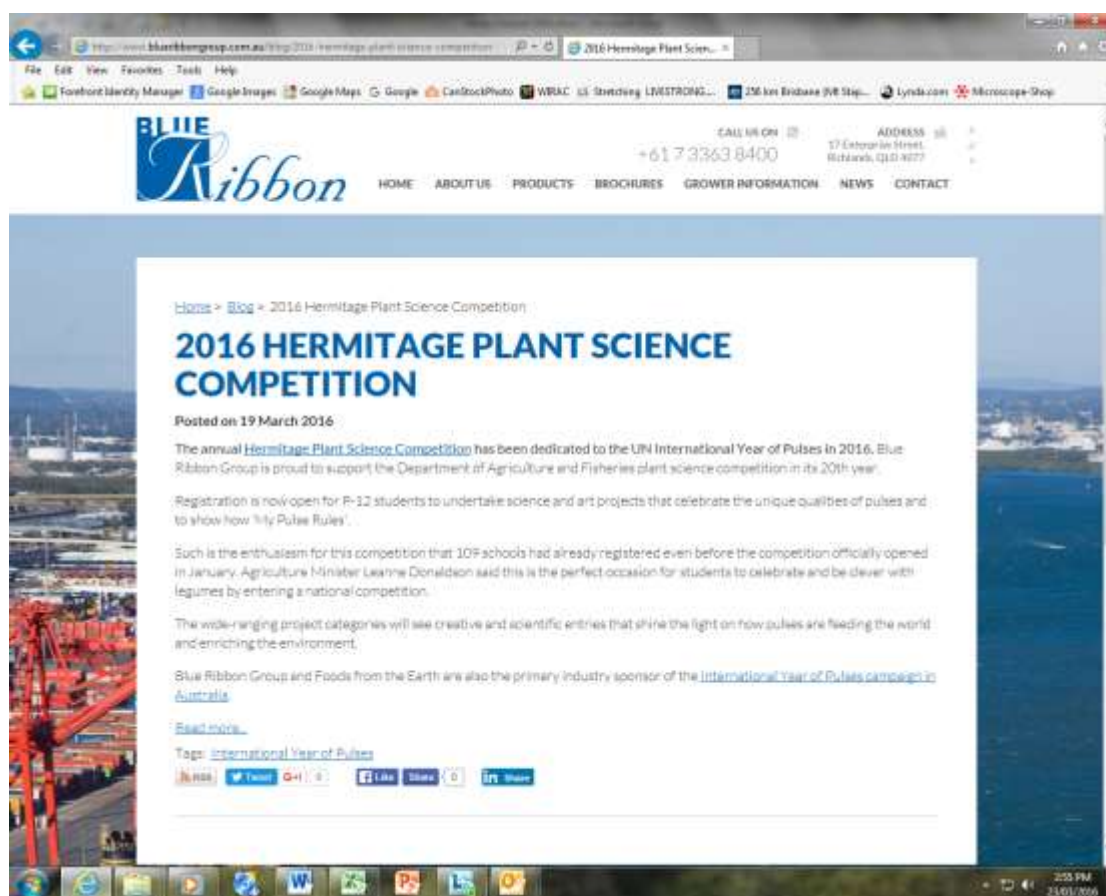
Email: the.principal@piltones.q.edu.au

Site map | Copyright | Disclaimer | Privacy | Right to information | Accessibility | Other languages

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Queensland Government

Blue Ribbon website, 19th March 2016



Kepnock State High School (Bundaberg) Facebook Page, 22 March 2016
(Qld Agriculture & Fisheries Minister Leanne Donaldson visits Kepnock SHS)





Media release

**Queensland Government
Department of Agriculture and Fisheries**

Pulses racing for thousands of school students

Students all over Australia are putting pulses under the microscope as part of the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools Plant Science Competition.

To coincide with the United Nations' International Year of Pulses, the theme for 2016 is 'My Pulse Rules' and sees students from years prep to twelve engaged in a range of pulse-related activities.

DAF competition coordinator Kerrie Rubie said 140 schools had registered for the 20th year of competition and registrations were still welcome.

"The competition closes on Friday 24 June, so there is still plenty of time to register and get your school involved," she said.

"With more than 1000 experiment kits already distributed, students are busy completing activities such as studying the effects of inoculum on chickpea plant growth and designing an informative poster all about pulses.

"The competition is relevant for students with a range of interests, from those more artistic and creative, to those interested in research and science.

"Other activities include producing videos about cooking a healthy pulse dish, creating a board or card game with a pulse theme, mapping the location of pulse products in their local supermarket and creating a spectacular pulse grain mandala."

The 2016 competition boasts some great prizes across all year levels, including a range of scholarships, vouchers, medallions, trophies, educational prizes and certificates.

Ms Rubie added that DAF was considering new and innovative ways for researchers and agricultural industries to connect with participating students.

"Plans are currently underway to link DAF pulse researchers from Warwick's Hermitage Research Facility with participating students nationwide through a video conferencing session," she said

"Participants are also encouraged to attend the upcoming 2016 Australian Pulse Conference in Tamworth, being held from 12-14 September.

"Conference organisers are planning a special section just for students who are interested in learning more about the pulse industry and how pulses align with the conference theme of 'Feed the Farm, Feed the World'."

The 2016 DAF Hermitage Schools Plant Science Competition is proudly sponsored by:

- Queensland Government
- Grains Research & Development Corporation (GRDC)
- Woods Foods
- Paul Johnston Memorial Trust
- The University of Queensland
- Education Queensland
- Emerald Agricultural College and Longreach Pastoral College (QATC)
- Pioneer Seeds
- Warwick Art Gallery
- Grains Research Foundation Ltd
- Susan Cruickshank Tutoring
- Ag Institute of Australia
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- The Crawford Fund
- Selected Seeds
- Professor and Mrs Joe Baker
- John and Chris Purdie
- New Edge Microbials Pty Ltd.

For more information, contact the Department of Agriculture and Fisheries on 13 25 23, visit www.daf.qld.gov.au, or follow us on Facebook [Queensland Agriculture](https://www.facebook.com/QueenslandAgriculture) and Twitter [@QldAgriculture](https://twitter.com/QldAgriculture)

Media: Mark Hodder 3087 8598

Queensland Agriculture Facebook page, 23 March 2016



Queensland Agriculture Twitter, 23 March 2016



Leanne Donaldson MP Facebook Page, 23 March 2016

Leanne Donaldson MP, Member for Bundaberg. added 4 new photos. March 23 at 9:44am · 🌐

Yesterday morning I was able to have a first hand look at Kepnock SHS's 'My Pulse Rules' entry.

With students all over the state participating in the 2016 Department of Agriculture and Fisheries Hermitage Schools Plant Science Competition I wanted to see how our local kids were going.

I was amazed by the knowledge and dedication of the Kepnock students as they showed me around their hopefully 'winning' entry!

The 'My Pulse Rules' competition will see students from years prep to twelve engaged in a range of pulse-related activities.

The competition closes on Friday 24 June, so there is still plenty of time to register and for schools to get involved.

With more than 1000 experiment kits already distributed, students are busy completing activities such as studying the effects of inoculum on chickpea plant growth and designing an informative poster all about pulses.

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For more information, contact the Department of Agriculture and Fisheries on 13 25 23, visit www.daf.qld.gov.au, or follow us on Facebook Queensland Agriculture and Twitter @QldAgriculture

PHOTOS

VIDEOS

LIKED BY THIS PAGE

Bundaberg and Region Y... Like

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Facebook © 2016

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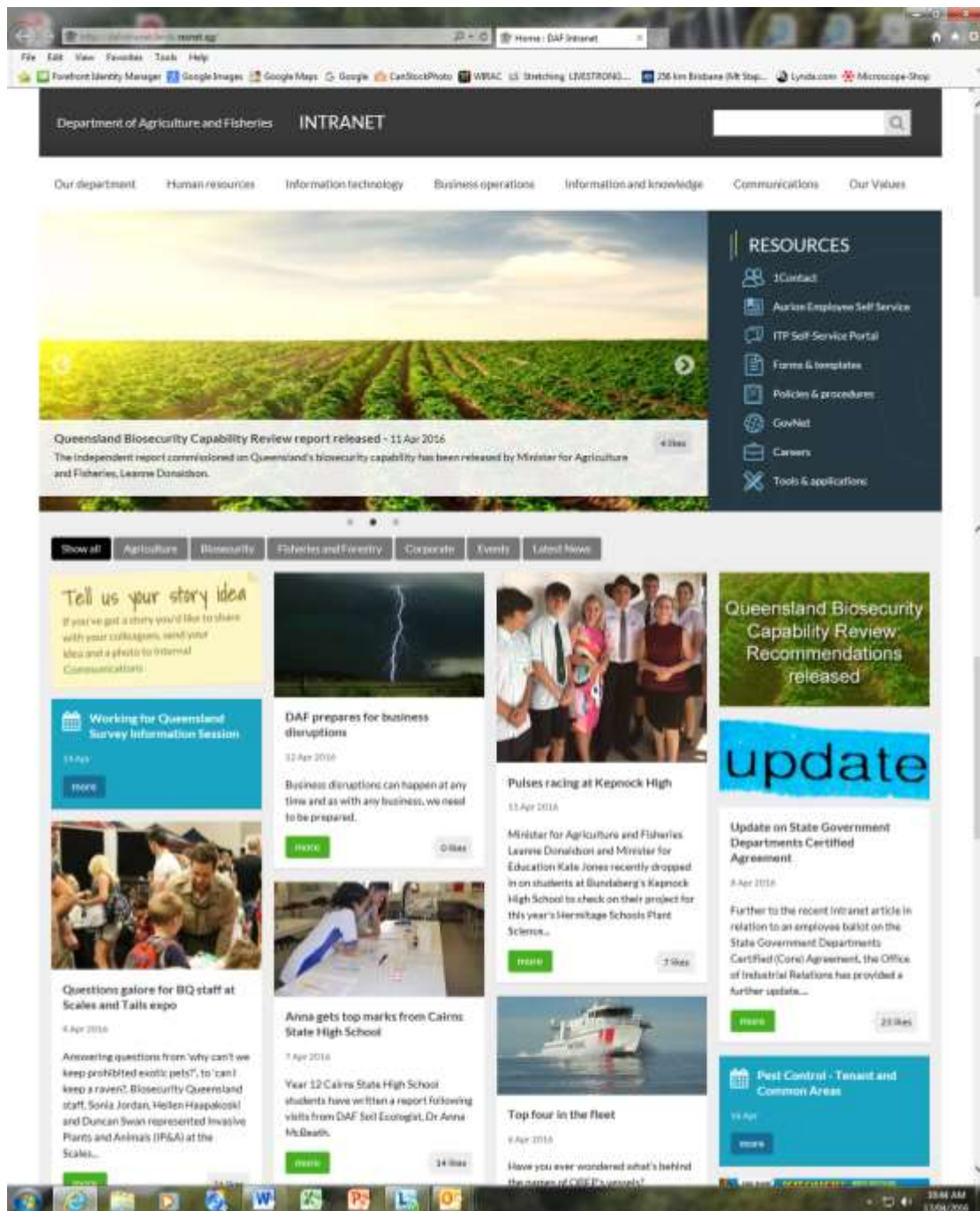
Facebook © 2016

Comments

Troy Madie You are in the right zone Leanne our children are our future and this pulse effort is just the start of the many ways we can learn from our children who just know how to think outside the box: when the pressure is applied. Well done for your positive approach to your work. Best wishes Troy Madie.

Like · Reply · 1 · March 24 at 7:33am

DAF Intranet, 13 April 2016



Continued next page...

Department of Agriculture and Fisheries **INTRANET**


Our department Human resources Information technology Business operations Information and knowledge Communications Our Values

Home Our department News and events News Agriculture 2016 Pulses racing at Kepnock High

Pulses racing at Kepnock High

11 Apr 2016

Minister for Agriculture and Fisheries Leanne Donaldson and Minister for Education Kate Jones recently dropped in on students at Bundaberg's Kepnock High School to check on their project for this year's Hermitage Schools Plant Science Competition.



Minister for Agriculture and Fisheries Leanne Donaldson and Minister for Education Kate Jones recently dropped in on students at Bundaberg's Kepnock High School to check on their project for this year's Hermitage Schools Plant Science Competition.

Students all over Australia are putting pulses under the microscope as part of the 2016 DAF-led competition.

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"The competition is relevant for students with a range of interests, from those more artistic and creative, to those interested in research and science.


"Other activities include producing videos about cooking a healthy pulse dish, creating a board or card game with a pulse theme, mapping the location of pulse products in their local supermarket and creating a spectacular pulse grain mandala."

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"Participants are also encouraged to attend the upcoming 2016 Australian Pulse Conference in Tamworth, being held from 12-14 September.

"Conference organisers are planning a special section just for students who are interested in learning more about the pulse industry and how pulses align with the conference theme of 'Feed the Farm, Feed the World.'"



Ministers Leanne Donaldson and Kate Jones inspecting pulse projects at Kepnock State High School.

News archive

Fisheries and Forestry

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Feature Articles

No results were found

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Biosecurity

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 - April

Queensland Agriculture Facebook Page (cover photo) 15 April 2016

The screenshot shows a web browser window displaying the Queensland Agriculture Facebook page. The browser's address bar shows the URL <https://www.facebook.com/QldAgriculture>. The page's cover photo features a close-up of various pulses (black beans, orange lentils, white beans, and green peas) arranged in vertical columns. Overlaid on the right side of the cover photo is the text: "Hurry – DAF Hermitage Plant Science Competition registrations closing soon!" and "This year's theme is My pulse rules!". On the left side of the cover photo is the Queensland Agriculture logo, which includes the text "Queensland Agriculture" and "Queensland Government". Below the cover photo, the page name "Queensland Agriculture" and "Government Organization" are displayed, along with "Sign Up", "Liked", and "Message" buttons. The navigation tabs include "Timeline", "About", "Photos", "Videos", and "More". The left sidebar contains a search bar, a section for "2,572 people like this" (listing Tracey Shatte and 4 other friends), an "Invite friends to like this Page" button, an "ABOUT" section with a link to "Ask for Queensland Agriculture's address", a phone number "13 25 23", and a website URL "http://www.daf.qld.gov.au/". Below the "ABOUT" section is an "APPS" section with a "Disclaimer" app icon. The main content area shows a post from "Queensland Agriculture" updated 1 hour ago, which is a reminder about the 2016 Hermitage Plant Science competition, stating that registrations close on 24 June and providing a link to the website: <https://goo.gl/VJ6N63>. The post includes a smaller version of the cover photo and has 2 likes. The Windows taskbar at the bottom shows icons for Internet Explorer, File Explorer, VLC, Windows Defender, Word, Excel, PowerPoint, and OneNote.

Longreach Pastoral College Facebook Page

https://www.facebook.com/AACC.Longreach.Campus/?fref=nf

Longreach Pastoral College

File Edit View Favorites Tools Help

Forefront Identity Manager Google Images Google Maps Google CanStockPhoto WIRAC LS Stretching LIVESTRONG...

Longreach Pastoral College

Kerrie Home 20+ Find Friends

Longreach Pastoral College
Education
270 likes

Contact Us Like Message

Timeline About Photos Reviews More

PEOPLE ALSO LIKE

Queensland Tertiary Adm...
College & University Like

Endeavour College of Nat...
College & University Like

TAFE Queensland Brisbane
Education Like

Education in Longreach, Queensland

LIKED BY THIS PAGE

Training and Skills - DET...
Like

Bullzye Australia
Like

PEOPLE ALSO LIKE

Queensland Tertiary Adm...
College & University Like

Endeavour College of Nat...
College & University Like

TAFE Queensland Brisbane
Education Like

Education in Longreach, Queensland

LIKED BY THIS PAGE

Longreach Pastoral College shared Queensland Agriculture's photo.
April 18 at 7:37am

Don't forget to get your school to enter for the chance to win a TASTE scholarship!

Hurry – DAF Hermitage Plant Science Competition registrations closing soon!
This year's theme is My pulse rules!

Queensland Agriculture
April 15 at 10:48am

A reminder to Australian schools and students – you only have a couple more weeks to register your interest in taking part in the 2016 Hermitage Schools Plant Science competition.

Once registered, you have until 24 June to get your entry in, so there's still plenty of time to take part.

For more information, visit our website: <https://goo.gl/VJ6N63>

Like Comment Share

Longreach Pastoral College
March 23

We are proud to support the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools Plant Science Competition and look forward to welcoming the winners to TASTE!

Pulses racing for thousands of school students
Students all over Australia are putting pulses under the microscope as part of the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools...
DAF.QLD.GOV.AU

Like Comment Share

Queensland Agriculture Facebook Page

The screenshot shows the Queensland Agriculture Facebook page. The cover photo features a variety of pulses (black beans, orange lentils, white beans, green peas) with the text: "Hurry – DAF Hermitage Plant Science Competition registrations closing soon! This year's theme is My pulse rules!". The page header includes the Queensland Government logo and navigation links like "Timeline", "About", "Photos", "Videos", and "More".

ABOUT

- Ask for Queensland Agriculture's address: 13 25 23
- Ask for Queensland Agriculture's hours
- http://www.daf.qld.gov.au/

APPS

- Disclaimer
- DAF media centre

PHOTOS

The main post, from Queensland Agriculture 3 hours ago, reads: "There are some fantastic pulse mandala entries coming through for the 2016 DAF Hermitage Schools Plant Science Competition. These are from Beaudesert State High School – great work to the students involved! Learn more about the 2016 competition, themed 'My Pulse Rules!', here: <https://goo.gl/VJ6N63>".

The post includes a grid of seven images showing creative pulse mandala designs. Below the images are interaction buttons: Like, Comment, and Share. The post has 3 likes and a comment input field.

VIDEOS

April 26

Queensland to reap global benefits from farm sect...

April 22

PEOPLE ALSO LIKE

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Arts Queensland

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Renewable Energy Quee...

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+

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Facebook © 2016

Condamine Alliance

Very creative!

Like · Reply · 1 · 2 hrs

Queensland Agriculture

They're fabulous aren't they!

Like · Reply · 2 hrs




Queensland Agriculture

April 30 at 9:28am ·

Some great shots from Glasshouse Christian College of students working on their chickpea trials.

This activity is one of the many agricultural science-based projects on offer during the 2016 DAF Hermitage Schools Plant Science Competition. Keep up the good work guys!

<https://goo.gl/VJ6N63>

Like · Comment · Share

You and Colleen Hunt

1 share

Write a comment...

Prescription mapping for variability in vegetables

32 5 28 2

NOTES

When a weed scientist comes calling
May 30

Sheep handling made easy! Workshop series comi...
May 27

Spanish baits 1 Queensland fruit flies Nil
May 23

PEOPLE ALSO LIKE

FutureBeef
Farming/Agriculture

Like

Department of Environme...

Like

Queensland Agriculture
June 11 at 9:27am · 🌐

The DAF Hermitage Schools Plant Science Competition is pleased to add a new major prize to the 'Years 10-12' category!

Two lucky students will win a \$1000 grant to attend the 2016 Australian Pulse Conference in Tamworth this September.

Find out more here: <https://goo.gl/i8i8QI> and don't forget to submit your entry before 24 June!

Like Comment Share

Colleen Hunt and 2 others

Write a comment...

ulture


CTM Travel Portal Forefront Identity Manager Google Images Google Maps Google Lynda.com Microscope-Sh

Queensland Agriculture
23 June · 🌐

Entries close today for the DAF Hermitage Schools Plant Science Competition!

Pictured are students from years 3-5 from Freestone State School putting the finishing touches on their beautiful pulse mandalas.

Learn more about the competition and submit final entries via:
<http://bit.ly/2911837>



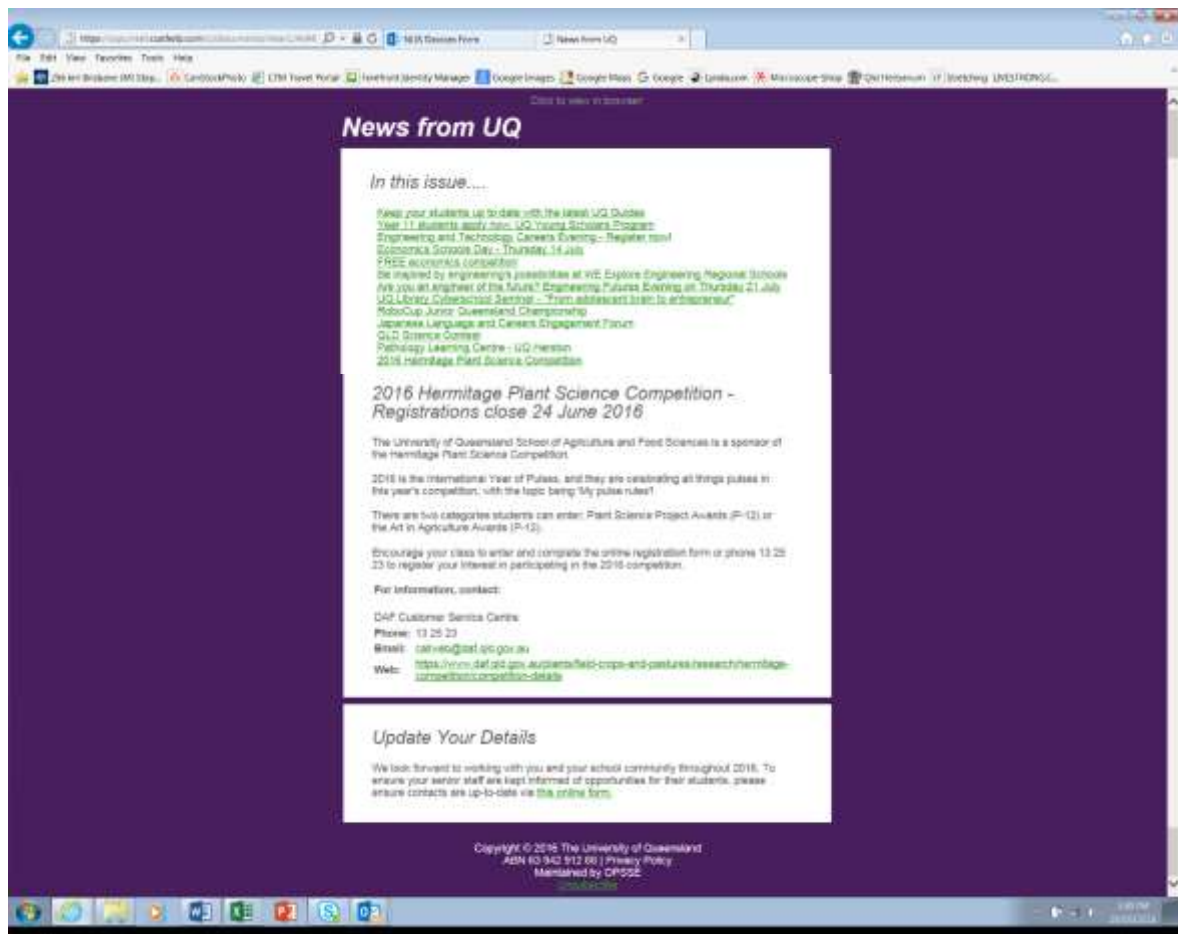
117 Views

Like Comment Share

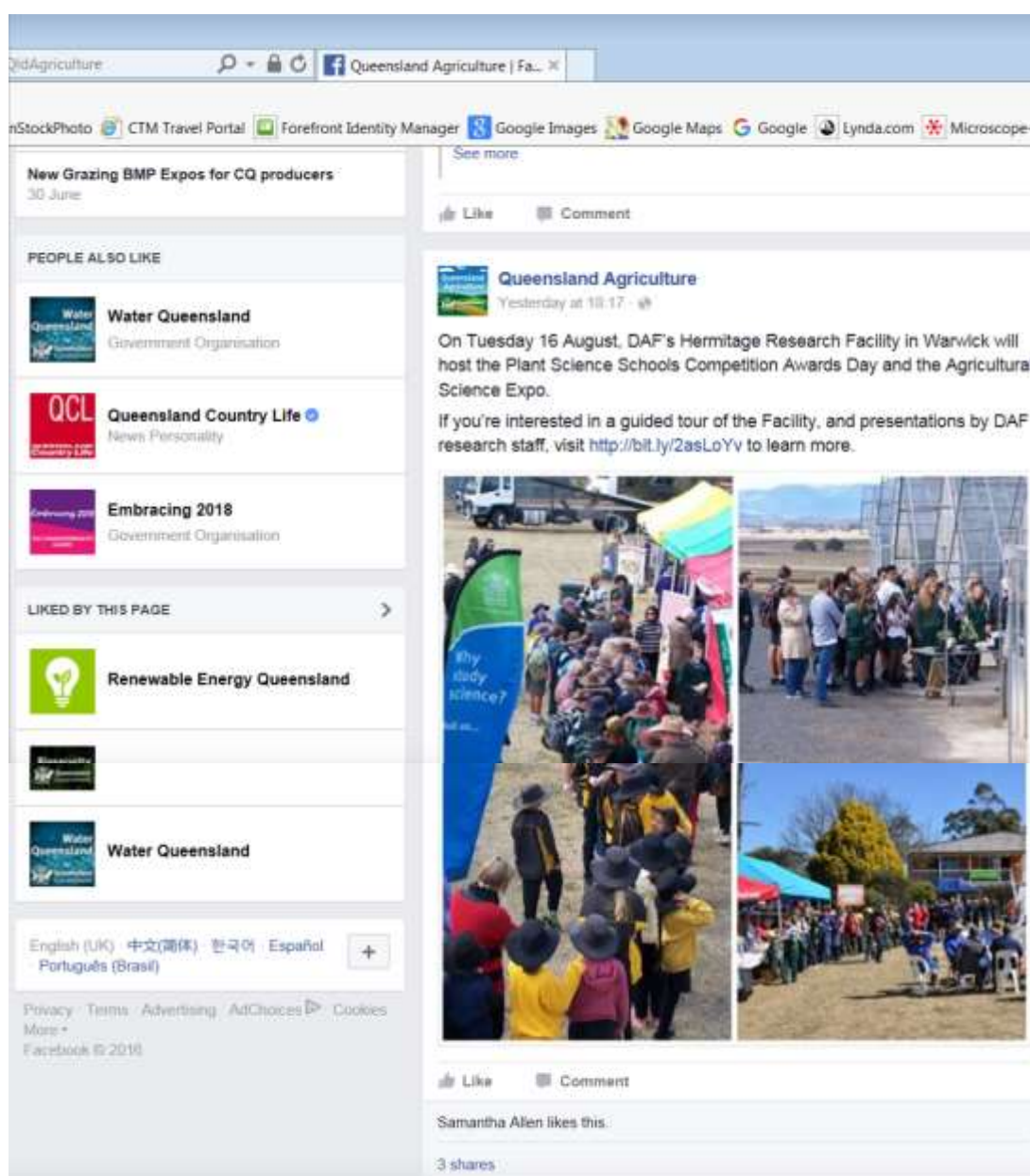
Merrill Ryan, Nicholas Christoffel, Samantha Allen and 2 others like this

Kerrie Rubie Well done Freestone SS and all other schools who have submitted beautiful Pulse mandalas, scientific reports, posters, games, shopping maps and cooking videos. Good luck to you all!
👍 4 · 24 June at 01:40

News from UQ (website)



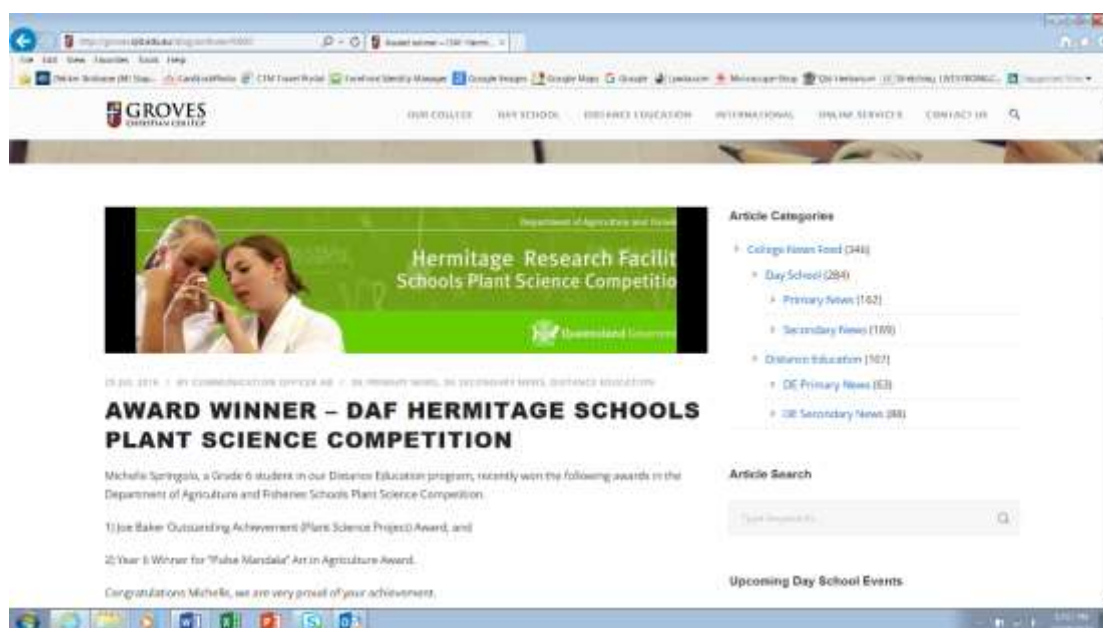
Queensland Agriculture Facebook Page



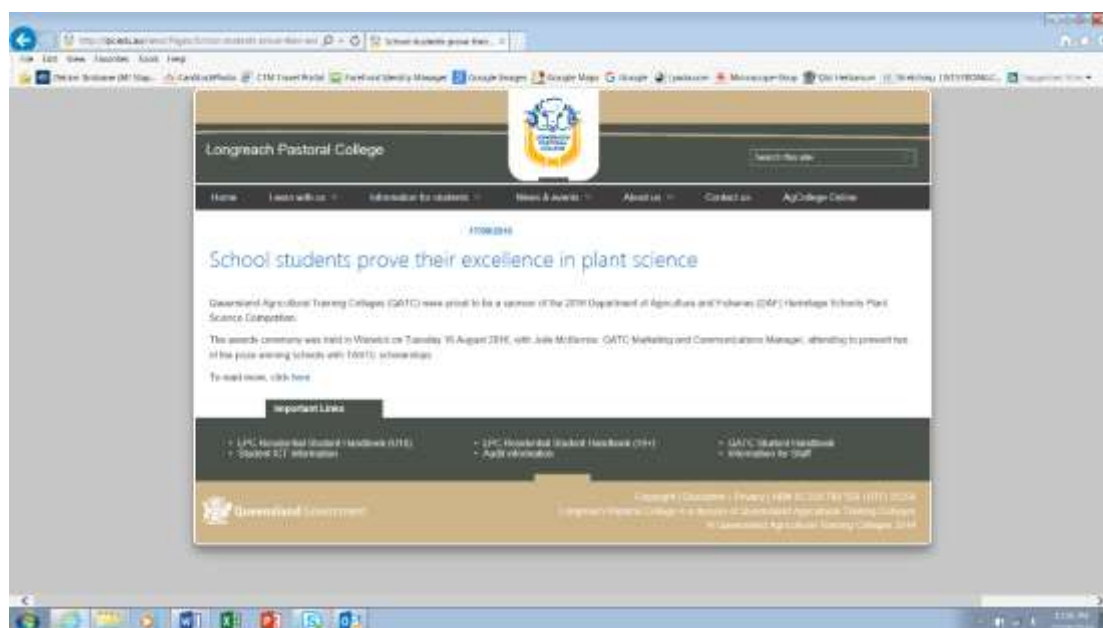
Queensland Department of Education and Training, Facebook page



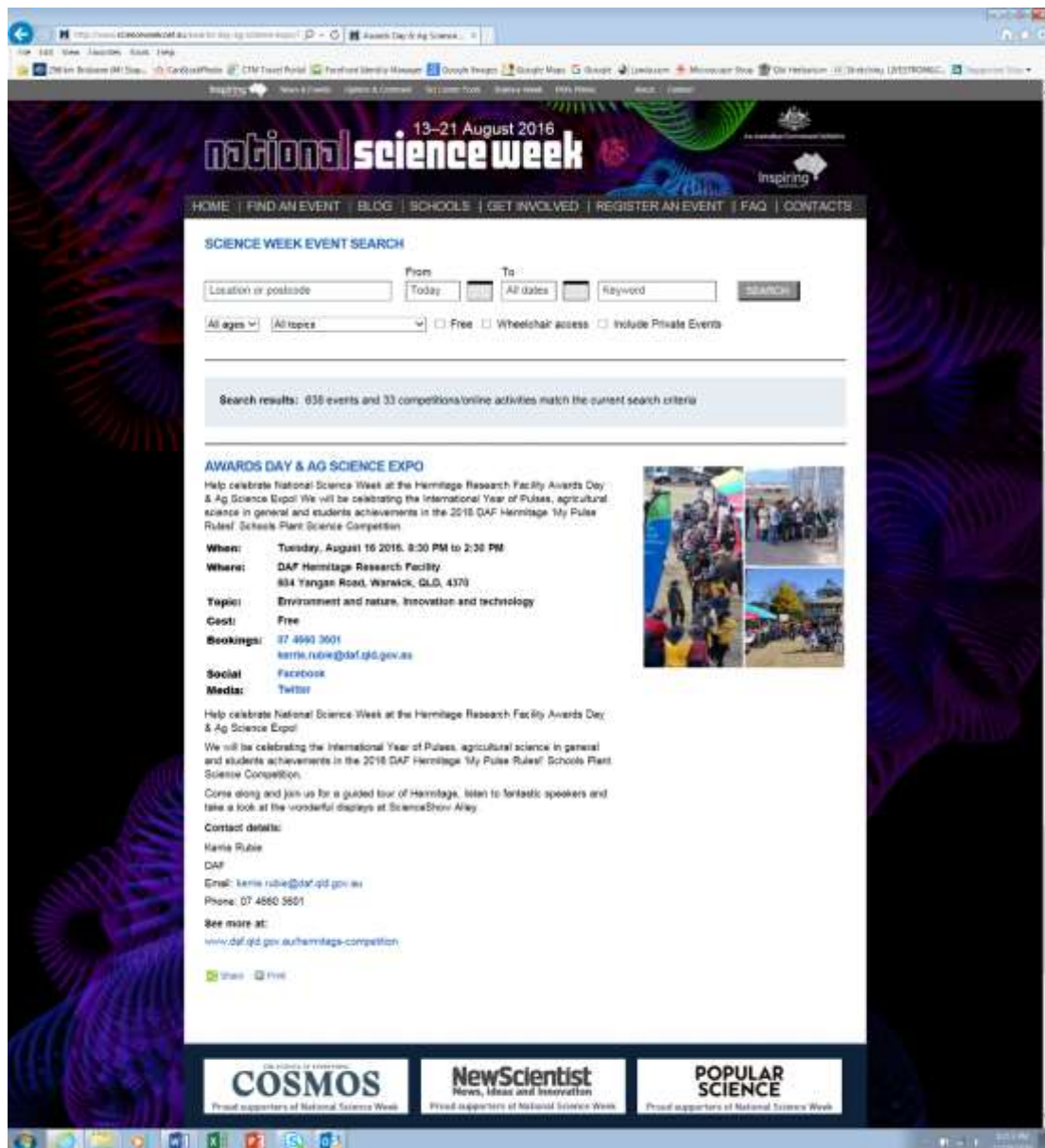
Groves Christian College website, 25 July 2016



Longreach Pastoral College website, 17 August 2016



National Science Week website, August 2016



DAF Media Alert, 12 August 2016

To go to ABC Rural, Warwick Daily News, QCL and Win News at 1:30pm today.

**Queensland Government
Department of Agriculture and Fisheries**

Media Alert

12 August 2016

What:	DAF Hermitage Schools Plant Science Competition Awards Ceremony and Ag Science Expo
When:	Tuesday 16 August 2016, 8.45 am – 2.30 pm
Where:	Hermitage Research Facility, 604 Yangan Road, Warwick

The Department of Agriculture and Fisheries' (DAF) Hermitage Research Facility in Warwick is hosting the 2016 DAF Hermitage Schools Plant Science Competition Awards Ceremony and Agricultural Science Expo on Tuesday 16 August.

The competition is celebrating its 20th year.

Commencing at 8.45 am, the day will involve the announcement of the competition winners, followed by a guided tour of the Facility, including presentations by DAF staff, interactive displays and a BBQ lunch.

Professor Sagadevan Mundree, Director of the Centre for Tropical Crops and Biocommodities at the Queensland University of Technology, is the keynote speaker.

Other guest speakers include Associate Professor Andrew Borrell (Hermitage Centre Leader and Co-Leader of Crop Physiology at QAAFI), Mr Malcolm Letts (DAF Deputy Director-General of Agriculture), Miss Ella Wherritt (UQ student and past competition major award winner), and Miss Michelle Springolo (year 6 student and 2016 Joe Baker Outstanding Award Winner).

Don't miss out on this great event that celebrates students' achievements in the competition and promotes agricultural science to the general community.

Please RSVP by Monday 15 August by calling Kerrie Rubie on 13 25 23 or email kerrie.rubie@daf.qld.gov.au.

Follow Queensland Agriculture on [Facebook](#) and [Twitter @QldAgriculture](#).

Media: Laura Hutton 3087 8576



Media release

Minister for Agriculture and Fisheries
The Honourable Leanne Donaldson

School students prove their excellence in plant science

Students from around Australia have been recognised for their efforts at the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools Plant Science Competition Awards Ceremony today in Warwick.

Minister for Agriculture and Fisheries Leanne Donaldson said this year's competition celebrated International Year of Pulses and some of Queensland's most profitable crops.

"This competition aims to stimulate interest in science and agriculture in young people and to promote the industry as a rewarding and exciting career choice," Minister Donaldson said.

"This year it's achieved exactly that, with more than 160 schools from across the country registered, and more than 245 science and art entries received."

Students were asked to perform a series of activities to show why the biology of pulse crops makes them an essential part of profitable, healthy, sustainable farming systems, as well as part of a nutritious diet.

"Activities for 2016 included a chickpea planting experiment, producing a pulse poster, designing a 'Game of Pulses', mapping pulses in the supermarket, and creating a spectacular pulse mandala," the Minister said.

"The quality of entries that we received this year was exceptional, with strong interest in learning more about chickpeas, mungbeans and pulses in general."

Major science and art prizes were won by Queensland schools:

- Faith Christian School of Distance Education
- Glasshouse Christian College
- Calvary Christian College
- Centenary Heights State High School
- Oakey State High School
- Pimlico State High School
- Our Lady of the Southern Cross College
- Chancellor State College
- Groves Christian College of Distance Education
- Hollis Home Education
- Grand Avenue State School
- Pullenvale State School
- Ferny Grove State School

- Pilton State School
- Darling Downs & South West STEM Futures
- Dalveen State School
- Millchester State School
- Biddeston State School
- Freestone State School
- Davies Homeschool
- Windaroo Valley State High School
- Mt Gravatt State High School
- as well as interstate schools (Chevalier College, Clare High, New England Girls School and the Gumnut Flock homeschool).

Prizes include education scholarships, gift vouchers, trophies, books, gardening materials and grants to attend the 2016 Australian Pulse Conference in Tamworth next month.

For full competition winner details, contact the Department of Agriculture and Fisheries on 13 25 23 or visit www.daf.qld.gov.au

Follow us on Facebook [Queensland Agriculture](#) and Twitter [@QldAgriculture](#)

The 2016 My Pulse Rules competition was sponsored by:

- Department of Agriculture and Fisheries
- Grains Research & Development Corporation (GRDC)
- Woods Foods
- Associated Grains
- Emerald Agricultural College and Longreach Pastoral College (QATC)
- Paul Johnston Memorial Trust
- The University of Queensland
- Education Queensland
- Pioneer Seeds
- Grains Research Foundation Ltd
- Warwick Art Gallery
- Susan Cruickshank Tutoring
- Ag Institute of Australia
- Blue Ribbon Seed and Pulse Exporters
- NuSeed
- The Crawford Fund
- Selected Seeds
- Professor and Mrs Joe Baker
- John and Chris Purdie
- New Edge Microbials

Contact: 0448 994 172

The Queensland Cabinet and Ministerial Directory website, 16 August 2016

The screenshot shows the Queensland Government website with the following content:

Queensland Government
The Queensland Cabinet and Ministerial Directory

Home | About Cabinet | Cabinet documents | Ministers and Portfolios | Media Statements

Media Statements

Minister for Agriculture and Fisheries
The Honourable Leanne Donaldson
Tuesday, August 16, 2016

School students prove their excellence in plant science

Students from around Australia have been recognised for their efforts at the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools Plant Science Competition Awards Ceremony today in Warwick.

Minister for Agriculture and Fisheries Leanne Donaldson said this year's competition celebrated International Year of Pulses and some of Queensland's most profitable crops.

"This competition aims to stimulate interest in science and agriculture in young people and to promote the industry as a rewarding and exciting career choice," Minister Donaldson said.

"This year it's achieved exactly that, with more than 180 schools from across the country registered, and more than 245 science and art entries received."

Students were asked to perform a series of activities to show why the biology of pulse crops makes them an essential part of profitable, healthy, sustainable farming systems, as well as part of a nutritious diet.

"Activities for 2016 included a classroom planting experiment, producing a pulse poster, designing a 'Garden of Pulses', mapping pulses in the supermarket, and creating a spectacular pulse molecule," The Minister said.

"The quality of entries that we received this year was exceptional, with strong interest in learning more about chickpeas, mungbeans and pulses in general."

Major science and art prizes were won by Queensland schools:

- Faith Christian School of Distance Education
- Goodhouse Christian College
- Calvary Christian College
- Canterbury Heights State High School
- Dalry State High School
- Benito State High School
- Our Lady of the Southern Cross College
- Chancellor State College
- Groves Christian College of Distance Education
- Hallie House Education
- Grand Avenue State School
- Mulgoon State School
- Perry Grove State School
- Wilkes State School
- Darling Downs & South West SQR Futures
- Dulverton State School
- Millicent State School
- St Albans State School
- Pennington State School
- Davies Homestead
- Widdowson Valley State High School
- Mt Gravatt State High School
- as well as interstate schools (Cleveland College, Clark High, New England Girls School and the Gunnedah School of Education)

Prizes include education scholarships, gift vouchers, trophies, books, gardening materials and grants to attend the 2016 Australian Pulse Conference in Lismore next month.

For full competition winner details, contact the Department of Agriculture and Fisheries on 13 25 23 or visit www.daf.qld.gov.au

Follow us on Facebook [Queensland Agriculture](#) (@qldagriculture) and Twitter [@QldAgriculture](#) (@qldagriculture)

The 2016 My Pulse Rules competition was sponsored by:

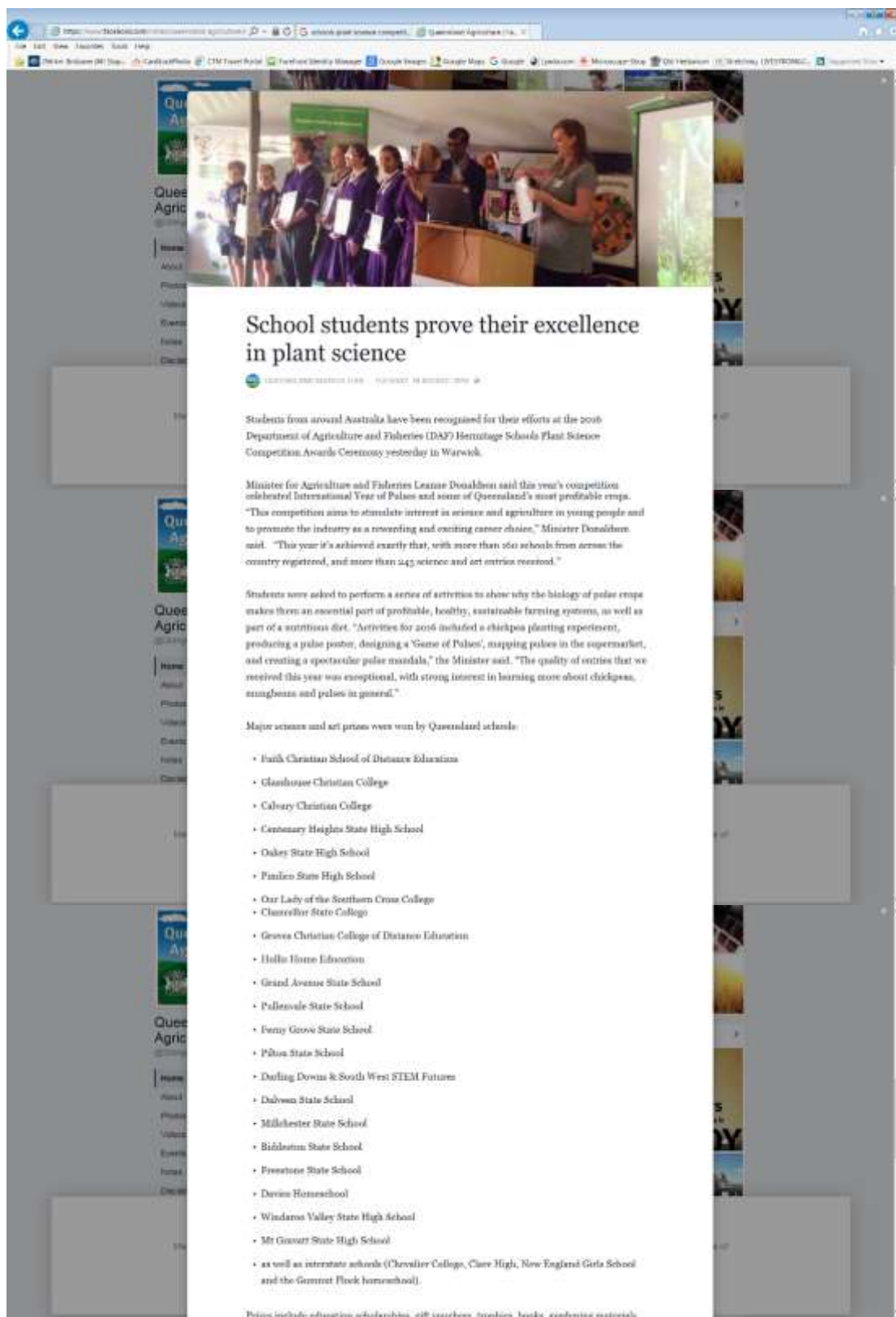
- Department of Agriculture and Fisheries
- Grains Research & Development Corporation (GRDC)
- World Foods
- Associated Grains
- Emerald Agricultural College and Longreach National College (QATC)
- Paul Johnson Memorial Trust
- The University of Queensland
- Education Queensland
- Pioneer Seeds
- Grains Research Foundation Ltd
- Warwick Art Gallery
- Susan Crickbank Tutoring
- Ag Institute of Australia
- Blue Ribbon Seed and Pulse Exporters
- Redco
- The Crickwell Fund
- Selected Seeds
- Professor and Mrs Joe Baker
- John and Chris Rennie
- New Edge Mouldings

Contact: 0488 884 173

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Queensland Government

Qld Agriculture Facebook Page, 16 August 2016



School students prove their excellence in plant science

Students from around Australia have been recognised for their efforts at the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools Plant Science Competition Awards Ceremony yesterday in Warwick.

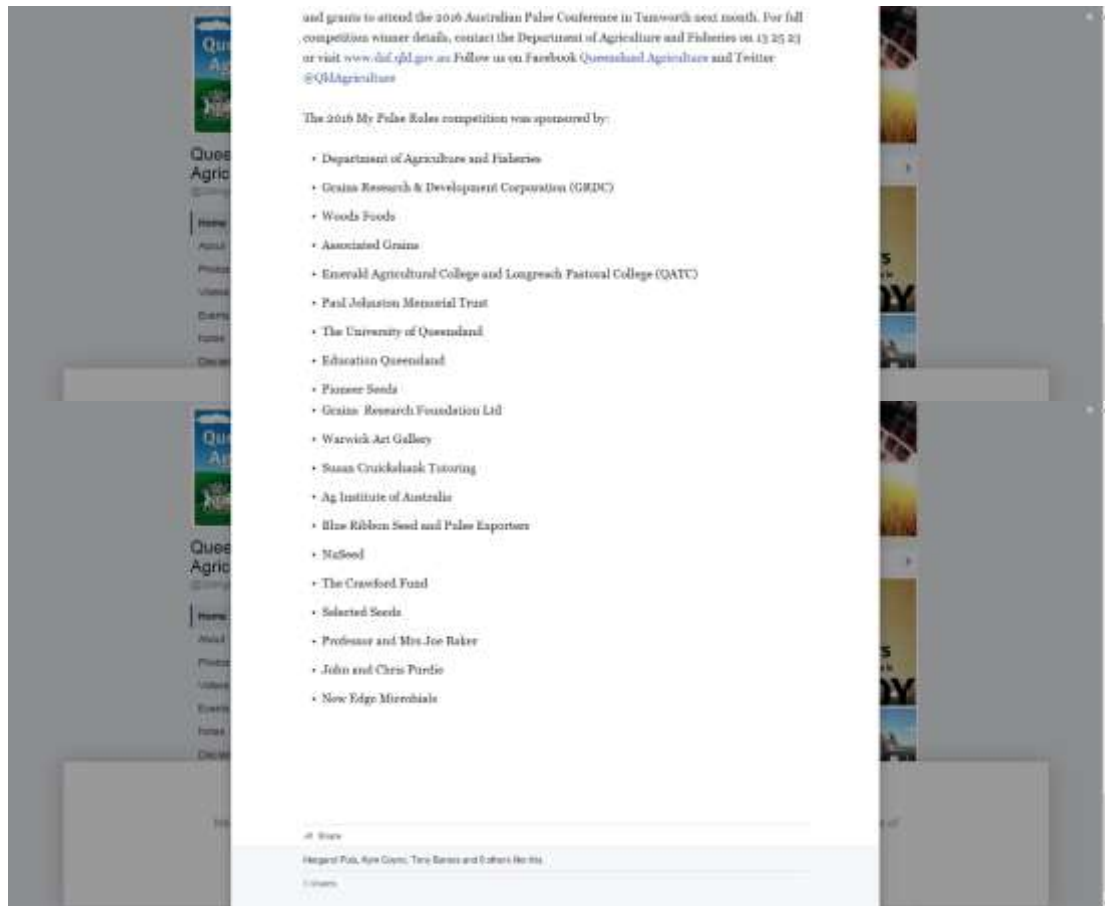
Minister for Agriculture and Fisheries Les Crane said this year's competition celebrated International Year of Pulses and some of Queensland's most profitable crops. "This competition aims to stimulate interest in science and agriculture in young people and to promote the industry as a rewarding and exciting career choice," Minister Crane said. "This year it's achieved exactly that, with more than 561 schools from across the country registered, and more than 245 science and art entries received."

Students were asked to perform a series of activities to show why the biology of pulse crops makes them an essential part of profitable, healthy, sustainable farming systems, as well as part of a nutritious diet. Activities for 2016 included a chickpea planting experiment, producing a pulse poster, designing a 'Genes of Pulses', mapping pulses in the supermarket, and creating a spectacular pulse mandala," the Minister said. "The quality of entries that we received this year was exceptional, with strong interest in learning more about chickpeas, mungbeans and pulses in general."

Major science and art prizes were won by Queensland schools:

- Faith Christian School of Distance Education
- Glasshouse Christian College
- Calvary Christian College
- Centenary Heights State High School
- Duker State High School
- Pinalco State High School
- Our Lady of the Southern Cross College
- Chandler State College
- Geelong Christian College of Distance Education
- Halls Horne Education
- Grand Avenue State School
- Pallenvale State School
- Penny Grove State School
- Pines State School
- Darling Downs & South West STEM Futures
- Dalveen State School
- Milchester State School
- Bidaleton State School
- Freestone State School
- Davina Homeschool
- Windaroo Valley State High School
- Mt Gravatt State High School
- as well as interstate schools (Chevalier College, Clare High, New England Girls School and the Gemmet Fluck homeschool).

Prizes include education scholarships, gift vouchers, trophies, books, gardening materials



Charters Towers Plus More website, 16 August 2016

Charters Towers PLUS MORE

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Navigation: HOME, NEWS, BUSINESS/SETUP, JOBS, INFO, EVENTS, COMMUNITY, HOME & HOMES, CONTACT

Latest News: Prices & Stock Cattle Sale - 17th August, 2016; School students prove their excellence in plant science; Traffic Changes in Townsville

School students prove their excellence in plant science

August 16, 2016

Students from Millmerran State School are joining with counterparts from around Australia today as one of the major winners of the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools Plant Science Competition Awards Ceremony being held on the Southern Downs in Warwick.

Minister for Agriculture and Fisheries Lawrence Gordon said this year's competition celebrated international 'Pulse' and some of Queensland's most profitable crops.

"This competition aims to stimulate interest in science and agriculture in young people and to promote the industry as a rewarding and exciting career choice," Minister Gordon said.

"This year it's achieved exactly that, with more than 160 schools from across the country registered, and more than 245 science and art entries received."

Students were asked to perform a series of activities to show why the biology of pulse crops makes them an essential part of profitable, healthy, sustainable farming systems, as well as part of a nutritious diet.

"Activities for 2016 included a chickpea planting experiment, producing a pulse poster, designing a 'Game of Pulse', snapping pulses in the supermarket, and creating a spectacular pulse mandala," the Minister said.

"The quality of entries that we received this year was exceptional, with strong interest in learning more about chickpeas, mungbeans and pulses in general."

As well as Millmerran, major science and art prizes were won by Queensland schools:

- Pulli Christian School of Distance Education
- Gladstone Christian College
- Calvary Christian College
- Centenary Heights State High School
- Oakley State High School
- Ararat State High School
- Our Lady of the Southern Cross College
- Charvel State College
- Grange Christian College of Distance Education
- Indis Home Education
- Grand Avenue State School
- Mulgrave State School
- Ferry Grove State School
- Miles State School
- Darling Downs & South West STEM Future
- Salween State School
- Mulgrave State School
- Freestone State School

Prizes include education scholarships, gift vouchers, trophies, books, gardening materials and grants to attend the 2016 Australian Pulse Conference in Tamworth next month.

Other Content:

- Australia's Own Winter Wonderland:** It's the season... Click here to watch our exclusive report ->
- Carmichael Mine Special Report:** Click here to watch our exclusive report ->
- DTS SERVICE CENTRE:** if you can drive it, we can fix it!
- Local News:** 2016-2017 school night... 2016-2017 school night...

Find Local Businesses: Select Business Type, Enter your Business Name / Keyword, Search, Results and Tenders.

Find Community Groups: Find Us on Facebook

Warwick

Daily News

Wednesday, August 17, 2016 (07) 4660 1355 Read by 25,000 readers every week - desktop, mobile and print \$1.50

Page Number: 47-48 & 92-93
90 Box 67, Palmerin St, War



Science buffs take on Hermitage

HUNDREDS of school kids made the trip to the Hermitage Research Station yesterday for the 20th annual Plant Science Competition. Students travelled from 17 schools to take part in the event, which aims to get young people interested in science and agriculture. Story PE



Ebony's inspirational video watched by thousands

Page 4



Regency Park unveils latest addition, celebrates Seniors Week

Page 5

EMU SWAMP DAM 'NOT BEST PLAN'

WATER group says pipeline from Connolly Dam would be a more viable option to bringing water security to the region and would be less of a financial burden. Story P3

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Wednesday, August 17, 2016 warwickdailynews.com.au

Schools science comp celebrates 20 years



KEEN: Warwick State High School students (back from left) Mackenzie Rowland, Brianna Dagg, Katie Gimm and Santenna Bell at the Schools Plant Science Competition. PHOTO: SOPHIE LESTER

Students step up to challenge

■ Sophie Lester

SCIENTISTS at the Hermitage Research Facility welcomed more than 200 students for the 20th School Plant Science Competition.

Administrative Officer Kerrie Rubie said school-based awards and fun demonstrations were set up to help encourage schoolkids to consider careers in agricultural science and research.

"We have 17 different school groups here today and lots of fun activities to do with our grains research here and at other facilities

around the region," Ms Rubie said.

"The new displays we have this year are our sponsors Food from the Earth and soil health and we're looking at introducing different displays to keep things interesting.

"This is mainly to get students interested in agriculture and science from a young age, which is really rewarding for us and something all our guest speakers encourage as well."

Research at the centre has bearings on the longevity of Southern Downs grain growers and global food security.

Centre Leader Dr Andrew Borrell said the competition, with the theme My Pulse Rules, was a great chance to showcase grain research to students during National Science Week.

"We have more than 50 staff here with projects in all our major food crops like mung beans, chickpeas, barley and sorghum," Dr Borrell said.

"It's great to show students the phenomenal science at the interface of lots of different fields that is helping grain growers here in Australia and around the world, as most of our projects are international."

The screenshot shows the front page of the Daily News website. The main headline reads "Plant Science Competition draws 100s of students to Warwick". Below the headline, there's a sub-headline "Warwick State High School Students Back from Italy" and a date "17th Aug 2015". The article is categorized under "Special Coverage" and "COURT SHOCKER-FATHER LOGS KIDS TO EX-WIFE, SEX OFFENDER".

The article text states: "SCIENTISTS at the Hermitage Research Facility welcomed more than 200 students for the 2015 School Plant Science Competition. Administrative Officer Karen Robie said school-based awards and fun demonstrations were set up to help encourage schools to consider careers in agricultural science and research."

A video player is embedded in the article, showing a group of students and staff members standing in front of a large banner that reads "Warwick State High School Development". The video title is "Students Return to Southern Downs science facility".

Below the video, there are several quotes from participants:

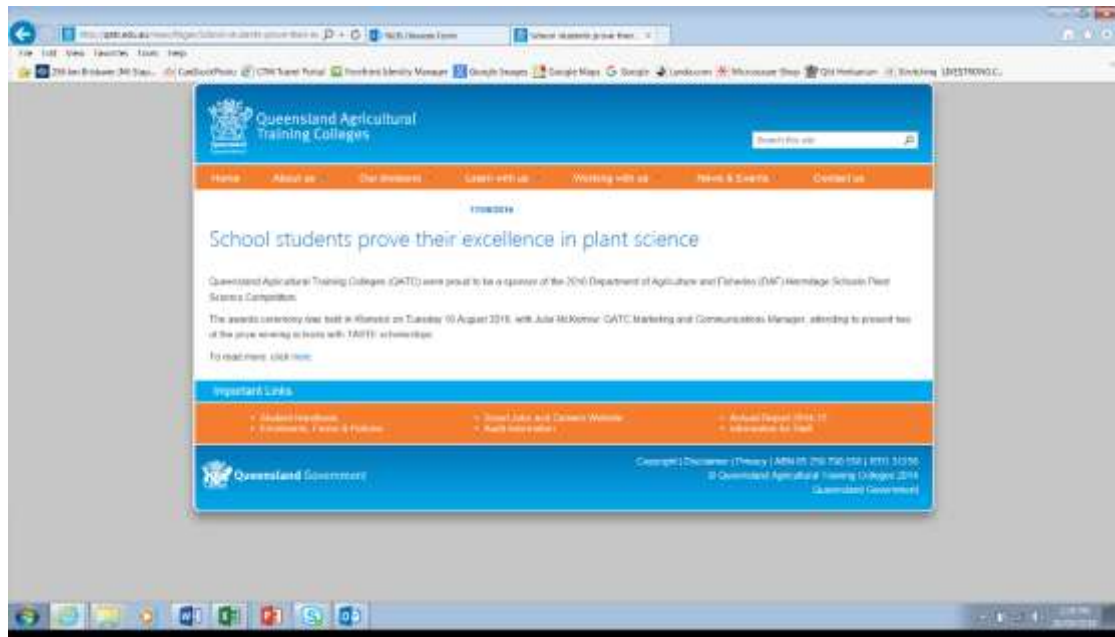
- "We have 17 different school groups here today and lots of fun activities to do with our grain research here and at other facilities around the region," Ms Robie said.
- "The new displays we have this year are our sponsors Root from the Earth and soil health and we're looking at introducing different displays to keep things interesting."
- "This is mainly to get students interested in agriculture and science from a young age, which is really rewarding for us and something all our guest speakers encourage as well."
- Roscoe at the centre has been key in the longevity of Southern Downs grain growers and global food security.
- Centre Leader Dr Andrew Davick said the competition, with the theme My Future Rules, was a great chance to showcase grain research to students during National Science Week.
- "We have more than 50 staff here with projects in all our major food crops like rising beans, chickpeas, turkey and sorghum," Dr Roscoe said.
- "It's great to show students the phenomenal science at the interface of lots of different fields that is helping grain growers here in Australia and around the world, so most of our projects are transnational."

On the right side of the page, there are several smaller articles and sections:

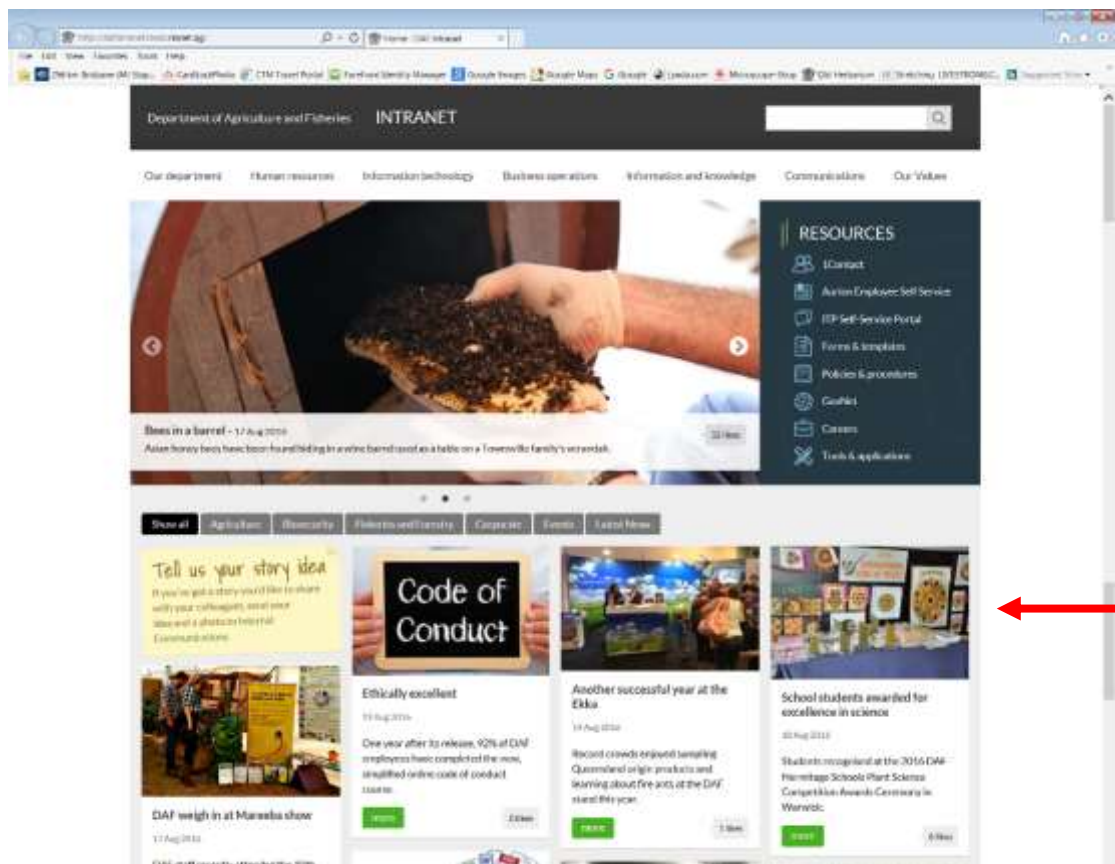
- LOCAL PARTNER**: A section for local business partners.
- UP IN**: A section for updates or news items.
- UPDATE**: A section for updates on ongoing stories.
- THE BIRMINGHAM CHINA NEWSWORTH JOURNAL**: A section for news from Birmingham.
- Your begins construction of global HQ in the Coast**: A section for news about a new headquarters.
- The rains are here! Droughtspurs to walk away from it by 2015**: A section for news about drought conditions.
- Father loses custody of girls to wife, sex offender**: A section for news about a custody dispute.
- Kangaroo capture: Men film themselves slaying animal - serious sign**: A section for news about a kangaroo capture.
- Root Estate**: A section for news about a real estate listing.
- LIVING WORLD**: A section for news about living conditions.

At the bottom of the page, there is a navigation bar with links to various sections: Home, Local, News, Sport, Lifestyle, Community, What's On, Jobs, Meeting, Real Estate, Education, Classifieds, All.

QATC website, 17 August 2016




DAF OurNet website, 22 August 2016



School students awarded for excellence in science

18 Aug 2016

Students recognised at the 2016 DAF Hermitage Schools Plant Science Competition Awards Ceremony in Warwick.



Students from around Australia have been recognised for their efforts at the 2016 DAF Hermitage Schools Plant Science Competition Awards Ceremony today in Warwick.

Competition organiser Kim de Ruiter said this year's competition theme was 'My Pulse Pulse', celebrating the International Year of Pulses and some of Queensland's most profitable crops.

"The competition aims to stimulate interest in science and agriculture in young people and to promote the industry as a rewarding and exciting career choice," she said.

"This year it's achieved exactly that, with more than 500 schools from across the country registered, and more than 245 science and art entries received."

Students were asked to perform a series of activities that show why the biology of pulse crops makes them an essential part of profitable, healthy, sustainable farming systems, as well as part of a nutritious diet.

"Activities for 2016 included a chickpea-planting experiment, producing a pulse protein, designing a 'Game of Pulses', mapping pulses in the supermarket, and creating a spectacular pulse mandala."

"The quality of entries that we received this year was exceptional, with strong interest in learning more about chickpeas, mungbeans and pulses in general."

Major science and art prizes were won by Queensland schools:

- Faith Christian School of Christian Education
- Glasshouse Christian College
- Calvary Christian College
- Canterbury Heights State High School
- Oakley State High School
- Proffers State High School
- Our Lady of the Southern Cross College
- Chancelor State College
- Groves Christian College of Distance Education
- Holika Home Education
- Grand Avenue State School
- Pullenvale State School
- Ferry Grove State School
- Pilton State School
- Darling Downs & South West STEM Futures
- Dalveen State School
- Milkenden State School
- Didd斯顿 State School
- Freestone State School
- Davison Homestead
- Windsor Valley State High School
- Mt Gravatt State High School
- as well as interstate schools (Chandler College, Clare High, New England City School and the Gunnedah Secondary School).

Prizes include education scholarships, gift vouchers, trophies, books, gardening materials and grants to attend the 2016 Australia-Pulse Conference in Tarengo next month.

Fisheries and Forestry

- 2016
 - January
 - February
 - March
 - April
 - May
 - June
 - July
 - August
- 2015
 - January
 - February
 - March
 - April
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Feature Articles

No results were found

Corporate

- 2016
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Biosecurity

- 2016
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 - May
 - June
 - July
 - August
 - September
 - October
 - November
 - December

August 2016 Newsletter



Foundation News

Winning students have a finger on the pulse of ag careers

Students from around Australia have been recognised for their efforts at the 2016 Queensland Department of Agriculture and Fisheries Hermitage Schools Plant Science Competition Awards Ceremony. State Minister for Agriculture and Fisheries Leanne Donaldson said this year's competition celebrated International Year of Pulses, some of Queensland's most profitable crops. The competition aims to stimulate interest in science and agriculture and to promote the industry as a rewarding and exciting career choice. More than 160 schools from across the country registered and more than 245 science and art entries received. Students were asked to perform a series of activities to show why the biology of pulse crops makes them an essential part of profitable, healthy, sustainable farming systems, as well as part of a nutritious diet. Examples included a chickpea planting experiment, producing a pulse poster, designing a 'Game of Pulses', mapping pulses in the supermarket, and creating a spectacular pulse mandala.

[MORE INFORMATION](#)



Prize table and mandala display at the Hermitage Plant Science Competition Awards Ceremony

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School Plant Science Competition turns 20

Australian food brand capitalises on pulse crops

Now to the heavy and showy part of the book: how these crops can be utilized

- *Marshall Cooper*

A NEW food trend is taking advantage of research into pulse crops to deliver products.

there were at the National Plant Society Competition at Hemlock, British Columbia.

search station last week, and allowed students to sample some of the fossils created thanks in part to research done at the facility.

one at the facility.

recognition

General manager Michele Cooper said using bean flour was used to create the range of footprints, patterns and characterful spread.

The main issue with bringing pulses to the people has been the taste and smell, which really limits the applications, and in fact the majority of Australian-grown mungbeans are ex-



FOOD TEENOS: *Michelle Cooper becomes involved in Foods from the Earth to show case the nutrients and applications of pulses like mung beans to Australian consumers.*

period," Mr. Cooper said.

"With the rising beams the charcoal has been to manufacture the flow and neutralize the flavour with

retaining the nutrients

The technology has been around for about 10 years but to go from proof of concept to commercialisation has

tribes about three years

"We've done some of our pilots and final studies in DAF facilities so it's nice to be here today and show people the products and how these crops can be utilized."

"It's a great initiative here to get kids thinking about research applications and we're proud to come on board as sponsors of this year's event."

Many beams are highly efficient plants in terms of the amount of water they require.

On the Darling Downs, varieties can be grown from early October to late January and one in-crop irrigation applied around flowering is usually sufficient to achieve reasonable yields in the heavy black soil.

Jim Corbett said the pulse crop was a good fit for the seed product and also hit a particular niche market.

"Mung beans are a good protein source and have the richest flavour profile to suit from any of the pulses



and have no recorded allergy issues, she said.

"because Time-Foot Books are burning it made sense to incorporate them this way, and all our products are free from nuts as well as gluten and soy."

100%

"As we've noted, the products out there are plentiful. We've seen a tremendous amount of people who have never even heard of using beans as the allergy-conscious side of things has been a great tool for us in markets to Western consumers, whereas in south-east Asia they want to try the product because it has more beans in it."

—It would be great if we could help to globally increase the consumption

of muskbeams and other golden crabs - we've seen how green that has been from our economy with chickens."

Writing a Curriculum



The Chronicle/The Bulletin, 26 August 2016

The screenshot shows the front page of The Bulletin website. The main headline is "High school students blitz Australian science competition". Below the headline is a photo of a group of students in white lab coats. To the right of the photo is a sidebar with various news snippets. At the bottom of the page, there is a "FREE" banner for a newsletter.

High school students blitz Australian science competition

By [Author Name] | 26 Aug 2016 10:00 AM

POPULAR STORIES

- REVEALED: How on the new gold mine
- Carrie Ingrid is back: referee new members
- UPDATE: Man charged with alleged abduction of Gladstone girl
- LOCAL RAIL REPORT
- WISDOM: How

THIS GROUP OF BUBBLY TEENAGERS IS HOPE TO BE THE NEXT GENERATION OF DOCTORS, SCIENTISTS, BIOLOGISTS, ENGINEERS AND NUCLEAR PHYSICISTS.

They are well on their way to achieving their dreams and more after an outstanding result in an Australian-wide plant science competition.

Cenotaphy Heights State High School Year 9 and 10 students competed in the 2016 Department of Agriculture and Fisheries (DAF) Hermitage Schools Plant Science Competition.

Students were asked to perform a series of activities to show why the biology of pulse crops made them an essential part of profitable, healthy, sustainable farming systems, as well as part of a nutritious diet.

The Year 9 science and maths enrichment class took part in a chickpea growing experiment for two months. They were required to grow the crop and then write extended experimental investigations (EIs) on the process and end result. They placed second in the Year 9-10 category.

On top of this, the ABC Justice Achievement Award Runner Up went to the school's junior staff, Year 14, and Year 9 student for an Cook won the Susan Craddock Award for Junior Student's Research and Writing Award.

Cenotaphy Heights State High School maths and science teacher Tracy Neen said all 16 Year 9 students had brilliant work ethic.

"They'd water or fertilise the crops on their lunch breaks," she said.

Ms Neen said the enrichment class was an elective chosen by the students because of their passion for maths and science.

"I don't look at them as Year 9 students, I treat them as just science and maths students to the formula I give them to adhere to result for a senior, even university, standard format and that's what they wrote," she said.

"The whole conversation and drafting process was to a Year 11 and 12 standard, which they rose to, you certainly wouldn't do that if you feel they wouldn't cope."

"That's probably what made them stand out to other students."

Cenotaphy Heights State High School Year 10 student Jing Wang also placed highly, competing in the Year 10-12 category.

Major science and art prizes were also won by Green Christian College of Oxidation Education, Oakley State High School, Darling Downs and South West STOM Futures and Billabong State School.

FREE

Hermitage Schools Plant Science Competition

UPDATE: Man charged with alleged abduction of Gladstone girl

SHARK ATTACK: Western friends 'traumatised', visibly upset

LETTER: Calling on the Qld Government to boost fish habitats

Redland City Bulletin, website, 30 August 2016

http://www.redlandcitybulletin.com.au/story/425040/calvary-christian-college-students-excel-in-national-plant-sciences-competition

Calvary Christian College students excel in national plant sciences competition

30 Aug 2016, 10:00

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- Olympic's bill may climb
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- Rosie players have a ball
- Which Brisbane's Matar Magmas could give Patrick Dengerfeld a fight?

EDITOR'S PICKS

POPULAR

Calvary Christian College students excel in national plant sciences competition

HARD AT WORK: Calvary Christian College students Liam Culwick, Grace Kinnear and Jessica Cerezo run experiments as part of the Department of Agriculture's Heritage Plant Science Competition.

AGRICULTURAL students from Calvary Christian College have beaten 1811 schools across Australia to come first in their category in a national plant sciences competition.

Five of the students received individual highly commended awards and one student, Cameron McLeard, was awarded the TASTE scholarship for his efforts and attitude.

The Heritage Schools Plant Science Competition held by the Department of Agriculture and Fisheries (DAF) celebrated International Year of Pulses this year.

The entry from 20 of Calvary's year 10 students was judged top in the senior group, which included year 11 and 12 students.

Cameron's scholarship will enable him to pursue his agricultural interest by undertaking a program of multiple field experiences and excursions at Emerald Agricultural College.

WHAT'S HAPPENING IN CLEVELAND

Hit of tennis anyone?
Is there anyone out there who enjoys a hit of tennis? I am a keen tennis player...

Seeking unfit jogging buddy!
I've been to get back into the habit of jogging in the morning but I do love comp...

Got a spare fridge?
I just moved and desperately need a fridge. If anyone has one they don't need it...

Over sixties singles group
Would be great to have a singles group for the over sixties. Must be plenty of us...

Noisy neighbours
Help! How can I deal with neighbours who insist on playing music at a deafening...

Enter your suburb

AGRICULTURE STUDENTS: A team of year 10 students from Calvary Christian College have been successful in a national plant science competition.

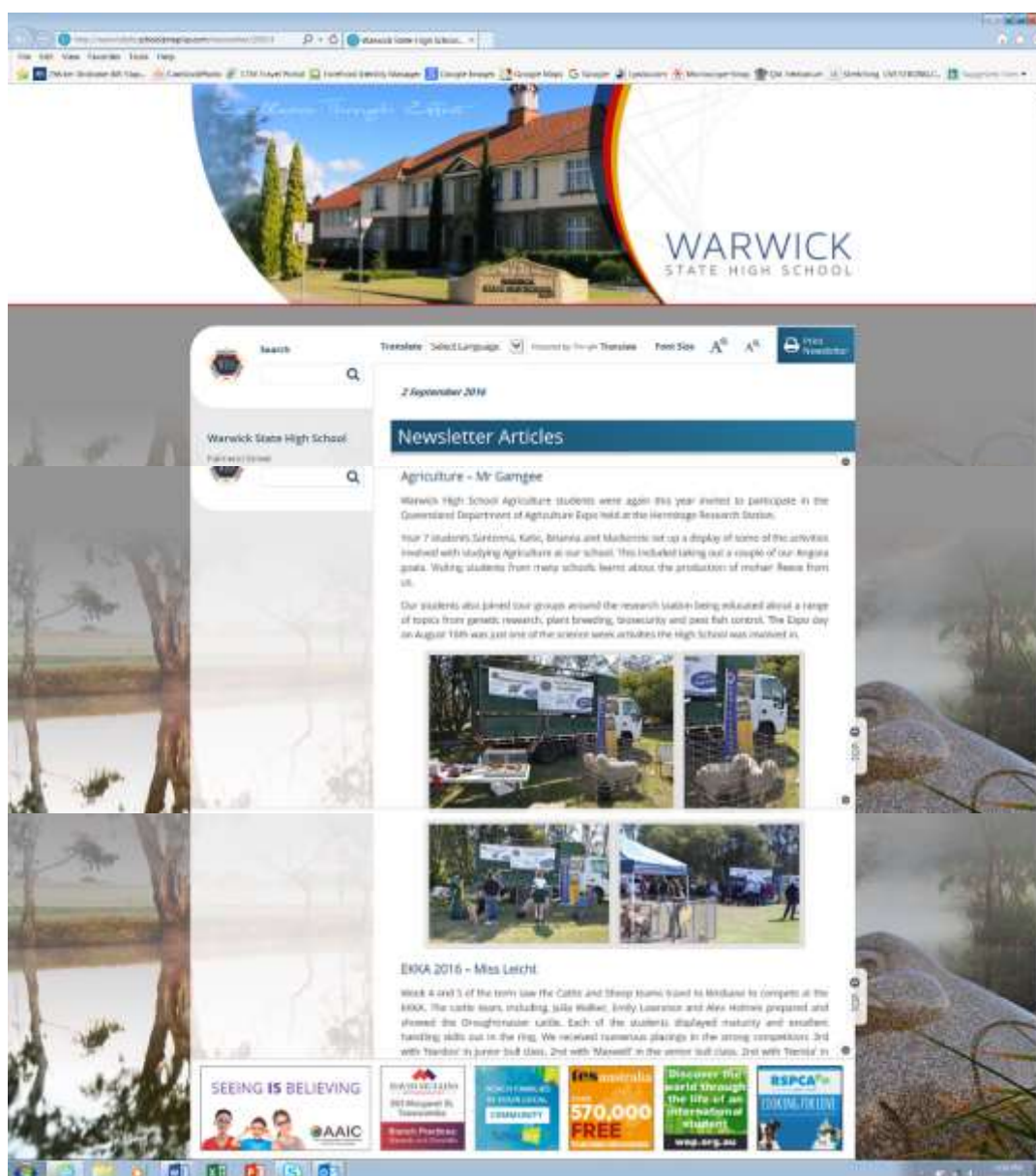
The students worked under the leadership of their teacher Kirsty Hart to conduct research, run experiments and investigate pulses and their importance as a food source and ticket to sustainable agriculture.

The college's head of middle and senior school Peter Collins said the students' success in the competition stood alongside their exceptional record at south-east Queensland regional agricultural shows which had culminated in gaining ribbons in all entered events and being awarded the 'best at show' school display at the recent Brisbane Royal Show.

"The success of the DAF plant science competition is not only a credit to the diligence, tenacity and effort of the students, but also a satisfying validation of their



Warwick State High School newsletter, September 2016





21 Sep 2016

Oakey Champion, Oakey QLD

Section: General News • Article type: News Item • Classification: Regional
Audience: 3,000 • Page: 6 • Printed Size: 192.00cm² • Market: QLD • Country: Australia
ASR: AUD 241 • Words: 150 • Item ID: 661588440

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Page 1 of 1



Students succeed at science competition

The Year 2, 3 and 4 students at Biddeston State School took part in the 2016 Hermitage Schools Plant Science Competition with the Year 2 students being awarded third place for their scientific reports.

Biddeston student Hamish was presented with a Highly Commended award for his enthusiasm in learning about pulses.

This year is the 'Year of the Pulses', and the students investigated growing chickpeas to learn the value in using pulses in cropping systems.

The students also used a variety of pulses to decorate a mandala, with

Abi awarded Highly Commended for her artwork.

The students were lucky to have a special visitor, Mr Patch, who shared his expertise on growing mung beans and brought some new products to share.

All agreed the peanut flavoured spread and the chocolate flavoured spread made from mung beans were delicious.



Biddeston students enjoying a visit from mung bean expert, Mr Patch.

Qld Agriculture Facebook Page, 25 September 2016

Queensland Agriculture
21 hrs · 🌐

Queensland school students Joel Johnson and Stephanie Ferris were special guests at the 2016 Australian Pulse Conference in Tamworth this month, after their outstanding entries in the 2016 DAF Hermitage Schools Plant Science Competition secured them the prize.

The duo received a conference grant which saw them both attend and present at the conference, networking with the pulse industry and DAF staff. Pictured is Stephanie and her father with DAF's William Martin and Joel with his award.

PHOTOS

VIDEOS

NOTES

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Rebecca Dunstall Oh my gosh!!! Bianca Elizabeth Newman Farms how awesome!! Steph you look so grown up. So, so beautiful! Congratulations!!
Like · Reply · 1 · 2 hrs

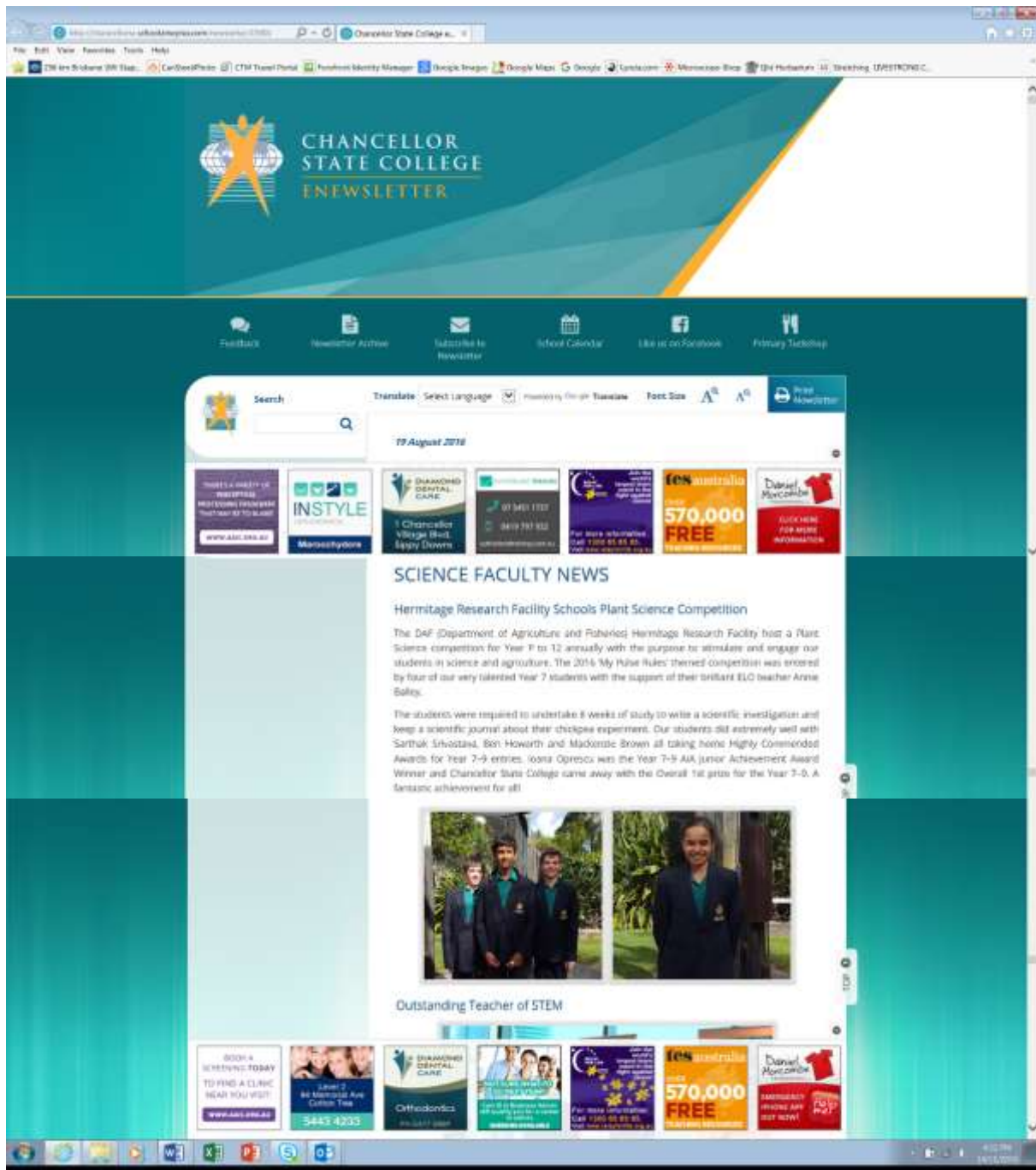
Robyn Morgan How awesome!!
Like · Reply · 7 mins

In brief

SCIENCE SUCCESS

MILLCHESTER State School Year 2 and 3 students were over the moon recently to receive Overall 2nd Place in the "My Pulse Rules!" DAF Hermitage Research Facility Schools Plant Science Competition for their year level. With the assistance of their teacher Jacqui Green and Kelli Pukallus (DAF), the students completed a scientific research report on pulses. The class conducted an experiment, inoculating chickpea seeds with beneficial bacteria, watched them grow and checked for nitrogen-fixing nodules on the roots. The students researched pulses on the internet and also created a winning poster. For their awesome efforts, the class won a raised garden bed, trophy and personalised certificates. Kingston Crowley in Year 2 also received a Highly Commended Award for his efforts with the project, winning a medallion and certificate. This is the fourth year students from Millchester have competed in the Australian-wide competition and won prizes. The Year 2 and 3 students were excited to win and can't wait to start growing plants in their new garden bed.

Chancellor State College on-line newsletter



GRDC GroundCover (online), November-December 2016 Issue

The screenshot displays the GRDC GroundCover website interface. The top navigation bar includes links for Home, Research & Development, Applying & Reporting, Resources, Media Centre, and About Us. The main content area is titled "GroundCover Issue 125: November-December 2016". It features a sidebar on the left with links to Hot Topics, Media / News, GRDC Podcasts, GroundCover, About GroundCover, GroundCover Supplements, GroundCover TV, Over the Fence, Events, GRDC E-Newsletters, and GRDC Gallery. The main content area includes a section for "Read GroundCover Issue 125" with a list of featured articles, a "Supplement" section for "Read the Pulse Breeding Advances Supplement", and a featured article titled "Schools competition inspires pulse interest". The article text describes a competition for high school students in Queensland, where Joel Johnson and Stephanie Ferris were winners. It also mentions the competition's history and its focus on pulse planting and product development. The footer contains links to the GRDC Project Code PFA02022, Region North, and various social media and contact links.

GroundCover Issue 125: November-December 2016

In this issue:

- Rain and research make challenges a reality (vlog)
- Pulses a profitable option for grass weed control
- Wet winter opens the future planting season

Read GroundCover Issue 125
Web | Online Magazine: Northern | Online Magazine: Southern | Online Magazine: Western

Supplement
Featured Articles

- Research Beats Strong Pulse Failure
- Chickens Sight And Rot In Researchers' Sights
- Herbicide Tolerance Delivers Options
- Lemna Park Geographic Boundaries

Read the Pulse Breeding Advances Supplement
Web | Online Magazine: National

Schools competition inspires pulse interest
Article Date: 31/10/2016
Region: North

Queensland high school students Joel Johnson and Stephanie Ferris were winner and runner-up respectively in the Queensland Department of Agriculture and Fisheries Food 2016 Heritage Research Facility Schools Plant Science Competition.

Schools competition inspires pulse interest
Date: 31/10/2016

Queensland high school students Joel Johnson and Stephanie Ferris were winner and runner-up respectively in the Queensland Department of Agriculture and Fisheries Food 2016 Heritage Research Facility Schools Plant Science Competition.

Joel and Stephanie's submissions to the Plant Science Project Awards category were selected from 250 entries invited from schools across Australia. Their achievement secured them a grant to attend the 2016 Australian Pulse Conference. The pair were presented with their awards during the conference dinner in Tamworth. Joel and Stephanie were also invited to give a poster presentation, explaining their pulse project entry, during a luncheon session at the conference.

Joel lives in Mount Morgan, near Rockhampton, and is a Year 12 student at Faith Christian School of Distance Education, while Stephanie is a Year 10 student at Glasshouse Christian College at Seewick, north of Brisbane.

"I was my ag science teacher who got us thinking about entering the competition, and we've learnt so much," Stephanie said.

The competition is now in its 20th year. It was founded 'My Pulse Pulse' to align with the 2016 International Year of Pulse. Individual entrants were required to conduct a pulse planting experiment and write up the results, as well as design a poster explaining the benefits of growing pulse crops.

Entrants also had to make a card or board game with a pulse theme, map the location of pulse end-products in a local supermarket, or create a pulse dish and film it being cooked.

The AMAgriculture Award allowed students to work together to create a mandarin made of pulses. This award was given to the school with the most outstanding art entries overall and was won by Crestone State School, near Warwick, Queensland.

The competition is an initiative of the Queensland DAF. Its sponsors include the GRDC.

Next:
Heritage for precision agriculture research

Previous:
Crop Camp for real-world agriculture

GRDC Project Code PFA02022
Region North
Pulse Growing
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Appendix 10: Art in AgRiculTure 'Pulse Mandalas!'



