NSW Association of Agriculture Teachers Inc.

# Bulletin of the NSW Association of Agriculture Teachers Incorporated

# BAAT



## Spring 1999. BAAT Edition No. 13


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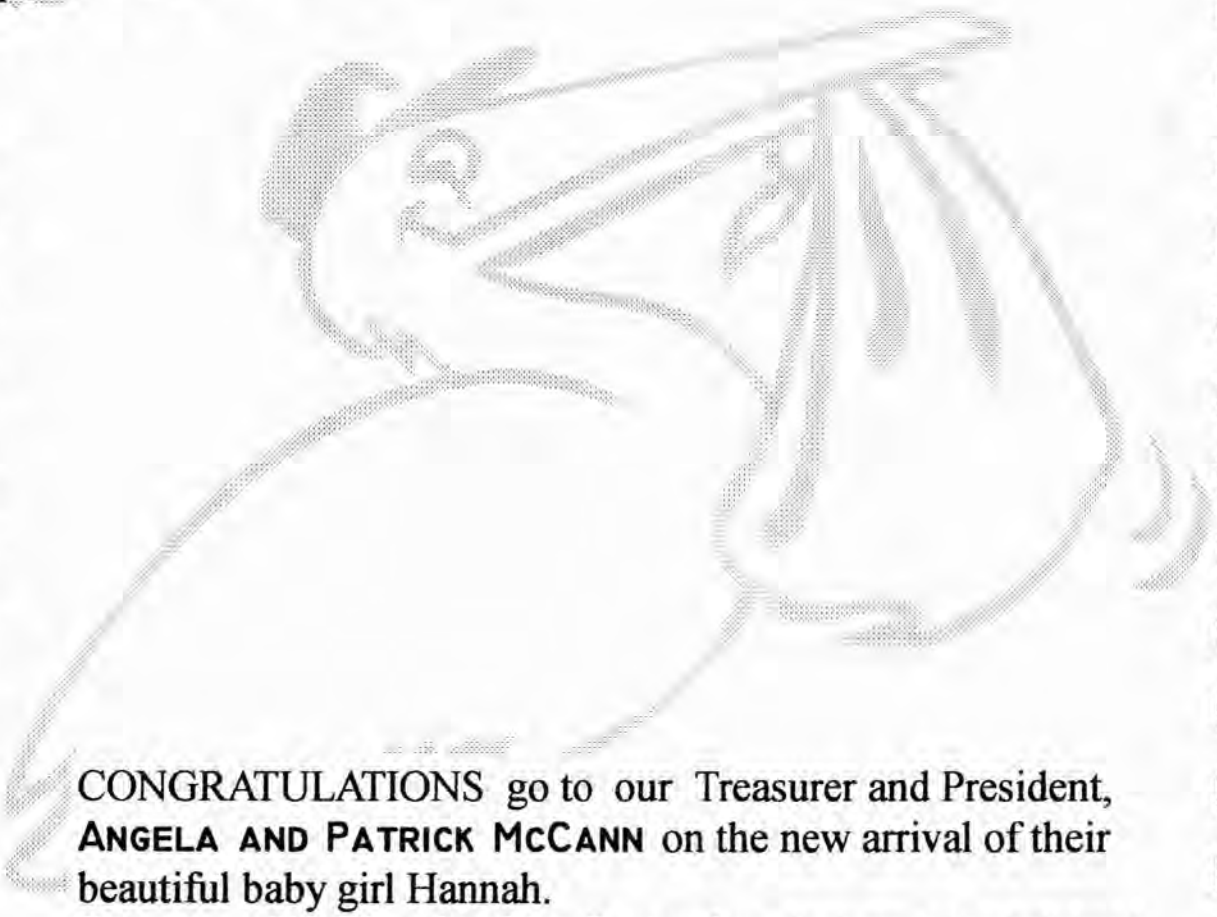
COTTON AUSTRALIA

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# STORK NEWS



CONGRATULATIONS go to our Treasurer and President, **ANGELA AND PATRICK MCCANN** on the new arrival of their beautiful baby girl Hannah.

Born : Tuesday the 21st September, [just made the holidays]

Weight: 9.lb.

All reports say they are all doing well.



# N.S.W. Association of Agriculture Teachers Inc


| President | Treasurer | Secretary | Editor BAAT |
|---|---|---|---|
| *Patrick McCann* | *Angela McCann* | *Peter Napier* | *Karen Damic* |
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## Membership Form

Name - .....

Address (for posting BAAT)- .....

.....

Home Phone - .....

School - .....

School Phone - .....

Fax - .....

e-mail - .....

Membership Fees –

Yearly $35

Biannually $70

Please return this form with your cheque or money order (made payable to NSWAAT) to;

Patrick McCann
St Joseph's College,
Mark St
HUNTERS HILL
NSW 2110

# President's Report

Welcome to the second issue of BAAT for 1999. I hope that the holidays were enjoyable after a very hectic term 3 with trials, exams and reports. The last term was very busy, particularly in terms of the workshops (LIG events) that Ivan Gant has been running around the state to introduce the new Stage 6 Agriculture course.

Ivan has put a tremendous amount of work into the development of the new course right from its interception and all the thanks from every agriculture teacher in NSW should be given to Ivan for the professional and well designed syllabus document.

Thanks must also go to all the other members of the writing and review teams. Special thanks must go to Lorna McGilchrist for giving up large amounts of her long service leave to help in not only the writing of the syllabus document, but also for the sample exam papers and an excellent program for the new syllabus. This program will be an invaluable resource for teachers all over the state.

The NSWAAT ran a programming workshop over two days at UWS, Hawkesbury on the 3rd and 4th September. The weekend was well supported with 30 teachers from as far afield as Gunnedah, Dubbo, Bombaderry and Yass. The weekend was very productive with a large range of ideas in programming, resourcing and implementation ideas developed. The information that was gathered over the weekend is currently being collated and typed and will be available to all the members of the Association at a small cost to cover disc and postage costs. When the collation process is final, an order form will be sent through the post.

Thanks must go to Ken Langford from UWS, Hawkesbury for all the help he gave in getting the workshop happening. A past agriculture teacher, Ken continues to support the association as much as he can and for this, we are very appreciative. His ability to provide us with the best facilities and support is appreciated!.

The support document for the new Stage 6 course is still being written and should be available to schools before the end of the year. I am sure it will end up being a very valuable resource, however it is still in the early stages of development. Thank you to all the members who gave up their time to review and comment on the draft document.

# President's Report - Cont'd

The Primary Industries course also has been finalised and thanks must go to all the people who were involved in the development and writing of this new VET course. Peter Green and all the other reviewers and writers have developed a course which I am sure will become very popular around the state. The Primary Industries course is based on the Rural Training package modules and will give all the students who successfully study the course a chance to gain a wide variety of skills and be able to gain credit and articulation into a wide variety of courses at both TAFE and with other providers.

It must be remembered that if you are intending to teach the primary industries course that unless you have sought and been granted recognition for prior learning you can only teach the General Agriculture strand. To teach the strands such as Beef Production, Crop Production and Sheep and Wool Production you must be granted approval to teach it. Information and RPL forms can be obtained by contacting Fran Moloney at Training and Development in Ryde, her phone number is 02 9886 7612.

At the present time there is a review of teacher training being undertaken by Dr Gregor Ramsey, to provide the government with advice on issues in initial and continuing teacher education and strategies to improve the quality of teaching. I am keen to have any teachers of Agriculture who have graduated in the past 5 years, get in contact with me to tell me how well their teacher training prepared them for the classroom and how it can be improved to make better prepared graduates. It is important that as an association we have input into the reviews taking place in education at the moment if we wish to have our opinion and ideas heard. The more input we have, the more representative will be the response that the NSWAAT is able to put forward to the review panel. Of course, any other member is also welcome to have their say – that's if some of us can remember that long ago!
Recently there has been a review of the Animal Research Act to which the NSWAAT had a large amount to contribute in regards to where we as Agriculture teachers fit into the Act. We all must be aware of the content of the Act and ensure that we operate within its boundaries. Thanks must go to Phil Hurst and Sally Bannerman for all the work they have put into representing the NSWAAT on the Animal Welfare issue.

# President's Report - Cont'd

Thanks must also go to Peter Jones and his group who work tirelessly ensuring that tractor and machinery safety is addressed with the public schools. Their tractor replacement scheme and maintenance funds are appreciated by all public schools that should now be 10 steps closer to caring for well-serviced and maintained machinery that is safe for our students and teachers.

Thanks must also go to a new sponsor – McGraw Hill Publishing who have generously offered a 10% discount on all books purchased through them by members of the Agriculture Teachers Association. When deciding on the purchase of new books for yourself or the school please consider McGraw Hill. Thanks must go to Ellen Chan and all the staff at McGraw Hill for this sponsorship, as it is greatly appreciated.

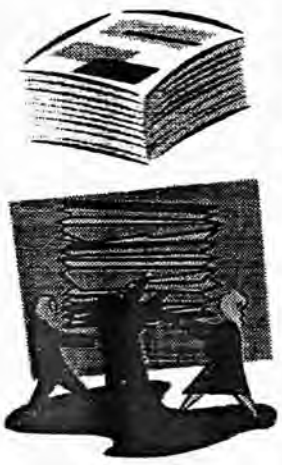
Remember that BAAT is only as good as its contributors, so if you have any suitable articles, information or resources that you are willing to share please contact Karen Damic at Bathurst High School. She has done an excellent job with BAAT so far this year but still needs lots of support from our members, particularly when we are all trying to resource the new HSC whilst still struggling with the implementation of the junior syllabus.

*Patrick McCann*

**Information to Share???**

**Send it in for the next BAAT Newsletter.**

**Ring Karen Damic on 02 6331 3755 or fax her on 02 6332 2302**



# Secretary's Report - An update on a few things



1. The proposed inservicing at the **Pinaroo cattle centre**, near Canowindra Teaching day for agriculture teachers (and others) Handling Cattle as advertised in last BAAT was not a goer. Only one phone call enquiry. Obviously not the inservicing money or other funds available.

2. Please support Sydney branch developing an ongoing **NSW Agriculture Teachers Data Base** of 314 schools teaching Agriculture by faxing Sheree Bourke – Menani High 9543 5513. (article pg 81 last BAAT)

3. As we all know **district/region networking** of agriculture teachers is invaluable. Over many years many districts or old regions have met regularly and good things have resulted for members. At this stage ONLY two co-ordinators have faxed information back to me as to who is the co-ordinator and a list of schools involved (pg 80 last BAAT). Thank you John Lee (19 North West schools) and Ross Irwin (3 Illawarra schools)

4. Who would love to see a list of EXCELLENT videos that Aggies have out there? If you could send in the following details to me. A Data base of video ideas will be placed in a later BAAT. Video details needed: video title, year made, source to purchase, $, time running, brief description (twenty words), copyright status, general comments (twenty words).

5. Information that could appear in future BAAT's are ideas and suggestions as to "WHAT WORKS WELL FOR ME" both in and out of the classroom. Suggestions of a couple of lines would be helpful.

6. Any funny stories or short, homorous anecdote of your teaching of agriculture. I am sure there would be quite a few incidents that you have witnessed or have been involved in yourself!! Please post them onto our good editor Karen or myself. If you think it prudent you may request your name left unpublished. It'll be great to have a good belly laugh or at least a wry smile from your experiences.

7. The articles submitted on aquaculture in this BAAT are to stimulate some interest from other ag teachers about this increasingly important primary industry. The first few pages are overheads for your pleasure. If other schools are running aquaculture projects I for one would love to see your experiences in BAAT.

8. Many would of attended the excellent presentations at the recent BOS Stage 6 new senior Ag syllabus workshops. Thanks Ivan Gant for your good inservicing. Keep in touch, in the meantime "encourage a fellow aggie in another school"

Cheerio, Peter Napier, *Secretary NSWAAT*, Orange High School fax 6361 3616

# Treasurer's Report

**The past month has bought in approximately 70 new members and has definitely made our bank balance look healthy again!!**

**Please remember if you pay your membership, it is tax deductable.**

**The inservice has also allowed us to expand with sponsorship of $2,500. We are, however, looking at sponsorship for BAAT, if you have any suggestions please get in contact with us.**

**The first BAAT was sent out to approximately 450 past members. As a result it was an expensive exercise (approximately $5,000). From now on it will be sent only to current paid members, with a reminder at the beginning of next year for your membership renewal.**

## Bank Balance as at 31/8/99

| | |
|---|---|
| **Balance from 1998 (Less unpresented cheques)** | **$8,536.51** |
| **Income from 21/1/99-31/8/99** | **$8,919.51** |
| **Expenditure from 21/1/99-31/8/99** | **$6,823.55** |
| **BALANCE as at 31/8/99** | **$10,632.47** |

**Please note that the HSC programming inservice has also ran through this account.**

*Angela McCann*

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## *GOOD NEWS!*

*All B.A.A.T. members are now entitled to a 10% discount when purchasing from McGraw-Hill Australia book publishing company.*

# IT'S CONFERENCE TIME....



NATIONAL ASSOCIATION OF AGRICULTURAL EDUCATORS

## ELEVENTH BIENNIAL CONFERENCE

### "Educating for Rural Revival"

### Challenges and Opportunities for Rural Australia

**Monday January 10th – Friday January 14th 2000**

**At**
**TRADE WINDS HOTEL**
**EAST FREMANTLE**
**WESTERN AUSTRALIA**

Presented by

AGRICULTURAL EDUCATORS ASSOCIATION OF WESTERN AUSTRALIA (INC)

# Read up on the CONFERENCE.....

The Agricultural Educators Association of Western Australian (Inc.) invites you to attend ***"Educating for Rural Revival"*** the 11th Biennial Conference of the National Association of Agricultural Educators to be held at the Tradewinds Hotel, East Fremantle from Monday 10 –Friday 14 January 2000.

Agricultural education is in a period of adjustment as new courses and methods of delivering agricultural education are introduced, nationally accredited programs are developed, industry and community links are established or strengthened and agricultural education repositions itself as a relevant area of learning. Outside of education but impacting on it, agricultural industries are going through a period of readjustment as production systems, technologies and markets change and develop while the future of rural communities are being challenged. In line with these observations the theme ***"Educating for Rural Revival"*** has been chosen. This conference will address these issues through keynote speakers, presentations, interactive workshops and visits to relevant industries and educational facilities to achieve the following outcomes:

- professional development for agricultural educators will be facilitated
- examine trends and strategies in agricultural education and skill training
- exchange ideas on current and future trends in education
- student learning will be enhanced through agricultural education
- links between agricultural education, industry and communities will be strengthened

The Agricultural Educators Association of Western Australia (Inc.) encourage you to attend this conference and participate in ***"Educating for Rural Revival"***.

## ACCOMMODATION

**Tradewinds Hotel**
Self contained one bedroom apartment suitable for twin share or coupies.

- Sole use $110 per night
- Twin share $55 per night per person

Self contained family apartment; two bedrooms sleeps 4 with fold out couch at extra cost.

- $135 per night

These rooms are fully equipped with kitchen facilities if you wish to cater for your own breakfasts or other meals.
For anyone wishing to arrive early or leave later to include a holiday or take advantage of discount airfares (i.e. need to stay a Saturday night) the discounted corporate room rates will apply.
If you wish to extend your stay outside of the conference dates could you please make accommodation arrangements direct with the Trade Winds Hotel. Indicate you are with the National Association of Agricultural Educators conference to take advantage of the discount rates.
After October 11 accommodation at the Trade Winds will need to be booked direct to the hotel.
Contact details for the Trade Winds are:
Trade Winds Hotel
59 Canning Highway
East Fremantle WA 6158
Phone: 08 93398188 Fax: 08 93392266
E-mail: enquiries@tradewindshotel.com.au
**Other**
Fremantle Village & Chalet Centre that has a range of chalets, mobile homes, on site caravans and sites available. This complex is situated 3 kilometers south of Fremantle. Please contact the conferece coordinator for prices or direct to Fremanntle Village and Chalet Centre at:
Lot 1 Cockburn Rd, South Fremantle WA 6152
Phone: 08 94304866 Fax: 08 94308053

## THE VENUE

The Trade Winds Hotel, 59 Canning Highway East Fremantle has been selected as the venue for the 2000 Conference. The Trade Winds Hotel with over a hundred years of history is located on the Swan River just 18km (20 minutes) from the centre of Perth and within walking distance of the cosmopolitan port city of Fremantle. The Trade Winds provides quality accommodation at competitive prices with spacious one or two bedroom apartments fully equipped with kitchenette, air conditioning, microwaves, ironing facilities, t.v., hairdryers and STD/ISD phone. Other facilities include a swimming pool, heated spa, restaurant and several bars.

## REGISTRATION INFORMATION

Various registration and accommodation packages are available and can be arranged to suit individual requirements.
**Conference Package $175**
This includes all conference sessions, morning and afternoon teas, lunches, conference dinner, welcome barbecue on Monday evening, barbecue on Wednesday evening, tours, conference folder and administration costs. The only meal besides breakfasts that is not included is dinner on Thursday evening. There is a wide range of restaurants and cafes available in Fremantle.
**A discount of $25 will be given for registrations received in full before October 11 1999**
**Day Packages**
These include the conference sessions for the day, conference folder, morning and afternoon teas and lunch.
Costs for each day are listed on the registration form.
**Conference and Accommodation Packages**
These include the full conference package plus shared, single and family packages are available. Details are on the registration form.

## TRAVEL

Ansett Australia has been appointed the conference's official domestic airline and we encourage you to take advantage of the discounts offered. Where delegates can plan ahead, book early and meet conditions of published discount airfares up to 60% discount off the full economy class airfare are available. For those needing more flexible travel arrangements, conference discounts ranging from 15% to 45% are available. Conference airfares are fully refundable with the ability to change flights, subject to availability up to the date of departure. Please book early to get the best discount. To book airfares phone **131300** Australia wide quoting masterfile number **MC 08175**.
The conference committee thanks Ansett Australia for the assistance provided.

For air travel within Western Australia Skywest has offered conference discounts subject to availability by quoting masterfile number **MC 08176.**

## ENQUIRIES AND FURTHER INFORMATION

Conference Coordinator
Frank Slee
Harvey Agricultural College
PO BOX 496
HARVEY WA 6220
Phone: Home 08 97292207 Work 08 97291302 Fax: 08 97293364
E-mail: Frank.Slee@eddept.wa.edu.au

**Updates of the program and other information will be available from the AEAWA website: www.apea.asn.au/~aeawa/**



# Some more on the Conference.....

**THE PROGRAM**
This is a summary of the proposed program and is subject to alteration.

**Monday January 10**
To cater for those arriving before lunch on Monday 10 there will be an **earlybirds tour** commencing at 1.00pm.
This will include a trip around the outer southern metropolitan areas with visits to enterprises suitable as alternatives for school farms and to a large metropolitan senior high school farm with a range of enterprises.
6.00pm Early registrations followed by a **barbecue** and an **evening sightseeing tour** and possibly a Swan River cruise.

**Tuesday January 11**
Registrations from 8.30am followed by:
- Action Plan for Australian Agriculture
- Challenges and Opportunities for Rural Australia
- Job Creation through Enterprise Expansion
- Enterprise Education
- Building a Robust Rural Community
- Workshops to assist in developing some of the above topics
- Conference Dinner

**Wednesday January 12**
A choice of three tours: (Proposed itineraries)
1. East- Agricultural areas, Cunderdin Agricultural College, Landcare, Muresk Institute of Agriculture, Swan Valley
2. North- Agricultural, Horticultural, New Norcia, Value Adding Industries, Catholic Agricultural College, Swan Valley
3. Metro Area- Horticulture, Aquaculture, Universities, TAFE, Swan Valley

All groups will meet for a barbecue tea in the Swan Valley at a vineyard.

**Thursday January 13**
- Advanced Farming Systems,
- Successful Rural Businesses and Economic Survival
- The Rural Training Package
- Opportunities and Innovation in Agricultural Education
- VET Programs / Traineeships
- Workshops on the above two topics
- Quality Assurance and its Role in Adding Value to Farm Production and Marketing of Agricultural Products

**Friday January 14**
- NAAE Biennial Meeting
- Marketing Agricultural Education, Schools and Courses
- Promoting agriculture as a career. Collaborative approach.
- Making it Happen – Agricultural Educators Role in Creating Opportunities in Rural Australia
- Close after Lunch.



## NATIONAL ASSOCIATION OF AGRICULTURAL EDUCATORS

## BIENNIAL 2000 CONFERENCE

# THINK YOU'LL GO???

# Fill in your Registration Form please

NATIONAL ASSOCIATION OF AGRICULTURAL EDUCATORS

## 11th BIENNIAL CONFERENCE

**"EDUCATING FOR RURAL REVIVAL"**

Challenges and Opportunities for Rural Australia

## REGISTRATION FORM

**Please return this form with payment by Dec. 11 1999 (Oct. 11 for discount) to:**
NAAE CONFERENCE,
Attention Frank Slee
Harvey Agricultural College
PO BOX 496
HARVEY WA 6220

**Personal Details**

Title .....

Family Name .....

Given Name .....

Preferred Name .....

Occupation/Position .....

Organisation .....

Postal Address .....

Town/Suburb .....

State ..... Postcode .....

Phone Wk ..... Hm .....

Fax .....

E-mail .....

Special Requirements (please note any special dietary, medical or other requirements)

.....

**REGISTRATION**

**Note The $25 discount on early registrations only applies to registrations received in full by October 11th 1999.**

If your registration includes an accommodation package at the Tradewinds Hotel a booking deposit of $50 is required to secure your room. The balance of the accommodation is to be paid to AEAWA by December11th. After October 11th you will need to book accommodation direct with the Tradewinds Hotel. (Contact details in brochure)

If you intend to register it would be appreciated, for planning purposes if you could fax your details through to 08 97293364 as early as possible. Registration form and payment can follow later.

**REGISTRATION FEES**

**Please select the appropriate packages for yourself and partner/families.**

**Conference Package with accommodation**

| **One bedroom** - twin share (per delegate) | | **$** |
|---|---|---|
| Before Oct 11 1999 | $370 | ..... |
| After Oct 11 . | $395 | ..... |

**One bedroom** - sole use or delegate and partner

| | | |
|---|---|---|
| Before Oct 11 1999 | $590 | ..... |
| After Oct 11 | $615 | ..... |

**Family apartment** two bedroom

| | | |
|---|---|---|
| Before Oct.11 1999 | $690 | ..... |
| After Oct. 11 | $715 | ..... |

**Conference Package without accommodation**

| | | |
|---|---|---|
| Before Oct.11 1999 | $150 | ..... |
| After Oct.11 | $175 | ..... |

**One day Package:**

| | | |
|---|---|---|
| Tuesday | $50 | ..... |
| Wednesday Tour & BBQ | $45 | ..... |
| Thursday | $50 | ..... |
| Friday | $30 | ..... |

**Other Catering Options**

**Breakfasts**

| | |
|---|---|
| Deluxe Continental Buffet | $15 |
| Deluxe Cooked Buffet | $18 |

These will be charged to room accounts.

| **Partner/Family** | | **No** | **$** |
|---|---|---|---|
| Barbecue Mon | $22 | ..... | ..... |
| Conference Dinner | $50 | ..... | ..... |
| Tour Wednesday | $20 | ..... | ..... |
| Barbecue Wed | $25 | ..... | ..... |

**TOTAL $.....**

**Make cheques payable to AEAWA Conference 2000**

**Early Bird Activities Monday 10**

| | YES/NO | Number |
|---|---|---|
| Afternoon Tour | ..... | ..... |
| Welcome barbecue | ..... | ..... |
| Swan River cruise/ Sightseeing | ..... | ..... |

(These events are sponsored for delegates but the tours and cruise will be open to partners/family subject to numbers)

# Some Useful Information for Ag Teachers who are trying to INCREASE their CLASS NUMBERS....

## AUSTRALIAN AGRICULTURE'S GROWTH

- Value of Australia's agricultural production has risen from A$24.1 billion in 1990/91 to A$31.8 billion in 1997/98
- Value of Australia's agricultural exports rose from A$14.3 billion in 1990/91 to A$25.1 billion in 1997/98
- Australia exported 59% of total agricultural production in 1990/91 which had risen to 79% in 1997/98


**AGRICULTURE**
**Offers exciting opportunities**

NSW Agriculture's Colleges offer a range of courses in the food and fibre industries

- Full time residential courses
- Part time courses (traineeships and apprenticeships)
- Home Study courses

New Courses:
- National Diploma and Advanced Diploma in Rural Business Management
- Viticulture and Food Processing Certificates
- Certificate in Rural Skills (Aboriginal Communities)

Agricultural College Courses are for:
- School Leavers
- Land Holders
- People working on farms
- New entrants to agriculture
- Aboriginal communities
- Food and fibre products

NSW Agriculture




FOR FURTHER INFORMATION

Murrimbidgee College of Agriculture
Yanco NSW 2703
Ph (02) 6951 2700

C B Alexander Agricultural College Tocal
Paterson NSW 2421
Ph 1800 025520


## Employment growth

- Over the 3 years to June 1998 employment in agricultural industries grew by 33,000
- The total number employed in agriculture at June 1998 was 437,000, highest since 1972
- The growing sophistication and high tech nature of new and emerging industries combined with world competitiveness are leading to new and growing career opportunities

COTTON AUSTRALIA

# Agriculture in demand

By ALAN DICK

***(as appeared in "The Land" Newspaper, August 1999)***

AGRICULTURE has long been out of favour among most prospective tertiary students, but there are signs the tide is turning.

Most major universities in NSW offering agriculture related courses report the struggle to fill student quotas is becoming easier with applications for positions on the rise in the last two to three years.

And some also note increased interest from the more gifted students who have previously gone into areas of study perceived as more lucrative.

The turnaround could be reflecting the fact that as agriculture becomes increasingly technical and complex, demand for agricultural graduates has never been stronger.

Universities say virtually all their students are snapped up by employers within a few months of graduating.

Dean of the Faculty of Agriculture at Sydney University, Lester Burgess, believes another reason could be that agriculture has been relatively free of really nasty, negative stories in the past few years.

He says the university's promotional campaigns, including visits to high schools and persuading industry to offer scholarships, are starting to pay off.

"One of the key aspects now is that we are getting the talented student", he says.

Course co-ordinator for agriculture degrees at Charles Sturt University at Wagga, Professor Ted Wolfe, says student numbers at CSU are on the increase after bottoming in 1996-97.

This year there were so many applicants the student quota of 40 was extended to 53.

He suggests one of the reasons is that CSU draws students mainly from rural areas.

"Young men and women have a much better idea where the jobs are these days and what qualifications they need to gain those jobs."

Professor Wolfe says while the main demand now is for agronomists in the booming cropping industries, he expects there will be more demand in future from the intensive livestock industries and from farmers generally.

Principal of Orange Agricultural College, Professor John Chudleigh, reports full time student numbers are static but external student numbers are down this year, which he attributes to increases in the cost of the HEC's scheme.

But he notes a gradual increase in the number of students seeking degrees rather than diplomas. "A lot of employers are looking for people with a degree now."

He says, however, there is a growing problem attracting quality post-graduate students to become the researchers of the future.

Vice-Dean of Rural Sciences at the University of New England, Dr Ian Godwin, report a similar pattern to CSU, with student numbers rising in the last two years from a trough in 1996-97.

Numbers in that year dropped to about 40 but this year's intake was closer to 60, with a further 40 choosing to defer for a year, apparently so they can earn money to help support their studies.

He says factors encouraging rising numbers could include the end of the drought, the change in Federal Government and the fast rate of change in agriculture generally.

"Employment prospects in rural science are absolutely fantastic. We have had 100 per cent employment of graduates three years in a row," Dr Godwin said.

Head of the agriculture academic group at the University of Western Sydney's Hawkesbury campus, Dr Sri Sriskandarajah, says Hawkesbury has been able to fill its quotas for the last five years with a cross section of city and country students.

He says surveys show graduate employment is good, but not quite as good as with the big universities.

***Key Points***

- ***More students are seeking university places***
- ***There's a strong demand for agriculture courses***
- ***Agriculture graduates are being snapped up***

Enhancing learning through the




# The New HSC

## Frequently Asked Questions

Enhancing learning through the



**Q. What does a standards-referenced approach mean?**

**A.** The new Higher School Certificate (HSC) will use a standards-referenced approach to assessing and reporting student achievement.

This means that the achievements of students are assessed and reported against specified standards that are established for each course. In a standards-referenced approach, students are recognised for what they know, understand and can do. The mark they receive will reflect the standard which the student has achieved in the course.

The current HSC uses a norm-referenced approach. In this approach, fixed percentages of students are placed into bands of marks according to a pre-determined distribution. This occurs regardless of what students know, understand and can do, and fails to recognise the standard which the student has demonstrated in terms of achievement of course outcomes.

**Q. What are the "standards"?**

**A.** In the New Higher School Certificate these standards are:

- the knowledge, skills and understanding expected to be learned by students as a result of studying the course, referred to as the *syllabus* standards
- the levels of achievement of the knowledge, skills and understanding (reported in six bands), referred to as the *performance* standards.

*Syllabus* standards and *performance* standards are based on the aims, objectives, outcomes and content of a course. Together, they specify what is to be learned and how well it is to be achieved.

**Q. How will the changes to the new HSC affect school policies and procedures?**

**A.** The Board of Studies ACE Manual remains current for the year 2000. Schools should ensure that they are familiar with the HSC requirements concerning policy and procedures, as set down in this manual.

School policies and procedures will need to reflect the Board's requirements for the HSC internal assessment, as stated in the ACE Manual (check with the Board of Studies).

Aspects of policy and procedure which must be developed and implemented by schools include:

- informing students in writing of the assessment requirements for each course before the commencement of the HSC course
- ensuring that students are given adequate written notice of the nature and timing of assessment tasks
- providing meaningful feedback on students' performance in all assessment tasks
- maintaining records of marks awarded to each student for all assessment tasks

Enhancing learning through the



- addressing issues relating to illness, misadventure and malpractice in assessment tasks
- addressing issues relating to the late submission and non-completion of assessment tasks
- advising students in writing if they are not meeting the assessment requirements in a course and indicate what is necessary to enable the students to satisfy the requirements
- informing students about their entitlements to school reviews and appeals to the Board
- conducting school reviews of assessments when requested by students
- ensuring that students are aware that they can collect their Rank Order Advice at the end of the external examinations at their school.

**Q. How will changes to the new HSC affect my assessment practices?**

A. Teachers will need to ensure that they understand the new mandatory assessment requirements of different courses by checking the relevant syllabuses. These changes to requirements need to be incorporated into school policy and procedures.

The Board still requires schools to develop an internal assessment program that:

- specifies the various assessment tasks and weightings allocated to each task
- provides a schedule of the tasks designed for the whole course.

The white paper envisaged that changes to assessment practice would occur over several years, commencing in 2001.

Teachers should follow school policies and procedures and syllabus guidelines for assessment and reporting. They need to ensure that course requirements are followed in terms of the balance and weighting of components and types of tasks. What is important is that the strategies used to assess students are appropriate to the outcomes being assessed.

Teachers need to provide a mark for internal assessment tasks. These marks should be derived from the students' achievement against the criteria set by the teacher prior to the task being given.

Appropriate feedback should be given to students to inform them about what they need to learn and do in order to improve their level of achievement in a subject.

**Q. What are good assessment practices?**

A. Teachers demonstrate good assessment practices when they:

- design and use assessment strategies which are directly linked to and reflect the course outcomes and the standards expected
- provide the opportunity for students to demonstrate their achievement of outcomes in a variety of types of task
- consider the type of assessment task being used, ensuring that it is appropriate to the outcomes being assessed



- inform the students of the assessment criteria on which the assessment task is to be judged, before the task is undertaken
- design for each task marking schemes which are aligned to the syllabus standards
- provide students with meaningful feedback about what they are able to do and what is needed to improve performance
- determine rankings and relative difference between students by level of achievement of the standards.

**Q. Will the new HSC examination be different from the current examination?**

**A.** HSC examination questions will be developed from the examination specifications. Teachers will need to check the examination specifications for each course they teach. Most courses have had changes made to their exam specifications as a result of the review process.

The structure of the HSC examination is specified in the Board's *Examination, Assessment and Reporting Supplement* for each subject.

HSC examinations will now assess against standards. They will do this by using a variety of question types to enable students to demonstrate their level of achievement of course outcomes. Questions will be clearly worded and structured to indicate to students what is expected and will reflect a range and balance of course content and outcomes. Marking guidelines will be developed which will align with the performance standards. Examinations will be marked using teachers' professional judgement to determine the standard of students' performance, and the marks awarded will reflect the standard.

**Q. What are non-examination type tasks?**

**A.** Some examples of non-examination type tasks include:

- laboratory reports
- computer simulations, multimedia presentations
- interviews, surveys, seminars
- debates, hypotheticals
- case study reports
- oral presentations
- community-based fieldwork
- research reports
- participant observation and analysis
- dramatic presentations
- interpretation of scenarios, statistics
- co-operative learning tasks
- investigation and analysis tasks
- audio-visual presentation or analysis
- practical performances to demonstrate theoretical understanding.

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**Q. What are performance scales and performance bands?**

**A.** Students who successfully complete the HSC Course will have their performance reported against performance bands on a course report.

The course report includes a performance scale which describes five levels (bands) of achievement above a minimum standard expected. Each band on the performance scale (except band 1) includes descriptions that summarise the attainments typically demonstrated on that band.

Students who meet or exceed the minimum standard receive a mark of 50 or more. The mark awarded to a student will reflect the standard achieved in the course.

Performance scales will increasingly assist in internal assessment programs as they can be used to determine the wording of marking schemes and feedback to students.

**Q. What do I need to understand about performance bands?**

**A.** Teachers need to understand that the performance bands are used only to report students' achievement at the end of the course. They are a summative measure of a student's overall performance in a subject, based on internal assessment and the external examination.

Teachers need to recognise that the development of performance bands is an evolving process, in which the bands will continue to be refined to include information from performance in the new HSC courses and the outcomes assessed internally.

**Q. At the end of the HSC, what will I need to submit to the Board of Studies?**

**A.** As in previous years, schools will provide the Board with a mark only. These marks are the product of the internal assessment program and should indicate the rank order of the students and the relative differences between the students.

This mark will provide a summation of each student's achievement, measured at points throughout the course.

Teachers will make informed judgements about the relative difference between students, based on their differing achievement of standards.

**Q. What will happen to the internal assessment mark which I submit to the Board?**

**A.** For each school course group, the school assessment marks submitted to the Board of Studies will be moderated on the basis of the group's performance in the HSC examination. The approach to be used will be the same as at present, except that the raw examination marks will be used in the moderation process.

For each course, the moderated assessment and the examination mark will be averaged to provide a composite mark.

Experienced markers will follow a structured procedure, employing their professional judgement to determine what composite marks will correspond to the borderline between each performance band. This step provides a set of "mapping points" that enable students' marks to be aligned with the performance scale.

Enhancing learning through the




For each student in a course, the moderated assessment mark and the examination mark are separately aligned with the *performance* scale.

The average of a student's assessment mark and the examination mark, after alignment to the performance scale, is then reported as the student's HSC mark.

**Q. What will students receive in terms of an HSC?**

**A.** Students will receive:

- The HSC Testamur (if all requirements are met).
- A Record of Achievement which summarises results awarded in each course.
- A course report for each board-developed course. This will show the moderated internal assessment mark, the external examination mark and the averaged HSC mark on a performance scale. This report also includes statements of a typical performance which a student would demonstrate in each band.
- VET credentials.

**Q. How can I find out more about assessment and reporting for the new HSC?**

**A.** Support for teachers in developing an understanding of HSC assessment will include:

- State-wide workshops (LIG events) in November, which will specifically focus on assessment in the new HSC.
- New HSC Bulletins. Four HSC Bulletins are being developed to address issues concerning assessment and reporting in the HSC. The first bulletin is on *Assessment—A Standards-Referenced Approach*. Other issues that will be addressed include: the role of internal assessment; developing assessment tasks; reporting student achievement.
- Board of Studies' support documents, including the *Examination, Assessment and Reporting Supplement* for each course and the *New Higher School Certificate Assessment Support Document*.
- Board of Studies' newsletters available on the Board's website.

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## NSW Department of Education and Training

For further information about issues relating to the implementation of the HSC syllabuses in Government schools contact:

**Lyndall Foster,**
Chief Education Officer, Technology
Curriculum Support Directorate
Telephone 02 9886 7623
Facsimile 02 9886 7654
E-Mail lyndall.foster@det.nsw.edu.au

**Bill Blake**
Senior Curriculum Adviser, Technology
Curriculum Support Directorate
Telephone 02 9886 7542
Facsimile 02 9886 7654
E-Mail bill.blake@det.nsw.edu.au

**Peter Lorking,**
Senior Education Officer
Assessment and Reporting
Telephone 02 9886 7683
Facsimile 02 9886 7479
E-Mail peter.lorking@det.nsw.edu.au

## Catholic Education Commission

For further information about issues relating to the implementation of the HSC syllabuses in Catholic schools contact:

Rosalie Nott
Telephone 02 9287 1549
Facsimile 02 9264 6308
E-Mail rosalie.nott@cecnsw.catholic.edu.au

## Association of Independent Schools

For further information about issues relating to the implementation of the HSC syllabuses in Independent schools contact:

Julie Thompson
Telephone 02 9299 2845
Facsimile 02 9290 2274
E-Mail jthompson@aisnsw.edu.au

# Contact list

Enhancing learning through the

## NSW Office of the Board of Studies

For further information about issues relating to syllabus documents, assessment and examination issues for the HSC contact:

**Howard Kennedy**
Telephone 02 9367 8246
Facsimile 02 9367 8476
E-Mail kennedy@boardofstudies.nsw.edu.au

**Jenni Wilkins**
Telephone 02 9367 8165
Facsimile 02 9367 8476
E-Mail wilkins@boardofstudies.nsw.edu.au

**David Shaw**
Telephone 02 9367 8404
Facsimile 02 9367 8476
E-Mail dshaw@boardofstudies.nsw.edu.au

## Professional Associations

The following professional association may also provide assistance:

## New South Wales Association of Agriculture Teachers NSWAAT

Contact: Patrick McCann
(02) 9816 1044

# Contact list

Programming Workshop - Responses

# PROGRAMS AND SYLLABUS IDEAS AND THOUGHTS

At the programming workshop held on the 4th and 5th of September one of the tasks was to answer a number of focus questions on programs and syllabus. Following is a list of the responses from the participants.

## FOCUS QUESTIONS

1. How do a syllabus and a program differ?

a. Syllabus

- Tells us what students should end up knowing, skills they should develop
- The HSC is based on – for examination guidelines
- Defines parameters for teaching
- Syllabus is mandatory – BOS requirements
- Syllabus is what you gotta do
- Syllabus provides a framework for programs to follow
- Tells you what to teach
- What we need/required to teach
- What outcomes are meant to be achieved

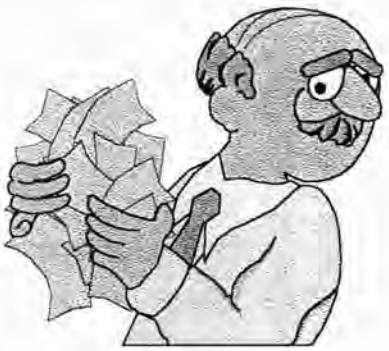
b. Program

- Individual teaching tools to ensure the syllabus is covered – to meet specific needs
- Objectives aim
- Sequenced learning activities which may include building on prior learning
- Program is how we deliver the syllabus
- Program is how you do it
- Program is topic specific
- The program is an interpretation of the syllabus
- Tells you how to teach / sequence the syllabus
- Putting the syllabus into practice
- How we teach the syllabus

2. What is the process of programming, e.g. How do we go about it?

- Reading the syllabus
- Level of the ability of the students

- Resources available
- Allocation of time – eg. Overview is 15% 27 x 40 minute periods
- Sequence of content – putting it together – topic development
- Teach – Assess – Evaluate
- Consider practical
- Share ideas
- Workout a timeline
- Use weightings to give an outline
- Linking outcomes to activities and references
- Identify syllabus objectives
- Identify resources available and needed
- Use local enterprises
- Understand outcomes first – especially for the new one
- Timing – meet school/dep't timelines
- Syllabus
- Students ability
- Resources – books/videos – farm size – location - $
- Assessment
- Planning – how long? – management
- Look at content, processing facilities, expertise, resources
- Read and interpret the syllabus
- Match the syllabus to your resources
- Match syllabus content/outcomes to learning activities
- Consider seasons/events – decide on program order/timing
- Provision for differences of learning styles and abilities



3. What do we include in a program and how detailed should a program be?
   - Topic Heading
   - Range of materials extension stuff
   - The content/level
   - Literacy strategies – content – key terms
   - Resource material listed
   - Evaluate – resources/ strategies
   - Program registration
   - Date – version

- Assessment strategies
- Comments
- Reference material
- Outcomes - references to syllabus
- Register
- Content
- Students with special needs
- Timeline
- Content
- Room for improvement
- As detailed as possible – updated each time it is used
- Content
- Content sequence
- Resources - classroom and outdoors
- Activities
- Timeline for assessments
- Registration
- Outcomes to be achieved
- Content to be taught
- Resources
- Activities/practicals
- Assessment
- Timing
- Register
- Evaluation of program
- Detail is a personal preference



4. Why do we evaluate programs?
   - To modify / improve
   - Update content and relate to local current issues
   - 'coz we have to
   - feedback
   - to complete the 'flow'
   - for improvement
   - to meet the needs of kids
   - to determine its effectiveness of current program

- relevance to current trends of industry
- accommodate new technology
- modify teaching strategies
- cater for changing needs of students
- to be transitional concurrent with Ag in Aust
- to determine how effective it is
- to make improvements/changes
- to keep up to date



5. How do we maintain a record of practical experiences satisfactorily completed by each student?
   - Practical workbook – register with prac outcomes – record of prac days and time
   - Competency booklets – similar to 'farm skills' at UWS,H.
   - Individual journal
   - Skills certificates
   - Recognition of work related skills – across the KLA's
   - Formal work register -similar to science
   - Covered as a lab report or an 'experiment' – aim – method – etc then mark books
   - Practical record cards – activities, time, outcomes
   - Each student keeps a record book of practical experiences
   - Roll book listing practical activities and students check of satisfactory completion and date



# S.I.G.

**YES !!! The Special Interest Group is still operating out of Sydney Branch.**

**It is our political link through Federation pursuing issues such as:-**

**Period Allocations for Ag Teachers**

**Class Sizes for Agriculture**

**Want to be involved??**

**You have to be a Federation Member, and involved in Agriculture.**

**Contact Tony Turner (SIG President) to receive relevant information, minutes of meetings, general progress.**

# HAVE YOU GRADUATED IN THE LAST 5 YEARS?

Dr Gregor Ramsey is doing a review of teacher training. The NSWAAT has been asked to make a comment on the current training of teachers in NSW.

- Are teachers being adequately trained for the classroom?
- What can be done to improve teacher training?
- What were the positive aspects of the teacher training?
- What were the negatives?

If you would be prepared to offer a comment on your teacher training I would appreciate your response. It only needs to be 1/2 to 1 page in length or ideas in point form.

Please send to
Patrick McCann
St Joseph's College
Mark St
HUNTERS HILL
NSW 2110
Fax - 02 98796804



Or contact me at home after 6pm on (02) 9817 1212

# Update on RAINMAN

## *(Trevor Sewell)*

New version of Rainman 3 has a number of new features (from Rainman 2) including an educational component (educational tutorials) in the multi media section, animations in Will It Rain?, a graphic library, comprehensive references and some major scientific publications reproduced, while the tutorial section has such things as:

- Case studies
- 10 points to help understand SOI
- Hot links to a comprehensive range of forecasting sites
- Hot links to a comprehensive range of climate, agriculture and marketing sites
- Greenhouse
- Facilitators notes for running educational workshops
- Significant climate and weather events in the 20th Century in Australia (with comparison to some global sites)
- Graphics demonstrating possible ways people in agriculture look at climate and decision making
- Graphics which show how the ocean temperatures affect climate and rainfall
- A section on climate and land management
- A glossary of terms
- Some common questions and answers
- A feedback facility
- Issues about climate variability (including graphics showing the impact on Australia, the impact on pastures and profitabilities, skewed curves, normal curves and probabilities)
- A comprehensive list of other resources (booklets, books, articles of interest, videos, fax lines, home study units, software, opportunities for training workshops... ) that could be accessed in the process of climate education
- In addition there are over a dozen climate and weather exercises (and extension questions throughout) for use with adults and potential use in schools. These are on pdf files that are able to be printed out and used.

Rainman has rainfall data for over 3700 locations in Australia (with many sites having other data such as daily rainfall, temperature, humidity, evaporation) which can be updated, exported, and even a facility to create new sites that can then be used for analysis.

# DUBBO on Show!

## *DUBBO STEER SHOW - A USERS GUIDE*

### *Martin X McGee*

Having been involved with the Dubbo Steer Show since 1991 I have a few experiences and observations that I think may be worth sharing.

Firstly I believe that educationally the Dubbo Steer Show is far superior to the steer section of the Sydney Royal Easter Show. As a consequence, Dubbo only needs minor improvements to make it both an educational and financial success for schools.

Now some history: As a fledgling cattle showing school in 1991, a Simmental-cross steer was kindly donated – purchased by a parent at the Saleyards for $508. After 100 days on feed the steer was shown at Dubbo Steer Show where it was placed fourth in the heavyweight class of 21 animals (unfortunately there were no ribbons for fourth in those days). At the auction, the steer was sold for $1.50/kg and returned $369. Being a heavyweight steer there was no demand from buyers and as a result after one half-hearted bid, 100 days of hard work was sold for $139 less than it was bought. To me, it just didn't seem fair. There are plenty of schools that have suffered a similar fate. To their credit, the organisers have employed strategies to overcome this major problem but it still, unfortunately, exists.

To remedy this situation I tried the private treaty approach. By pre-selling the steers at a set price ($2.50 /kg) to local butchers I was guaranteed a decent (break-even) price. This method was successful but does not alter the fact that any steer above lightweight will be discounted due to lack of demand. Would it be possible to bring in some other buyers from different markets – such as the Korean market, to increase demand for these steers?

In the years that I have been associated with the Dubbo Steer Show the number of steers has increased markedly. In 1992 there were 81 steers entered in the school section and by 1998 there were 140 steers entered. With four school classes, the average number per class was 20 in 1992 which had blown out to 35 in 1998. Last year the S3 411-500 kg class had 61 steers.

Several years ago I advocated having six school classes – having two classes for lightweight, middleweight and heavyweight with the three champion steers competing for grand champion. This would mean classes with an average of 23 steers which is acceptable (just).

# DUBBO on Show!





School students put a lot of effort into preparing and showing steers and deserve the opportunity to be able to compete and win ribbons. This will happen with smaller classes. It certainly doesn't happen in a class of 61 steers!

The introduction of a novice paraders and herdsmen competitions are good innovations but I still think there is more scope for students winning ribbons. First, second and third ribbons should be awarded in each heat of the paraders competitions giving more students the opportunity to be successful.

What I am saying is that Dubbo Steer Show is for our students and perhaps with the changes I have outlined they will be able to get more out of what is already a tremendous educational experience.





# LOST LOST LOST

**AT THE 1998 NATIONAL STEER SHOW A NEW WHITE CATTLE JUDGING COAT WAS TAKEN FROM ORANGE HIGH SCHOOL. THERE IS A BLACK SPIRIT TEXTA LABEL ON THE INSIDE LOWER FLAP OF THE COAT OHS. P LEASE CHECK YOUR GEAR. IF YOU HAVE IT PLEASE**



**POST TO :**
**ORANGE HIGH SCHOOL ,**
**ORANGE 28000**
**–C/- PETER NAPIER.**



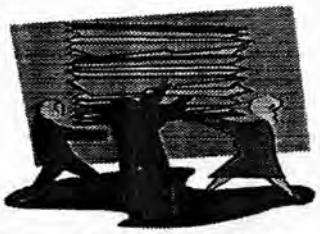
**MUST BE FOUND!!!!!!**

**Information to Share???**

**Send it in for the next BAAT Newsletter.**

**Ring Karen Damic on 02 6331 3755 or fax her on 02 6332 2302**





# NEWS FROM OTEN



OTEN
OPEN TRAINING & EDUCATION NETWORK
An Institute of the NSW TAFE Commission

51 Wentworth Road
Strathfield NSW
Australia 2135

Phone: (02) 9715 8000
Fax: (02) 9715 8111

INTERNATIONAL
Phone: + 61 2 9715 8000
Fax: + 61 2 9715 8111

## A GREAT AG RESOURCE!

***Agricultural Teacher attending last Beekeeping Practical (held May 1999)***

***Questions about specific details of the course may be directed to Rosie Stern or Keith Brown by phoning (02) 9715 8540 or fax your interests on: (02) 9715 8522***

# COURSES at OTEN



## Rural Courses offered by OTEN

The Open Training and Education Network (OTEN) which is an institute of TAFE NSW, offers distance education courses in various rural studies. OTEN offers the distance education courses for persons unable to attend a local TAFE college. These courses allow persons to study at their own pace in comfortable surroundings. Teaching support is given via comment on submitted assignments as well as by telephone contact with a teacher. These courses may be useful training tools for Agriculture teachers.

Some of the rural courses offered by OTEN include:
Beekeeping (0535)
Agricultural studies (5562)
Farming Small Areas (5567)
Rural Office Practice (5820)

All of these courses are available at a fee of $93.00. You may enrol at any time during the year.

**Beekeeping - 0535**
In this course, students become confident in both the establishment and maintenance of hives and the management of bees. In addition detection of diseases and swarm management particularly in regard to public safety are studied.

To improve practical skills 19 hours of fieldwork is offered at the Illawarra branch of The Amateur Beekeepers Association at Sutherland in Sydney. The weekend becomes an opportunity to discuss the course with experienced and practical teachers and to network and learn from other students who share a common interest.

**Agricultural Studies - 5562**
This course contains two agriculture subjects, which are similar to the 2 Unit Agriculture Matriculation course offered by OTEN. These subjects are studied as stand alone Agriculture subjects equivalent to the 2 Unit Preliminary Agriculture course and 2 Unit HSC Agriculture course.

**Farming Small Areas - 5567**
This course helps people wishing to start a small farm decide which property to buy and what to use it for. The course provides comprehensive notes, weekend practical sessions, farm visits and assignments. Students learn about land suitability, farm improvements, farm machinery and water requirements. A range of relevant small farm crop and livestock enterprises is evaluated.

**Rural Office Practice - 5820**
This course is designed to help people set-up and operate a rural office. The course is aimed at people wishing to improve their business

management practices. A range of subjects is offered which are related to record maintenance, office procedures and decision making.

Questions about specific details of the course may be directed to Rosie Stern or Keith Brown by phone (02) 9715 8540 or fax your interests on: (02) 9715 8522.





# Agriculture at Orange Christian School

## with Bruce Dymock

Orange Christian School is a small K-12 Parent Controlled Christian School at Orange in the Central West of NSW. Agriculture at the school has only been developed since 1993 with an elective 9/10 class and one term for all students in Yrs 7/8 Design and Technology class.

The school has been blessed to have the support of local farmers, farming families within the school and breed society support.

During the last few years we have given been given a small number of Suffolk sheep and two Galloway cows plus a Belted Galloway heifer.

**Sheep:** The Suffolks are run as a stud and we have gained some moderate success at local shows and Albury Sheep Show (which was one of our big excursions).

**Cattle:** Mr Peter McKean (Southern Cross Galloways) gave the school two stud cows to start our Galloway stud. The cattle have been a great learning experience for the Year 9/10 class and we have had great success at local shows.

**Horticulture:** This year due to student interest, and the expansion of horticulture away from the orchard, to flowers and oils we developed a unit in Protea production for the cut flower market and Lavender for distillation of oil. This culminated in the students embarking on a major propagation program as well as making a lavender oil distiller to research the oil from different varieties.

# Agriculture at Orange Christian School

## with Bruce Dymock (Cont'd)

The plots are also at present being prepared for a vast array of vegetables to be grown from seed from the Diggers Club. This has been very popular with the 7/9 Design and Technology Agriculture group.

At the Senior level we are involved with the Orange Cluster Viticulture Pilot course with the five High Schools in Orange co-operating to run the 2 Unit Vocational Education Viticulture course.

We have recently been given a hive of bees as well which will also be an interesting area for the 7/8 students

If any schools are looking for cattle the Galloway Society has some very generous breeders and has reduced registration and membership rates for school

We have found that there are many people in the community only too happy to help and we are thankful for them.





Practical



# Lavender Oil Extraction

## Year 9/10 Agriculture Orange Christian School

The idea arose while we were studying alternative horticulture in the Orange district and in recent years there has been a growing number of growers of cut flowers, proteas, roses, and lavender. The students decided after an excursion to look at marketing different products, oil extraction became of interest and the project progressed from there. At present we have started propagating several hundred plants from cuttings for planting around the school and further oil extraction.

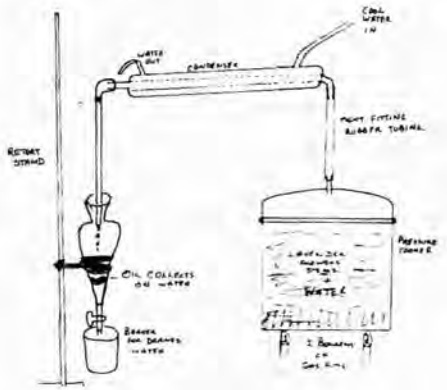
### *The Process:*

Collect flowers from near full bloom onwards. A fairly large quantity is required to extract much oil (but the lab will smell very pleasantly for a while). Construct the distiller as set out in diagram. Your lab should have most of the required equipment, with the exception of a pressure cooker. The size of the condenser will effect the efficiency of recovery of oil.

Students should be able to put the distiller together and because the pressure cooker is not under pressure it is fairly safe to use. Once the water and oil is condensed they need to just keep letting accumulated water out into the beaker and retain the oil till finished. A quantity of between 1/2 to 1 kg takes about 50 minutes to one hour to distill (depending on efficiency of the heat source. The drown off water retains some of the pleasant lavender scent and may be used as well (or put back in with the next batch).

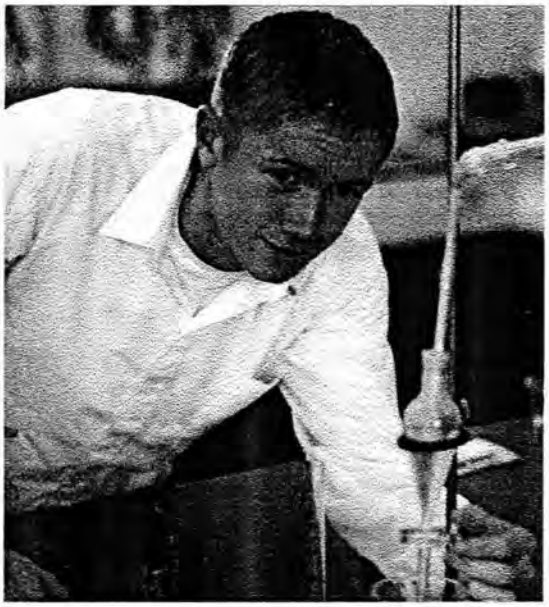
Lavender will propagate very easily from soft cuttings dipped in hormone powder and then placed in a suitable potting mix with sand. At present we are growing several varieties to experiment with the different amounts and quality of oil extracted.

The class has so far enjoyed this section of the plant unit and several students have embarked on the building of a large scale extraction.

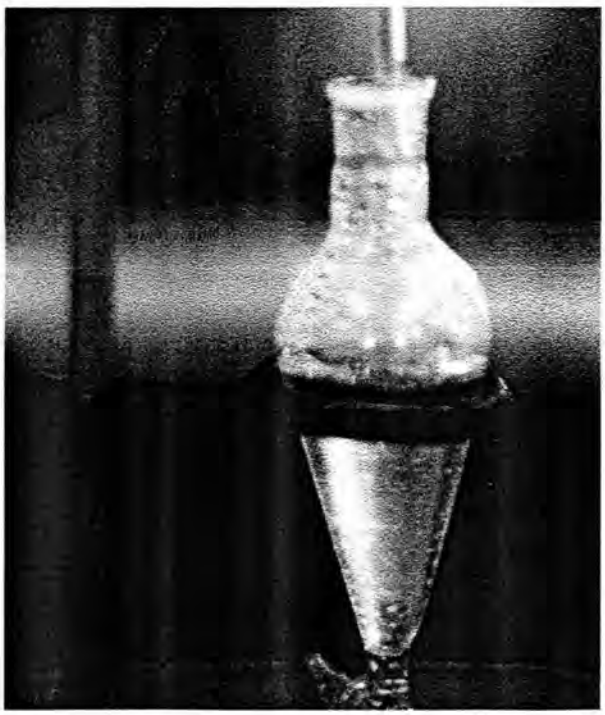


# Extracting Lavender



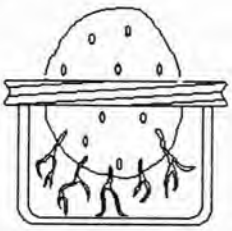








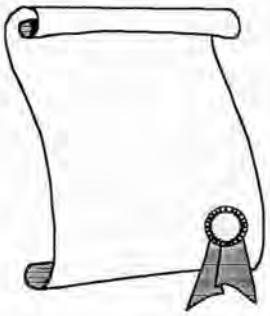
# GREAT PRACTICALS



# That any school can use!



# "CATTLE" - ASSESSABLE



**Theme**

This assignment will develop an understanding of how some of the commercial products used in agriculture fit into the farm system.

You will need to collect information from local rural suppliers and recent rural publications e.g. The Land Newspaper, Farm Journal etc.

(1) Collect information on any 5 of the following products, and present it in a table format. Products – *vaccine (e.g. 5 in 1), drench (oral and or backline), fertilizer, lice control, tags, feeds.*

| Product | Trade Name | Package Description | Rate of Application | Application Method and Directions for Use | Cost per Application – 400 kg animal | Other |
|---|---|---|---|---|---|---|
| Vaccine – 5 in 1 | CSL | 100 ml, 200 ml, 500 ml | Cattle 4 ml dose | Inject subcutaneously – just below the skin near the head to limit carcase waste | | Vaccines control clostridial diseases e.g. tetanus, black disease, etc |

(2) Choose **two** of the products from your table and complete the following:
- (a) Name
- (b) Cut out or draw an advertisement or picture of the product/package
- (c) Copy a label with information on the following – dose rates, use by date, instructions etc.

(3) Redesign **one** aspect of a product label from **one** of the products from question 2 – your task is to improve the products sales potential.

(4) Choose one dairy product, e.g. (ice cream, cheese, yoghurt, homogenised milk) for this product describe in detail:
- (a) Name and brand names ie) Coon, Mainland, Bega Valley, Kraft, Dairy Farmers, Mersey Valley and Cracker Barrel.
- (b) Target groups for marketing families
- (c) Method/s of production – include diagrams

# "Horticulture" - ASSESSABLE

## Some Aspects of Horticulture

### Oral Presentation - Assessable



** The talk must go for five minutes.*
** You will be marked on..... -audience participation*
*-eye contact*
*-verbal communication*
*-interest*
*-body gestures*
*-entertainment*
*-keeping with the subject*
*-good explanation and examples*
*-been within allocated time*

**You must use one of the following media sources to aid your presentation:*
*-Overhead projector*
*-Butcher's paper and markers*
*-photocopies*
*-video*
*-Black Board*
*-cardboard*

*You are to choose one of the following as your presentation subject:*

OPTION A-

**COMMERCIAL CROPS IN YOUR AREA**

Select one commercially grown plant which is common in your area.
Trace it's production from when it is propagated, through it's growth, to the point of sale and use by the buyer.
Make a wall chart showing the production cycle of the plant you have selected.

OPTION B-

**ANYONE FOR TENNIS?**

Turf farming is an important form of agriculture in Australia.
*What is turf and how is it used?
*Are turf farms found in particular locations? Why?
*Find out the annual routine of a turf farmer and present this information on a time chart.
*Find out how economical turf farming is and how profitable this type of farming is compared with others, e.g. vegetable growing.

# "Assignment" - ASSESSABLE

RESEARCH ASSIGNMENT
Year 10
Assessable



To be completed in a folder

You will need to choose one of the following projects:

A Brooder Box
Bee Hive
Plant Propagator
Hydroponics Unit
Pest Trap
Plant Support System
Hay Feeder for Sheep and Cattle

STEP 1.

Research the different ways your project can be designed. Record this information using written form and pictures.

STEP 2.

Explain how the device you have chosen will help the animals/plant involved. i.e. details on how it is used in the industry, the advantages and disadvantages associated with its use, how it will affect growth and development of either the plant or animal, will it increase the chance of survival of either the plant or animal and will it affect production in the future.

STEP 3.

Give a brief description of the equipment and materials needed.

STEP 4.

Draw a detailed plan showing all the correct dimensions needed to build your design.

STEP 5.

Create a model of the finished product.

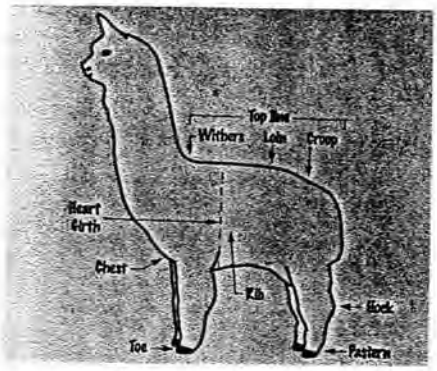
# TEST YOUR "WORD" SKILLS



Using the following
"Find-A-Word" Worksheets for:

**ALPACAS**
**SHEEP**
**CATTLE**

***If you need them, answers appear on Pages 52,53,54***
***- Best of luck.....***





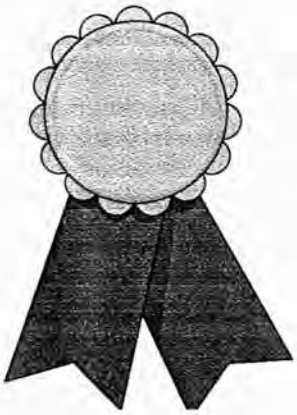

## ALPACA FIND A WORD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| N | S | R | G | A | B | G | F | R | N | L |
| G | A | L | P | A | C | A | S | D | N | B |
| S | T | S | Y | L | O | B | N | S | C | G |
| O | G | B | U | A | H | O | L | T | O | A |
| U | T | Q | S | R | N | R | N | H | A | P |
| T | H | A | L | P | I | A | C | M | S | S |
| H | A | E | N | I | N | A | R | A | P | L |
| A | R | I | M | I | M | T | A | C | I | M |
| M | D | S | M | B | R | Y | T | U | T | S |
| E | Y | U | U | C | R | G | A | C | S | N |
| R | R | O | M | C | R | A | R | A | M | Y |
| I | S | O | B | A | Y | A | C | M | U | H |
| C | T | L | H | C | U | N | P | E | C | A |
| A | G | U | E | S | I | S | I | L | Y | P |
| S | O | U | I | H | E | M | C | H | U | D |
| M | A | C | L | A | Y | A | C | A | U | H |
| D | B | A | N | A | L | P | A | D | N | A |
| T | U | G | C | R | I | A | H | E | M | B |
| M | A | C | S | U | R | B | S | O | U | T |

### WORDS

| | | | |
|---|---|---|---|
| ALPACAS | CRIA | HEMBRA | MACHO |
| TUI | SURI | HUACAYA | INCAS |
| SOUTH AMERICA | HARDY | CAMEL | SPITS |
| RUMINANT | | | |



## SHEEP PRODUCTION

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | U | Y | I | N | G | L | B | M | A | C | F | A |
| M | A | R | G | N | I | H | C | T | U | R | C | Y |
| A | C | B | J | O | I | L | B | C | D | N | C | W |
| N | R | V | C | R | J | O | I | N | I | N | G | E |
| O | U | Y | A | L | A | M | B | W | E | T | H | A |
| I | T | I | T | C | G | G | N | I | G | G | I | W |
| T | C | N | I | N | C | A | L | G | D | G | B | G |
| A | G | G | S | E | I | I | N | B | N | L | N | N |
| R | N | M | M | W | N | I | N | I | G | I | U | I |
| T | I | U | A | E | S | G | N | A | P | S | A | L |
| S | K | L | R | E | I | A | D | P | T | E | C | L |
| A | R | E | L | W | E | N | I | S | G | I | C | E |
| C | A | U | S | W | G | D | C | A | S | T | N | S |
| W | M | N | I | D | R | E | N | C | H | I | N | G |
| V | A | C | C | G | N | I | R | A | E | H | S | J |

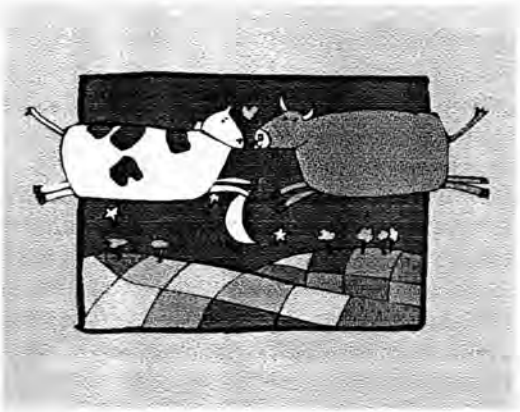
**WORDS**

SHEARING MARKING CRUTCHING MULESING

VACCINATING DRENCHING DIPPING WEANING JOINING

BUYING SELLING CASTRATION WIGGING CFA LAMB

EWE RAMS



## BREEDS OF CATTLE

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | E | R | T | N | O | M | L | E | B | D | E | X |
| S | F | R | C | H | A | R | O | L | A | I | S | B |
| Y | I | M | A | Y | Y | E | S | N | R | E | U | G |
| A | G | M | A | I | N | T | A | N | B | O | U | A |
| W | I | A | M | A | S | S | R | E | T | X | E | D |
| O | L | N | N | E | T | A | N | G | U | S | D | N |
| L | W | G | L | U | N | M | B | R | B | N | R | R |
| L | O | U | Y | N | S | T | R | A | R | A | O | O |
| A | L | G | R | U | J | H | A | B | A | I | F | H |
| G | A | E | O | E | N | G | F | L | H | S | E | T |
| W | U | M | R | O | L | U | O | A | M | E | R | R |
| G | I | S | V | B | C | O | R | R | A | I | E | O |
| L | E | E | A | G | N | R | D | S | N | R | H | H |
| Y | D | J | E | R | S | D | J | E | R | F | S | S |
| D | E | X | U | O | J | N | A | E | N | I | A | M |
| S | D | N | A | L | H | G | I | H | H | I | G | H |

**BREEDS**

| | | |
|---|---|---|
| DROUGHTMASTER | ANGUS | SIMMENTAL |
| HEREFORD | JERSEY | GUERNSEY |
| BELMONT RED | SHORTHORN | WAGYU |
| BRAHMAN | CHAROLAIS | DEVON |
| FRIESIAN | MAINE ANJOU | |
| HIGHLAND | GALLOWAY | BRAFORD |
| DEXTER | | |

# ALPACAS

## ALPACAS

Alpacas are excellent animals for schools.They are unusual,yet placid and user friendly.

BACKGROUND INFORMATION

| | |
|---|---|
| Types of alpacas | The huacaya (95% of the population) and the suri |
| Origin | South America |
| | Domesticated 5000 years ago |
| | Cousins of the camel |
| | Australia has the largest population outside South America |
| Male | Macho |
| Female | Hembra |
| Young | Cria |
| Adolescent | Tui |
| Life span | 15-25 years |
| Height | One metre at shoulders |
| Weight | Adult 70kg |
| Gestation | 11-11.5 months |
| | Females joined at 12-18 months |
| Temperament | Placid |
| | Easy to handle |
| | Males sometimes spit |
| Digestive system | Ruminant with one stomach containing four compartments |
| | Convert grass 30% more efficiently than sheep |
| Characteristics of fibre | |
| | Incas called it the fibre of the gods |
| | Only royalty were allowed to use it |
| | Produce 3-5kg per year |
| | Fibre is three times stronger than merino wool and is warmer, more lustrous and resistant to pilling and shrinking |
| | Twenty two natural colours |
| Husbandry | Hardy |
| | Do not require crutching,mulesing or tail docking because they are clean shaven around the rear |
| | Mininal worm infestations because they place their dung in a pile and do not eat around it |
| | Feet have soft pads so they are not prone to footrot |
| Shearing | Shorn once each year using normal shearing equipment |
| | Vaccinated every six months |
| Market options | Fibre is prized by spinners and weavers |
| | Fibre is sold by the Alpaca Fibre cooperative or the Australian Alpaca Fibre marketing organisation |

# Suitable Aquaculture Fish Species

Of the estimated 22,000 species of fish less than 100 are farmed commercially. A suitable species would be suitable for :-

(a) Established hatchery techniques.
Availablility of brood fish, fecund, capable of spawning or being induced spawning ——> large number pf fry.

(b) High stocking densities.
——> high levels of production ——> ↑ $



(c) Rapid uniform growth.
to reach minimum market size (400-500gm) in less than 18 months.

(d) Cheaper easier dietary requirements.
fish lower in the food chain are the most efficient users of feed.
Herbivores > omnivores > carnivores.

(e) Suited to artifical feeding.
natural food supplies are inadequate to support high densities of fish.

(f) Efficient feed conversion ratio.
the lower the ratio the greater the weight gain efficiency from the feed.
Eg. FCR of 1:2 better than 1:3.

(g) Non-canniblistic which can cause.
Direct loss or damage, stress and / or diseases.

(h) Disease resistance as.
^ stocking rate ——> ↑ disease.



(i) High meat recovery.
High ratio of fillet to total body weight, important in conversion of feed into edible fish and if feed is to be processed.



# AQUACULTURE



World Aquaculture production has increased rapidly over the last 30 years. World production of Aquaculture is approx. 90,000,000 tonnes from wild fisheries. This figure has remained stable since the 1970's but overexploitation is ✓ wild stock and expense of farming, pollution and habitat destruction means .....

World production of Aquaculture production is 13,000,000 tonnes / annum.



**Problem 1:** assume one cubic metre of space will hold one tonne of fish product.

If this room is 10m *3m*20m = _____cu m.

Therefore this room will hold = _____ tonnes.

**How LONG in kilometres** would a giant container (the dimensions of this room) be to hold the 13m tonnes of Aquaculture products?



## Aquaculture Products -

| | |
|---|---|
| Fin fish (carp, salmon, catfish) ..... | 50% |
| Seaweed ..... | 25% |
| Molluscs (oysters, bugs) ..... | 20% |
| Crustaceans (crabs, crayfish, prawns) ..... | 5% |

Aquaculture is the only means of ↑ fisheries production and by 2010 the level of production should provide 25% of all production.

Peter Napier 1999

# Australia's need for Aquaculture.



Last three decades our major commercial fisheries of Southern Blue Fin Tuna, Snapper, and Gemfish have all declined. Inland freshwater fishwater fisheries are very limited.

Aust imports large quanties of fish (70,000 tonnes worth $250 million)
Edgells our largest fish processing Co imports *all* their white fish product.

**Problem 2**
How LONG in kilometres would a giant container (the dimensions of this room) be to hold the 70,000 tonnes of aquaculture products Australia imports?

Present state of Aust Inland Fish Production
After 10 years .....
Is fragmented, reluctant to co-operate, has no technology transfer, no marketing system, no industry development program and no spokesperson.

**The future???**

**A 'good' story –**
Rural Economic Development through Aquaculture.
When the catfish industry began growing up in the Mississippi Delta before 1970 it was one of the poorest areas in the US.

The area now produces 1,300,000 tonnes of edible catfish.

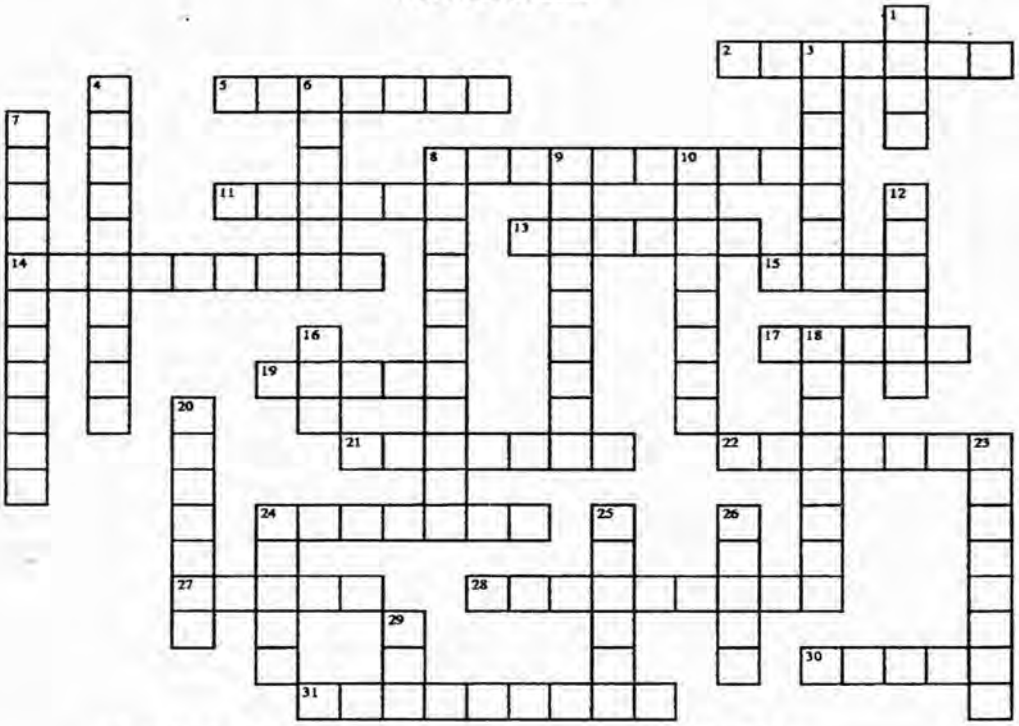
Every
5,000t, generates
200 new production / processing jobs.
Which will generate
1,000 new jobs in support industries, inputs
Feed, equipment, goods, services, transport and marketing opportunities.





# Test your Aquaculture Knowledge

**AQUACULTURE**



**ACROSS CLUES**

2. The leverage action of the rod by the angler in getting the line out
5. Larvae of dragon flies ..... terrific live bait.
8. Habitats that offer .... are preferred by fish.
11. After Rex Hunt, Mr ..... "guru" of all fishing.
13. The bend or curve of the rod is known as it's ....
14. These type of fish are less suited to aquaculture.
15. Prevents the fish 'running' the line, tires the fish.
17. Fur or feathers made to resemble insects, cast by weighted lines.
19. Popular introduced fish,needs artificial stocking to maintain Nos.
21. Source of food for warm water native fish, particularly murray cod.
22. Another name for the tiny larval fish.
24. Brass connection after the lead to prevents twist in the line.
27. A wire lead that cannot be eaten through by certain fish.
28. Murray cod and goldern perch are

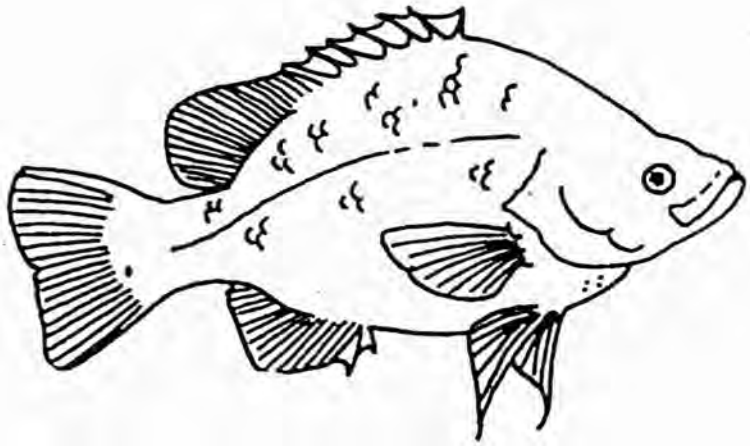
**DOWN CLUES**

1. Sperm from the male brood fish.
3. Lures that have a bright, reflective metal that spins rapidly.
4. The stage at which fish are usually transported and stocked.
6. During the warmer months fish tend to go ....
7. Fish in the wild are being depleted, therefore ..... is vital.
8. Fish habits are ... which,with knowledge helps an angler catch them
9. Successful fishing relies on .... rather than 'good luck'.
10. Allowing the fishing line to follow a boat is called ....
12. ..... is how the bait and line are organised.
16. Small fish between larval fish and fingerlings are called ...
18. Money generated from these goes into fish research and development.
20. A form of live burley 'coarse fishing' that will attract trout.
23. Successful fish farming usually means a high ..... rate.
24. The long section of the fishing hook is known as the ....

.....

30. A farm dam should be allowed ..... time to develop its own food .....
31. A water bird that can readily destock your dam of fish.

25. Introduced fish, lays up to 100,000 eggs unpalatable to other fish.
26. A form of fishing knot.
29. Fish suitable for farming must have an efficient ... (initials).



## WORDLIST

ACTION
BLOOD
CHAIN
DRAG
FLIES
MAGGOTS
[redacted] NAPIER
PROTECTION
SHANK
SWIVELS
TROLLING

ALEVINS
CARNIVORE
CORMORANT
FCR
FRY
MILT
PREDATORS
REDFIN
SPINNER
TECHNIQUE
TROUT

AQUACULTURE
CASTING
DEEPER
FINGERLING
LICENSES
MUDEYES
PREDICTABLE
RIGGED
STOCKING
TRACE
YABBIES


DISTANCE LEARNING MATERIALS

In recent months, the number of distance learning materials to support modules within the National Rural Skills Traineeship has increased significantly.

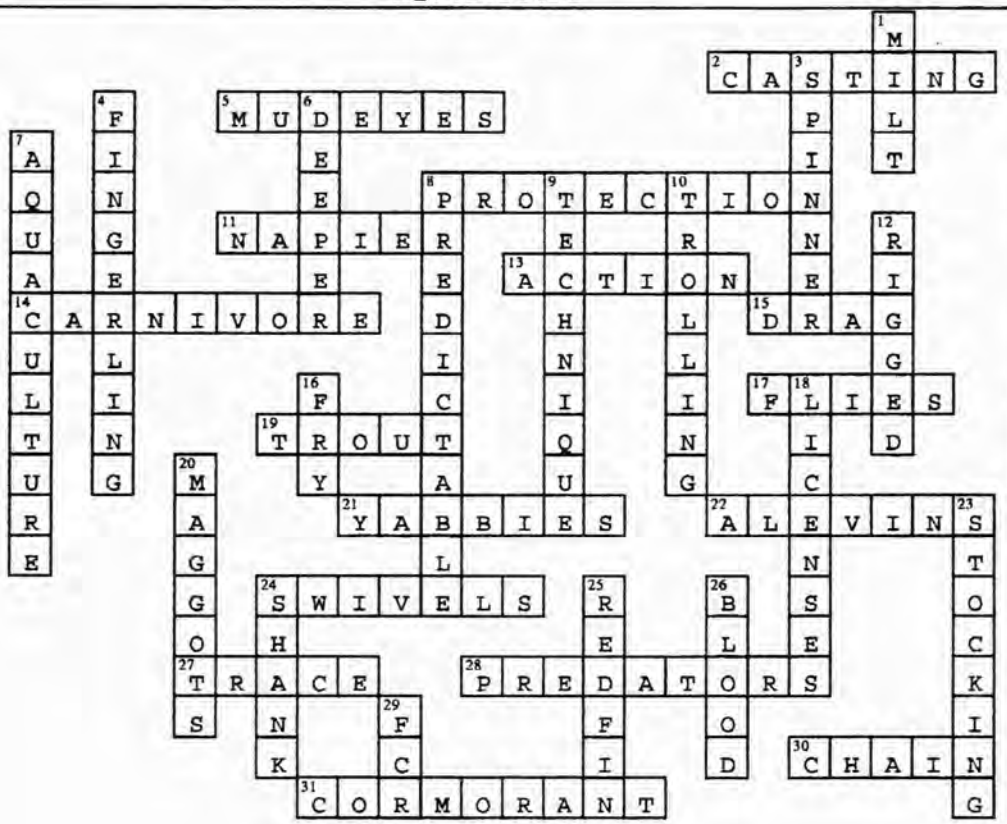
Should you require further information or assistance, please contact me on 1800 647798.

Kathy Luff



# Aquaculture Quiz RESULTS!

**AQUACULTURE**



**WORDLIST**

| | | |
|---|---|---|
| ACTION | ALEVINS | AQUACULTURE |
| BLOOD | CARNIVORE | CASTING |
| CHAIN | CORMORANT | DEEPER |
| DRAG | FCR | FINGERLING |
| FLIES | FRY | LICENSES |
| MAGGOTS | MILT | MUDEYES |
| NAPIER | PREDATORS | PREDICTABLE |
| PROTECTION | REDFIN | RIGGED |
| SHANK | SPINNER | STOCKING |
| SWIVELS | TECHNIQUE | TRACE |
| TROLLING | TROUT | YABBIES |

# How did YOU Perform???

## ALPACA FIND A WORD

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| N | S | R | G | A | B | G | F | R | N | L |
| G | A | L | P | A | C | A | S | D | N | B |
| S | T | S | Y | L | O | B | N | S | C | G |
| O | G | B | U | A | H | O | L | T | O | A |
| U | T | Q | S | R | N | R | N | H | A | P |
| T | H | A | L | P | I | A | C | M | S | S |
| H | A | E | N | I | N | A | R | A | P | L |
| A | R | I | M | I | M | T | A | C | I | M |
| M | D | S | M | B | R | Y | T | U | T | S |
| E | Y | U | U | C | R | G | A | C | S | N |
| R | R | O | M | C | R | A | R | A | M | Y |
| I | S | O | B | A | Y | A | C | M | U | H |
| C | T | L | H | C | U | N | P | E | C | A |
| A | G | U | E | S | I | S | I | L | Y | P |
| S | O | U | I | H | E | M | C | H | U | D |
| M | A | C | L | A | Y | A | C | A | U | H |
| D | B | A | N | A | L | P | A | D | N | A |
| T | U | G | C | R | I | A | H | E | M | B |
| M | A | C | S | U | R | B | S | O | U | T |

### WORDS

| | | | |
|---|---|---|---|
| ALPACAS | CRIA | HEMBRA | MACHO |
| TUI | SURI | HUACAYA | INCAS |
| SOUTH AMERICA | HARDY | CAMEL | SPITS |
| RUMINANT | | | |




## BREEDS OF CATTLE

| D | E | R | T | N | O | M | L | E | B | D | E | X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | F | R | C | H | A | R | O | L | A | I | S | B |
| Y | I | M | A | Y | Y | E | S | N | R | E | U | G |
| A | G | M | A | I | N | T | A | N | B | O | U | A |
| W | I | A | M | A | S | S | R | E | T | X | E | D |
| O | L | N | N | E | T | A | N | G | U | S | D | N |
| L | W | G | L | U | N | M | B | R | B | N | R | R |
| L | O | U | Y | N | S | T | R | A | R | A | O | O |
| A | L | G | R | U | J | H | A | B | A | I | F | H |
| G | A | E | O | E | N | G | F | L | H | S | E | T |
| W | U | M | R | O | L | U | O | A | M | E | R | R |
| G | I | S | V | B | C | O | R | R | A | I | E | O |
| L | E | E | A | G | N | R | D | S | N | R | H | H |
| Y | D | J | E | R | S | D | J | E | R | F | S | S |
| D | E | X | U | O | J | N | A | E | N | I | A | M |
| S | D | N | A | L | H | G | I | H | H | I | G | H |

**BREEDS**

DROUGHTMASTER ANGUS SIMMENTAL
HEREFORD JERSEY GUERNSEY
BELMONT RED SHORTHORN WAGYU
BRAHMAN CHAROLAIS DEVON
FRIESIAN MAINE ANJOU
HIGHLAND GALLOWAY BRAFORD
DEXTER

# How Well Did You Do???

## SHEEP PRODUCTION

| B | U | Y | I | N | G | L | B | M | A | C | F | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| M | A | R | G | N | I | H | C | T | U | R | C | Y |
| A | C | B | J | O | I | L | B | C | D | N | C | W |
| N | R | V | C | R | J | O | I | N | I | N | G | E |
| O | U | Y | A | L | A | M | B | W | E | T | H | A |
| I | T | I | T | C | G | G | N | I | G | G | I | W |
| T | C | N | I | N | C | A | L | G | D | G | B | G |
| A | G | G | S | E | I | I | N | B | N | L | N | N |
| R | N | M | M | W | N | I | N | I | G | I | U | I |
| T | I | U | A | E | S | G | N | A | P | S | A | L |
| S | K | L | R | E | I | A | D | P | T | E | C | L |
| A | R | E | L | W | E | N | I | S | G | I | C | E |
| C | A | U | S | W | G | D | C | A | S | T | N | S |
| W | M | N | I | D | R | E | N | C | H | I | N | G |
| V | A | C | C | G | N | I | R | A | E | H | S | J |

## WORDS

SHEARING MARKING CRUTCHING MULESING

VACCINATING DRENCHING DIPPING WEANING JOINING

BUYING SELLING CASTRATION WIGGING CFA LAMB

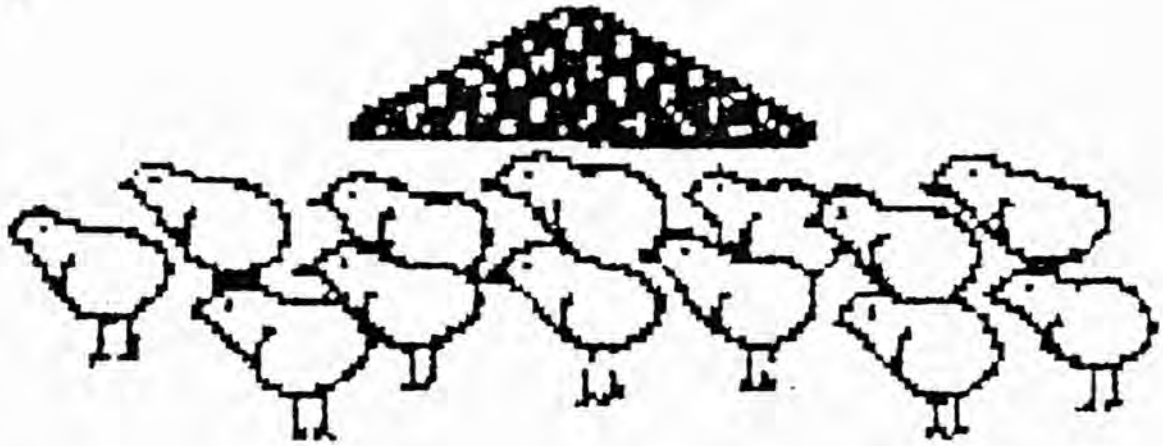
EWE RAMS

Name .....

## 1999 Year 11

## Preliminary Agriculture

# Broiler chicken feed trial. 15 % assessable



## Date Due;Thursday 9th September.

**non submission on this date is nil marks.**
**Peter Napier**

**AIMS**

**1/ To compare the effects on growth of Low 15% Protein and High 18% Protein feed rations on chicken broiler growth.**

**2/ To examine the feed conversion Ratio (FCR) of both rations and calculate economic efficiency / gross margins of each ration.**

**3/ Research and develop a greater understanding of meat production and consumption in Australia.**

Questions
1/ Complete data entry and daily average calculations table 1. (4 marks) and results of total weight gain and feed consumed page 2 (10 marks)

2/ Plot line graphs of the average daily weight for the LOW and HIGH PROTEIN weight chickens. (10 marks.)

Utilise optimum size of graph paper. Devise a suitable heading, label and units for X and Y axis well set out. Remember : constant variable always on the X axis. Indicate colour Key for the two chicken groups.

3/ Complete the Feed Conversion Ratio Table 2 below (6 marks)

**FCR = amount of feed eaten ie 1 : __**
**live weight gain**

**Table 2** : Feed Conversion Ratio

| RATION | LOW | HIGH |
|---|---|---|
| Total feed Eaten | | |
| Live weight Gain | | |
| FCR | | |

**RAW DATA** (10 marks)

**A/ LOW Protein 15% "grower ration"**

Live Weight Gain and Feed Consumption

**Total Wt Gain of Birds** = Total bird wt Day 11 **minus** Total bird wt Day 1

= _____ gms --- _____ gms

= _____ Total live weight gain LOW PROTEIN (gms)

Total Feed LOW PROTEIN Consumed = _____ (gms)
over 11 days

Number of birds = _____

**B/ HIGH Protein 18% "starter ration"**

Live Weight Gain and Feed Consumption

**Total Wt Gain of Birds** = Total bird wt Day 11 **minus** Total bird wt Day 1

= _____ gms --- _____ gms

= _____ Total live weight gain HIGH PROTEIN (gms)

Total Feed HIGH PROTEIN Consumed = _____ (gms)
over 11 days.

Number of birds = _____

4/ Comment on these chicken FCR as compared to other farm animal FCR. Suggested draw up a neat table listing animals and their respective FCR's. Quote reference / page numbers as to source of information. (10 marks)

5/ Calculate the economic efficiency of table for both Rations. (6 marks)

| | | |
|---|---|---|
| **Economic Efficiency** | = | **Value of Outputs Cost of Inputs** |

From the raw data results (page 2) of chicken live weight gain and total feed consumed for both High and Low protein diets calculate the value of chicken live weight gain for each ration and the respective costs of the two different rations.

High Protein 'Chicken Starter' cost $ ____ / 40Kg bag or _____c/ Kg

Low Protein 'Chicken Grower' cost $ ____ / 40Kg bag or _____c/ Kg

**Table 3 : Economic Efficiency**

| RATION | LOW Protein | HIGH Protein |
|---|---|---|
| **Value of the Output chicken live wt c/ Kg** | | |
| **Cost of the Feed Input c/ Kg** | | |
| **Economic Efficiency** | | |

6/ Repeat the above for calculations for a very simple Gross Margin for each group of chickens. (6 marks)

**GROSS MARGIN = INCOME --- EXPENSES**

**Table 4 : Gross Margins**

| RATION | LOW Protein 6 chickens | HIGH Protein 43 chickens |
|---|---|---|
| **INCOME** value wt gain / 11 days | $ | $ |
| **EXPENSES** feed consumed / 11 days | $ | $ |
| **GROSS MARGIN** | $ | $ |
| **Gross Margin / chicken** | $ | $ |

7/ Write a brief conclusion concerning the financial comparisons of the trial using Economic Efficiencies and Gross Margins for each of the two ration groups. (4 marks)

8/ Outline suggestions / criticisms that could be levelled at the Year 11 Chicken Feed trial from a scientific experimental point of view. (4 marks).

9/ Through Research outline various technological innovations in the Poultry / Broiler Industry that help reduce the cost of production and increase productivity. (20 marks).

*Suggested length two A4 pages. Material from Texts, LAND, periodicals, NFF Year Book, internet, AG FACTS, Bibliography / quoting references absolutely vital.*

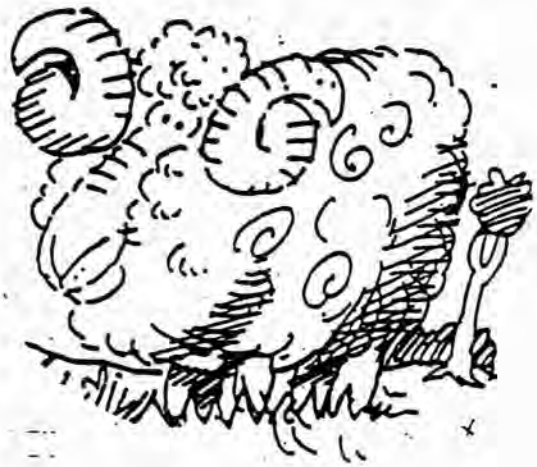
# Sheep and Wool Activities

The attached questions are designed to go with the old AWC student information sheets. These information sheets are now available on-line at http://www.wool.com.au.

They are geared towards various levels and are ideal for self-paced work while you are away on those endless excursions, or for the fast workers who need extension.

The questions for the "Australian Wool Industry (3 pages) were designed for Year 7/8 introduction. "The Australian Sheep Flock" were designed for Year 9 wool production topic.

# Australian Wool Industry



### *Wool in Australia*

1. Who first introduced the merino sheep to Australia and in what year did he/she introduce them?
2. Where had this person obtained the original sheep?
3. The years 1838 - 1888 saw a major gold rush born in Australia. List some advantages and disadvantages this rush had for the sheep industry.
4. What devastating event took place between the years of 1895 and 1903 and how did this affect Australia's sheep flock?
5. List two important pieces of information you read about the years 1938 - 1988.

### *Sheep and wool terms*

Find the word for each of the meanings below;

- a female sheep.
- a male sheep.
- cotainer of greasy wool.
- fabrics woven from wool.
- popular Australian sheep breed.



# *The Australian sheep flock*

1. What percentage of Australian sheep are merino?
2. Where were the first merino sheep bought from?
3. What were the sheep from Saxony noted for?
4. What are the four basic strains of merinos?

***PEPPIN MERINO***

1. What stud was established by the Peppin Brothers?
2. What two countries were sheep introduced from to develop this breed?
3. What sort of ram was 'Emperor'?
4. What percentage of merinos descended from the Peppin developed sheep?
5. Why is the Peppin merino a good forager?
6. How much wool can a Peppin ram produce?

***SOUTH AUSTRALIAN MERINO***

1. What environment is the SA merino bred for?
2. How do they differ physically from the Peppin strain?
3. Where are SA merinos found?

***SPANISH MERINO***

1. What happened to the sheep when they moved inland?
2. Where are the Spanish merino sheep found?

***SAXON MERINO***

1. Where are the Saxon merino found?
2. How much wool do they produce?
3. What are the characteristics of the wool, eg. colour, handle and diameter.



### *Wool processing*

There are two systems used to process wool from a fibre to a fabric. What are these two? Show the two as production chains.




### *The Australian sheep flock*

Make a list of the different types of merino sheep found in Australia. List two or three important facts to know about merino sheep.

### *Shearing*

1. Give a brief description of a shearer.
2. What parts of the sheep are shorn first?
3. What does the shedhand do in a shearing shed?
4. What job does the wool classer have to complete?
5. What happens to the graded wool?





### *Work on the farm*

List all the activities on a sheep farm for each season of the year.



### *Selling the wool*

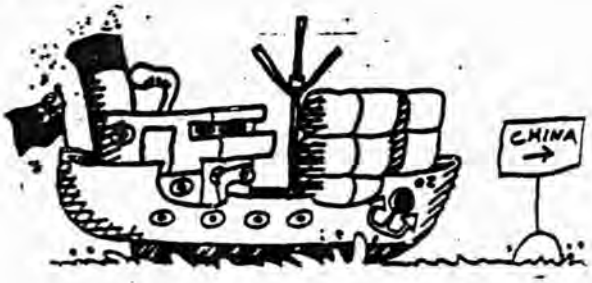
1. Why is wool tested before it is auctioned?
2. What is wool tested for?
3. What does a test certificate tell the buyer?
4. At auction, who buys the wool?
5. How is wool prepared to send overseas?

### *The Australian wool industry*

1. What percentage (%) of Australian wool is exported?
2. To which countries is our wool exported?
3. Which Australian state produces the most wool?
4. Trace a map of the world and colour in these countries that are our major wool buyers.

### *Wool the natural fibre*

There are 10 major things that wool can do!
List these 10 things. Briefly describe each quality.

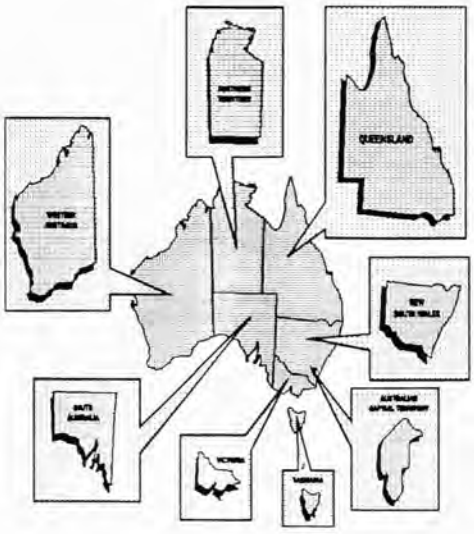


# Beginners Guide to Pig Talk

| | |
|---|---|
| *PIG* | Not necessarily anything to do with chauvinists or fascists |
| *BOAR* | Male pig with large teeth, seems to have all the fun |
| *SOW* | Large female pig that eats a lot of expensive food and breaks things |
| *GILT* | Young female pig that eats a great deal and sleeps a lot, usually on top of it's own piglets |
| *SADDLEBACK* | Funny coloured breed of pig that eats a lot |
| *LARGE WHITE* | Bigger pigs that eat even more and can watch you while they do it |
| *HAMPSHIRE* | Nice county to visit, if you were not spending all your money feeding pigs |
| *LANDRACE* | Nothing what so ever to do with running |
| *PORKER* | Pigs that are difficult to persuade to enter trucks |
| *BACONER* | Pigs that are impossible to persuade to enter trucks |
| *HEAVY HOGS* | Large pigs that carry stockmen around yards wielding bits of corrugated iron, while truck drivers wave their arms and swear |
| *FARROWING PENS* | Specially made compartment that allows a sow to squash maximum piglets with minimum effort |
| *FOLLOW-ON-PENS* | Here, survivors of above learn how to catch diarrhoea (A.K.A. scours) |
| *EARLY WEANING* | Piglets learn to scour after only 3 days (something of a record) |
| *E. COLI* | Omnipotent bug that defeats all attempts to keep piglets alive. Useful term for vets who do not know why a pig has died |
| *A.I.* | A system depriving your boar of all of his fun |
| *SWILL* | Affectionate term used by pig keepers to describe the government pigmeat policy, or reason why all the houses in the area remain unsold |
| *FISHMEAL* | Something people not keeping pigs can probably still afford on Fridays |
| *HYPODERMIC* | Instrument usually found on ledge covered in dust or dropped through the grate. It makes a nice noise when stood on accidentally |
| *NEEDLE* | What your spouse will give you for entering the house after cleaning out the pigs |
| *IRON DEXTROSE* | Produces attractive mottled effect in pig managers hands and overalls |
| *WEANER* | Young pig always worth less than last year |
| *MINISTER OF AGRICULTURE* | A well dressed person with many assistants and big car who explains why it is a good thing that weaners are worth less than last year and that you have only a dirty old pair of overalls and battered old ute. |



# A GREAT EXCURSION IDEA...










# ANGORA TOURIST FARM





**YEOVAL NSW 2868**
**Ph: 02 6846 4039 Fax: 02 6846 4310**

*To the school excursion co-ordinator,*

*If you are looking for an educational excursion, why not take your students to the Angora Rabbit Farm? We have been operating for ten years and thousands of school students have visited the farm.*

*The program is a guided tour around the animals, (angora rabbits, alpaca, American bison, water buffalo, deer, ostrich, emu, kangaroos and native birds), then a rabbit shearing demonstration in the shearing shed.*

*We are situated one hour from Parkes, Orange and Dubbo at Yeoval. Prices are $4.00 per student with teachers free of charge, for groups over 20. Prices are current until the 30th June, 2000.*

*Please do not hesitate to contact me for more information or bookings.*



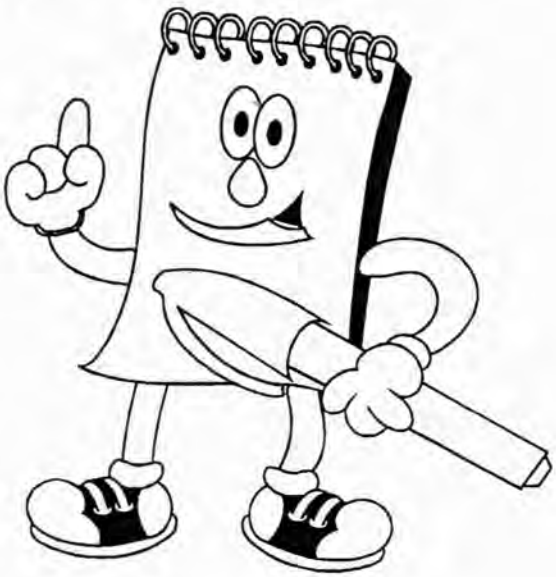
*Yours sincerely,*
*Lyle Wykes*
*(Manager)*







# DATES FOR ALL






# AGGIES DIARIES...



# NSW Country Shows 1999/2000

| *1999* | *Aug* | *Sep* | *Oct* | *Nov* | *Dec* |
|---|---|---|---|---|---|
| Tullamore | 13-14 | | | | |
| Warren | 14 | | | | |
| Trundle | 17-18 | | | | |
| Bedgerabong | 21 | | | | |
| Ganmain | 21 | | | | |
| Weethalle | 21 | | | | |
| Peak Hill | 24-25 | | | | |
| Condobolin | 27-28 | | | | |
| Barellan | 28 | | | | |
| Coolamon | 28 | | | | |
| Wentworth | 28-29 | | | | |
| Lockhart | 29 | | | | |
| Parkes | 30-1 Sep | | | | |
| Manildra | | 3-4 | | | |
| Narromine | | 3-4 | | | |
| Barmedman | | 4 | | | |
| Lake Cargelligo | | 4 | | | |
| Narrandera | | 4 | | | |
| Finley | | 5 | | | |
| Woodstock | | 5 | | | |
| West Wyalong | | 7-8 | | | |
| Forbes | | 9-11 | | | |
| Murrumburrah | | 10-11 | | | |
| Ariah Park | | 11 | | | |
| Cudal | | 11-12 | | | |
| Fairfield | | 11 | | | |
| Hay | | 11-12 | | | |
| Quirindi | | 11-12 | | | |
| Cowra | | 14-15 | | | |
| Broken Hill | | 17-19 | | | |
| Eugowra | | 17-18 | | | |
| Molong | | 17-18 | | | |
| Ardlethan | | 18 | | | |
| Merriwa | | 18-19 | | | |
| Quandialla | | 18 | | | |
| Canowindra | | 24-25 | | | |
| Hillston | | 25 | | | |
| Nimbin | | 25-26 | | | |
| Temora | | 25 | | | |
| Young | | 26-28 | | | |
| Wagga Wagga | | 29-1 Oct | | | |
| Bribbaree | | | 2 | | |
| Berrigan | | | 3 | | |
| Griffith | | | 3-4 | | |
| Liverpool | | | 3-4 | | |

# NSW Country Shows 1999/2000 - Cont'd

| *1999* | *Aug* | *Sep* | *Oct* | *Nov* | *Dec* |
|---|---|---|---|---|---|
| Morongla | | | 4 | | |
| Walburndrie | | | 4 | | |
| Grenfell | | | 8-9 | | |
| Kyogle | | | 8-9 | | |
| Leeton | | | 8-9 | | |
| Singleton | | | 8-10 | | |
| Culcairn | | | 9 | | |
| Illabo | | | 9 | | |
| Trunkey Creek | | | 9 | | |
| Ungarie | | | 9 | | |
| Norfolk Island | | | 11 | | |
| Casino | | | 15-16 | | |
| Taree | | | 15-17 | | |
| Barham | | | 16 | | |
| Cootamundra | | | 16 | | |
| Picton | | | 16-17 | | |
| The Rock | | | 16 | | |
| Tooraweenah | | | 16 | | |
| Lismore | | | 20-23 | | |
| Junee | | | 23 | | |
| Albury | | | 29-31 | | |
| Alstonville | | | 29-30 | | |
| Carcoar | | | 30 | | |
| Murwillumbah | | | | 5-6 | |
| Frenchs Forest | | | | 6-7 | |
| Holbrook | | | | 6 | |
| Bellingen | | | | 12-13 | |
| Dungog | | | | 12-13 | |
| Mullumbimby | | | | 12-13 | |
| Minto | | | | 13-14 | |
| Bangalow | | | | 19-20 | |
| Bulahdelah | | | | 20-21 | |
| Bulli | | | | 20-21 | |
| Dorrigo | | | | 20-21 | |
| Queanbeyan | | | | 20-21 | |
| | | | | | |

**Please confirm all dates with the show society concerned!!**

# NSW Country Shows 1999/2000 - Cont'd

| *2000* | *Jan* | *Feb* | *Mar* | *Apr* | *May* |
|---|---|---|---|---|---|
| Bowral | 8-9 | | | | |
| Pambula | 8-9 | | | | |
| Albion Park | 15-16 | | | | |
| Candelo | 16 | | | | |
| Bundarra | 20-22 | | | | |
| Dapto | 21-22 | | | | |
| Portland | 22 | | | | |
| Eurobodalla | 28-29 | | | | |
| Kiama | 28-29 | | | | |
| Uralla | 28-30 | | | | |
| Morisset | 29-30 | | | | |
| Tarago | 29 | | | | |
| Bungendore | 30 | | | | |
| Berry | | 4-5 | | | |
| Rydal | | 4-5 | | | |
| Tenterfield | | 4-5 | | | |
| Nimmitabel | | 5 | | | |
| Glen Innes | | 10-12 | | | |
| Cobargo | | 11-12 | | | |
| Corowa | | 11-12 | | | |
| Nowra | | 11-12 | | | |
| Crookwell | | 12-13 | | | |
| Oberon | | 12-13 | | | |
| Maitland | | 17-19 | | | |
| Bega | | 18-20 | | | |
| Gundagai | | 18-19 | | | |
| Guyra | | 18-20 | | | |
| Kangaroo Valley | | 18-19 | | | |
| Ashford | | 19-20 | | | |
| Dunedoo | | 19 | | | |
| Gunning | | 19-20 | | | |
| Inverell | | 24-25 | | | |
| Canberra | | 25-27 | | | |
| Cessnock | | 25-26 | | | |
| Jerilderie | | 26 | | | |
| Rylstone | | 26 | | | |
| Jingellic | | 27 | | | |
| Sofala | | 27 | | | |

**Please confirm all dates with the show society concerned!!**

# NSW Country Shows 1999/2000 - Cont'd

| *2000* | *Jan* | *Feb* | *Mar* | *Apr* | *May* |
|---|---|---|---|---|---|
| Newcastle | | | 2-5 | | |
| Milton | | | 3-4 | | |
| Mudgee | | | 3-4 | | |
| Robertson | | | 3-4 | | |
| Barraba | | | 4-5 | | |
| Boorowa | | | 4 | | |
| Braidwood | | | 4 | | |
| Delegate | | | 4 | | |
| Deniliquin | | | 4-5 | | |
| Luddenham | | | 4-5 | | |
| Tumut | | | 4 | | |
| Dalgety | | | 5 | | |
| Armidale | | | 10-11 | | |
| Camden Haven | | | 11-12 | | |
| Cooma | | | 10-11 | | |
| Gresford | | | 10-11 | | |
| Gulgong | | | 10-11 | | |
| Moss Vale | | | 10-12 | | |
| Adelong | | | 11 | | |
| Penrith | | | 11-12 | | |
| Taralga | | | 11-12 | | |
| Wakool | | | 11 | | |
| Blacktown | | | 17-19 | | |
| Walcha | | | 17-19 | | |
| Baradine | | | 18 | | |
| Batlow | | | 18 | | |
| Bombala | | | 18 | | |
| Comboyne | | | 18-19 | | |
| Goulburn | | | 18-19 | | |
| Henty | | | 18 | | |
| Koorawatha | | | 18 | | |
| Bemboka | | | 19 | | |
| Blayney | | | 24-25 | | |
| Coonabarabran | | | 24-25 | | |
| Manilla | | | 25-26 | | |
| Nabiac | | | 25 | | |
| St Ives | | | 25-26 | | |
| Tumbarumba | | | 25 | | |
| Tamworth | | | 30-2 Apr | | |
| Castle Hill | | | 31- 2 Apr | | |

**Please confirm all dates with the show society concerned!!**

# NSW Country Shows 1999/2000 - Cont'd

| *2000* | *Feb* | *Mar* | *Apr* | *May* | *Jun* |
|---|---|---|---|---|---|
| Binnaway | | | 1 | | |
| Cumnock | | | 1 | | |
| Wingham | | | 1-2 | | |
| Yass | | | 1-2 | | |
| Camden | | | 7-8 | | |
| Gloucester | | | 7-8 | | |
| Muswellbrook | | | 7-9 | | |
| Narrabri | | | 7-9 | | |
| Mendooran | | | 8 | | |
| Lithgow | | | 14-16 | | |
| Sydney | | | 14-29 | | |
| Jerrawa | | | 24 | | |
| Campbelltown | | | 28-30 | | |
| Stroud | | | 28-29 | | |
| Wauchope | | | 28-29 | | |
| Wee Waa | | | 28-30 | | |
| Kempsey | | | | 2-3 | |
| Warialda | | | | 6-8 | |
| Bathurst | | | | 5-7 | |
| Bonalbo | | | | 5-6 | |
| Gunnedah | | | | 5-7 | |
| Hawkesbury | | | | 5-7 | |
| Brewarrina | | | | 6 | |
| Macksville | | | | 6-7 | |
| Woodenbong | | | | 7 | |
| Maclean | | | | 9-10 | |
| Grafton | | | | 12-13 | |
| Bingara | | | | 13-14 | |
| Bourke | | | | 13 | |
| Gosford | | | | 13-14 | |
| Horsley Park | | | | 13-14 | |
| Orange | | | | 13-14 | |
| Walgett | | | | 13-14 | |
| Yeoval | | | | 16 | |
| Cobar | | | | 19-20 | |
| Coffs Harbour | | | | 19-21 | |
| Moree | | | | 19-21 | |
| Wellington | | | | 19-20 | |
| Nyngan | | | | 21-22 | |

**Please confirm all dates with the show society concerned!!**

# NSW Country Shows 1999/2000 - Cont'd

| *2000* | *Feb* | *Mar* | *Apr* | *May* | *Jun* |
|---|---|---|---|---|---|
| Gilgandra | | | | 23-24 | |
| Dubbo | | | | 26-28 | |
| Mungindi | | | | 27-28 | |
| Coonamble | | | | 30-31 | |
| Gulargambone | | | | | 3 |

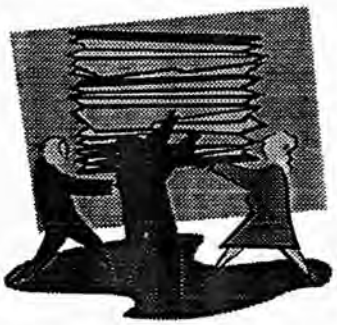
**Please confirm all dates with the show society concerned!!**

**Information to Share???**

**Send it in for the next BAAT Newsletter.**

**Ring Karen Damic on 02 6331 3755 or fax her on 02 6332 2302**





# Current B.A.A.T. Membership

## 1999 Members List

| FIRST NAME | SURNAME | SCHOOL |
|---|---|---|
| Bryon | Adamson | Corowa High School |
| Joseph | Akonda | St Johns Park High School |
| Ian | Anderson | Narromine High School |
| Charles | Anderson | Catholic High School |
| Peter | Annetts | Cherrybrook Technology High School |
| Ronald | Anson | Griffith High School |
| Phil | Armour | Yass High School |
| Attila | Babos | James Sheahan Catholic High School |
| Ian | Baird | Murrumburrah High School |
| Michael | Ball | Armidale High School |
| Norm | Balzer | Kadina High School |
| Sally | Bannerman | Junior Syllabus |
| Chris | Barbary | Richmond River High School |
| John | Barnes | Green Point Christian School |
| Tony | Barnett | Walcha Central School |
| Tony | Barnett | Walcha Central School |
| Don | Bartholomew | |
| Robert | Bent | Nepean High School |
| David | Blowes | Yeoval Central |
| Sherie | Bourke | Menai High School |
| Christopher | Bowling | Sydney Secondary Distance Education Centre |
| Mal | Bray | James Ruse Agricultural High |
| Paul | Bray | Ardlethan Central School |
| Catherine | Breene | Oakhill College School |
| Lisa | Bright | St Josephs High School |
| Lisle | Brown | James Ruse Ag. High School |
| Rick | Buckley | St Patrick's College |
| Dennis | Burns | The Henry Lawson |
| Tony | Butler | Tumut High School |
| Lynda | Buttsworth | Jamison High School |
| Lindsay | Cartwright | Morisset High School |
| Dale | Chadwick | Gundagai High School |
| Sandra | Chamberlain | Ginninderra District High School |
| Megan | Chandler | Narara Valley High School |
| Rowan | Chandler | Uralla Central School |
| Anne | Clark | James Sheahan Catholic High |
| C. | Clatworthy | Maquarie Fields High School |
| Lloyd | Cleaver | All Saints College |
| Alan | Cooper | Ungarie Central |
| Nigel A. | Cox | Singleton High School |
| Ian | Crabb | Queanbeyan High School |
| Darren | Craig | Henry Kendall High School |
| Geoff | Creek | Murumbidgee College of Agriculture |
| David | Crofts | The Scots School |
| Elena | Dagher | Bossley Park High School |
| Karen | Damic | Bathurst High School |
| Mark | Dann | Gilgandra High School |
| Heather | Davies | Pymble Ladies College |
| Kathy | DeJong | St Clair High School |
| Anita | DelaMotte | Bomaderry High School |
| Garry | Dew | Coffs Harbour High School |
| George | DiScala | Bidwell High School |
| John | Drenkhahn | Broken Hill High School |
| Bruce | Dymock | Orange Christian School |

# Current BAAT Membership - Cont'd

## 1999 Members List

| | | |
|---|---|---|
| Warren | Eames | Umina High School |
| Guy | Fahey | Albury High School |
| Jemima | Finlayson | Moss Vale High School |
| Russell | Firth | Vincentia High School |
| John | Fitzhenry | Quandialla Central School |
| Louise | Fletcher | Freshwater High School |
| Louise | Fletcher | Freshwater High School |
| Rob | Forsberg | The Armidale School |
| Heather | Forsyth | |
| Lyndall | Foster | Curriculum Support Directorate |
| Rod | Francis | School of Education, CSU |
| Brian | Friend | Wauchope High School |
| Ivan | Gant | Merriwa Central School |
| Don | Garling | Cowra High School |
| David | Gillard | Wagga Wagga Technology High School |
| Milton | Gower | Macarthur Anglican School |
| Peter | Green | Junee High School |
| Leigh | Gribble | Berkeley Vale Community High |
| Neil | Griffith | Irrawang High School |
| Stuart | Grimmett | Woodenbong Central School |
| Julie | Haeusler | OTEN |
| Gary | Hansen | Nyngan High School |
| Adrian | Harrison | St Gregory's College |
| Jim | Hartley | Kadina High School |
| Bill | Haszard | Mount View High School |
| Ian | Hatherly | Kinross Woloroi School |
| John | Hawkins | Colo High School |
| Karen | Heap | Muirfield Tech High School |
| Ian | Heffernan | Dapto High School |
| Robert | Henderson | Tomaree High School |
| David | Henry | Karabar High School |
| Brigetta | Herrman | Plumpton High School |
| Robert | Hindmarsh | Macquarie Boys Technology High School |
| Jayne | Hoffman | Alstonville High School |
| Peter | Hood | Narrabri High School |
| Sue | Hope | Goulburn High School |
| Wayne | Hoy | Lyneham High School |
| Peter | Humphries | Deniliquin High School |
| Dawne | Hunter | Gulgong High School |
| Phil | Hurst | Hawkesbury High School |
| Ross | Irvin | Lake Illawarra High School |
| Stuart | Irwin | Inverell High School |
| Grant | Jackson | Gosford High School |
| Ivan | Johnson | Ulladulla High School |
| Janette | Johnston | Gosford High School |
| Peter | Jones | Mount Druitt High School |
| Ian | Judd | Dorrigo High School |
| Mykel | Keller | Nagle College |
| Arthur | Kelly | Camden High School |
| Rick | Kemp | James Ruse Ag. High School |
| Howard | Kennedy | Board of Studies |
| David | Kent | Chevalier College |
| Pru | Kesby | St.Mary's College |
| John | Killeen | Girraween High School |

# Current BAAT Membership - Cont'd

## 1999 Members List

| | | |
|---|---|---|
| Jo | Kitchener | Marian College |
| Helen E. | Kleinbergs | Molong Central School |
| Danielle | Krix | Bede Polding College |
| Ken | Langford | Uni of Western Sydney |
| Keith | Larsson | Bonalbo Central School |
| John | Lee | Glen Innes High School |
| Stephan | Lehman | South Grafton High School |
| Judy | Lockhart | Moss Vale High School |
| Peter | Longmire | Oaklands Central School |
| Philip | Lyne | Kelso High School |
| Peter | Lynes | Beenleigh High School |
| Francis | Mackay | Caroline Chisholm Catholic High |
| Aravind | Maharaj | St John's Park High School |
| Ian | Marriott | Casino High School |
| Sally | Marsden | Finley High School |
| Diana | Martin | |
| Peter | Matus | The Scots School |
| Anna | McAuliffe | Macarthur Girls High School |
| Patrick | McCann | St Josephs Hunters Hill |
| Angela | McCann | Clare Catholic College |
| Ray | McCord | Leumeah High School |
| Colin | McEntyre | John Paul College |
| Marty | McGee | James Sheahan Catholic High School |
| Colin | McGilchrist | Quirindi High School |
| Ross | McGregor | Hurlstone Ag. High School |
| Jaqueline | McIntosh | Crookwell High School |
| Owen | McLaughlan | Camnowindra High School |
| Alan | McMillan | Wagga Wagga Technology High School |
| Mick | Melino | St John's College |
| Geoff | Melville | St Stanislaus College |
| Christina | Mikan | Bass High School |
| B. | Mikulski | Macksville High School |
| Tim | Minehan | Young Tech High School |
| Alan | Mitchell | Warialda High School |
| Warwick | Moore | Dept of Ag. |
| Jonathan | Moore | Scone Grammar School |
| Leonie | Mutch | St Ignatius College |
| Libby | Nankervis | Lithgow High School |
| Peter | Napier | Orange High School |
| Vijay | Nath | Doonside Technology High School |
| Simone | Neville | Berkley Vale Community High.School |
| Stephen | Nott | Carinya Christian School |
| Craig | O'Brien | Moss Vale High School |
| Phillip | Oliver | Bankstown Grammar |
| Matthew | Passmore | Red Bend College |
| Lindy | Piper | Dunedoo Central School |
| Travis | Powell | Tocal |
| Fiona | Prott | Kingswood High School |
| Macmillian | Publishing | Suite 309 |
| Neil | Puddey | Woolgoolga High School |
| Graham | Quintall | Pennant Hills High School |
| Darren | Radford | Walgett High School |
| Stephen | Rawlinson | Pittwater High School |
| Tony | Reddan | Pendle Hill High School |
| Ian | Richardson | Coffs Harbour Christian School |

# Current B.A.A.T Membership - Cont'd

## 1999 Members List

| | | |
|---|---|---|
| Joan | Richardson | Karabar High School |
| Chris | Roberts | St Pauls Grammar |
| Gail | Roberts | James Ruse High School |
| Robyn | Roberts | Duval High School |
| Peter | Robertson | Bombala High School |
| Peter | Robertson | Narooma High School |
| Paul | Robey | St Paul's College |
| Dave | Robinson | Gloucester High School |
| Norm | Robinson | |
| Jill | Roebuck | McGraw-Hill Book Publishing |
| Paul | Ross-New | Kingswood High School |
| Rod | Russell | Hurlstone Ag. High School |
| Mark | Searles | Catherine McAuley College |
| Robert | Seccombe | Casino High School |
| Trevor J. | Sewell | Moruya High School |
| Alex | Skladnev | Dungog High School |
| Paul | Smith | Cowra High School |
| Kerry | Steer | Northolm Grammer School |
| Rosie | Stern | OTEN |
| Maxwell | Stewart | Bombala High School |
| Stuart | Stout | Leeton High School |
| Kim | Strode | Hay War Memorial High School |
| John | Surtees | Wingham High School |
| Chris | Taylor | Knox Grammar School |
| Chris | Taylor | Knox Grammar School |
| Agriculture | Teacher | Bega High School |
| Agriculture | Teacher | Kingscliff High School |
| Agriculture | Teacher | Coomealla High School |
| Agriculture | Teacher | Pennant Hills High School |
| Agriculture | Teacher | Richmond High School |
| Agriculture | Teacher | Coonamble High School |
| Allan | Thomas | Armidale High School |
| Norm | Thomas | |
| Sherryl | Thornthwaite | Galston High School |
| Kathy | Townsend | Holy Trinity School |
| Finch/Stepher | Trickett | Billabong High School |
| Tony | Turner | Muirfield High School |
| David | Turner | Urana Central School |
| Paul | Udy | Galston High School |
| Jill | Wagner | New England Girls School |
| Tracey | Watson | Hurlstone Ag. High School |
| Peter | Wearne | The Kings School |
| Jenny | Webb | Trundle Central School |
| Nicolet | Westerhoff | Elizabeth Macarthur High School |
| Wayne | Whale | St Paul's College |
| Rick | Wheaton | Oxley High School |
| Doug | White | Manilla Central |
| Joan | Whitehead | Tooleybuc Central |
| Jenni | Wilkins | Board of Studies |
| Daryl | Williams | Temora High School |
| Daryl | Williams | Temora High School |
| Vicki | Willmington | Bossley Park High School |
| Graham | Wilson | Mudgee High School |
| Beth | Worthy | Bega Valley Christian College |
| Jan | Young | Wade High School |

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