

AAWS Education and Training Stocktake Production Animals/Livestock – Poultry

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Disclaimer: This Education and Training Stocktake has been prepared by Scarlet Consulting and CM Communications to inform the Australian Animal Welfare Strategy (AAWS). The stocktake is a snapshot in time of the main opportunities for and approaches taken in Australia to education and training about animal welfare in each of the six AAWS sectors. It is not a complete and exhaustive list. It has primarily been developed through desktop research and consultation with AAWS stakeholders. The websites accessed for information were current at the time of final reporting in January 2008. This report does not reflect the views of AAWS or the Australian Government Department of Agriculture, Fisheries & Forestry. All care has been taken in the preparation of this report by the consultants but they do not guarantee complete accuracy for your particular purpose and therefore disclaim all liability for any error, loss or other consequence that may arise from you relying on it.

Introduction to the Australian poultry industry

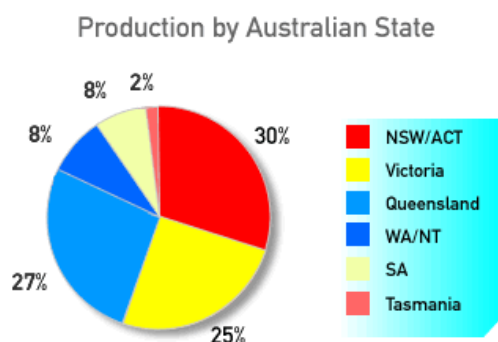
The Australian poultry industry is a large integrated agribusiness whose future success relies on access to a skilled workforce. Approximately 40,000 people are directly employed and another 140,000 persons depend on the poultry industry for employment. While the level of education varies with the industry sector and enterprise, the overall level across the workforce is relatively low. (CRC Poultry, 2007)

Introduction – Egg Production

The egg industry is concentrated on the East Coast with 82% of national production occurring in NSW (30%), Victoria (25%) and Queensland (27%). South Australia accounts for 8% of national product. The Australian Egg Corporation Limited (AECL) works in conjunction with the Australian Government, to ensure the Australian egg industry meets increasing consumer expectations in the areas of quality assurance, food safety, labelling and animal health and welfare. Results from the AECL 2006 employment survey reveal the Australian egg industry directly employs around 2,890 people in full and part-time positions.

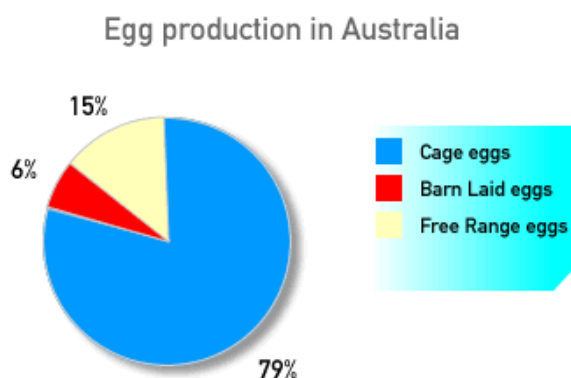
ABS statistics reveal the following profile of the Australian egg industry¹:

- Australian egg farmers produce around 195 million dozen eggs per annum (ABS 2005-06)
- In June 2005 there were 13.2 million hens in Australia
- There are 423 specialist egg farms in Australia (ABS 2005-06)
- The gross value of production for the egg industry is \$340 million (ABS 2005-06)
- The average unit value of production at farm gate is \$1.74 million (ABS 2004)



Australia has a number of different production systems to satisfy consumer preferences. Each production system has advantages and disadvantages in terms of cost, efficiency, animal welfare, disease control and environmental impact.

Production types as a proportion of the total amount of eggs produced in Australia.



¹ www.eggs.org.au and www.daff.gov.au

Regardless of the housing system used, the health and welfare of all egg-laying hens in Australia is governed by regulation. Egg farms are regularly inspected by both government and independent inspectors and farmers face penalties for any breaches of welfare regulations.

There is also a significant sub-commercial industry estimated to be one million birds, with individuals running layer hens and selling into the local market, namely farmer markets, roadside stalls and in local shops and restaurants.

Housing Systems²:

1. Cage Eggs

About 80% of eggs sold in Australia are cage eggs. These eggs come from hens that are permanently housed in cages within a shed. Hens in this system generally have better disease control, protection from predators and lower mortalities.

Labelling definition:* "Birds in cage systems are continuously housed in cages within a shed"

A cage typically accommodates between 4 and 20 birds, ranging in size from 1800 cm² to 11,000 cm².

Government, animal welfare groups and the egg industry have agreed to improvements in animal welfare, which includes increasing the minimum space allowance for hens in cages from 450 cm² to 550 cm² per bird.

Hens in this system have the following welfare advantages:

- Protection from the elements and predators like eagles, snakes, foxes and feral cats.
- Lower occurrences of manure-borne diseases and parasites. Of all the production methods, health issues and hen mortalities are consistently the lowest in cage systems.
- Reduced need for veterinary medications and interventions, thereby minimising stress associated with bird handling.
- If a bird does become sick, cage-based housing makes it easier to identify and remove birds for treatment.
- Modern cage housing reduces the risk of disease such as avian influenza and other exotic diseases.

There is better protection from in-fighting and cannibalism, although it doesn't eliminate the problem and debeaking is still required.

Disadvantages include:

- Reduced social interaction with other birds.
- Considerably less space to roam, but enough space to stand upright and stretch their wings.
- Inability to display natural behaviours like nesting and dust-bathing in most cages.
- Conventional cages do not allow hens to perch which can result in lower bone strength and increased bone breakage during removal of hens at the end of lay.
- Restricted opportunity to exercise.

2. Barn Laid Eggs

Hens in barn systems are free to roam within a shed that is designed to keep them clean and healthy. About 5% of eggs sold in Australia are barn laid eggs.

Hens in this system have the following welfare advantages:

- Protection from the elements and predators.
- Although they do not have access to an outdoor range, hens in this system can move around freely.
- Housing in larger groups allows more social interaction with other birds.
- Furnishings in the barn allow hens a greater behavioural repertoire including nesting, perching and dust-bathing.

² This information has been largely taken from the Australian Egg Corporation Limited's Fact Sheet on Animal Welfare in the Egg Industry.

Disadvantages include:

- Greater occurrence of manure-borne diseases and parasites.
- Larger flock sizes make it more difficult to identify and remove birds for treatment.
- Higher likelihood of feather-pecking, infighting and cannibalism in this system.
- Increased risk of flying into objects leading to increased bone breakage during lay.

Labelling definition:* "Birds in barn systems are free to roam within a shed which may have vertical levels. The floor may be based on litter and/or other material such as slats or wire mesh"

3. Free Range Eggs

Free range eggs come from hens housed in sheds that have access to an outdoor range for at least 8 hours during the day. They return to sheds for roosting, laying, drinking and eating. About 15% of eggs sold in Australia are free-range.

Hens in this system have the following welfare advantages:

- Access to an outdoor range and the ability to move around.
- Hens are able to display an extended range of behaviours including nesting, foraging for food, perching and dust-bathing.
- Larger flock sizes allow more social interaction with other birds.

Disadvantages include:

- Greater exposure to the elements and predators.
- Greater occurrences of manure-borne diseases and parasites.
- Larger flock sizes make it more difficult to identify and remove birds for treatment.
- Higher likelihood of feather-pecking, infighting and cannibalism.
- Increased risk of flying into objects leading to increased bone breakage during lay.

Labelling definition:* "Birds in free-range systems are housed in sheds and have access to an outdoor range"

* The labelling definitions cited are sourced from the *Australian Model Code of Practice for the Welfare of Animals – Domestic Poultry*.

Welfare issues surrounding egg production

The animal welfare issues are largely outlined above under the disadvantages of each style of housing system.

Animal interest organisations are anti caged systems:

For example according to the RSPCA:

“The welfare of the battery-caged layer hen is the most compromised of all farm animals. In Australia, millions of battery hens are housed in conditions that would be unacceptable for any other species of livestock.”

<http://www.rspca.org.au/campaign/battery.asp>

See elsewhere in this stocktake report for further information about the campaigns against caged layer systems.

Hen Welfare Advisory Group

The Hen Welfare Advisory Group is a panel of animal welfare, veterinary and egg industry advisors to guide research and communications from the Australian Egg Corporation Limited (AECL).

The Hen Welfare Advisory Group was established by AECL in recognition of public demand for balanced, high-quality, scientific information on egg production and hen welfare in Australia.

Code of Practice

In August 2000, ARMCANZ (Agriculture and Resource Management Council of Australia and New Zealand) made decisions on layer cage housing which were incorporated into the ***Model Code of Practice for the Welfare of Animals – Domestic Poultry 4th Edition (The Code)***.

The Australian Egg Corporation, in conjunction with the Queensland Department of Primary Industries (QDPI), devised a checklist to help egg producers to determine if their layer cages comply with these new standards and to determine the number of hens that can be housed in their cages.

www.aecl.org/Images/layer%20hen%20housing%20checklist.pdf

One of the key challenges for the egg industry has been the new standards set in 2001. In essence, the 2001 Standard encompasses the previous 1995 Standard (the Model Code of Practice for the Welfare of Animals – Domestic Poultry 3rd Edition, 1995) while increasing the space allowance for hens in cages. The 2001 Standard also establishes an economic life for cages of 20 years from the date the cages were commissioned. Cages commissioned prior to 1 January 2001 have until 1 January 2008 to meet the 1995 standards and may be stocked with a minimum space allowance per bird of 450 cm² (3 or more fowls (< 2.4 kg) per cage) for 20 years from the date they were commissioned or until 1 January 2008, whichever is the later. Cages commissioned after 1 January 2001 must immediately comply with the 1995 standards and must be stocked at 550 cm².

These decisions were endorsed by each State and Territory Government and are the basis to achieve improved hen welfare outcomes in Australia. Each State and Territory will need to implement any legislation which they consider supports key elements of the Code. As at May 2005, Queensland has done this by amending its Animal Care and Protection Regulations. Tasmania, the Australian Capital Territory and NSW have also put legislation in place, with other States yet to follow suit.

Check with the relevant State/Territory Animal Welfare Unit/Bureau for clarification of how the 4th edition of the Code will be interpreted and applied in the applicable State or Territory.

Overview of relevant current and potential training and education activities

Issue	Training/ Education Resources	Details	Limitations	Opportunities	Potential impact on Animal Welfare outcomes
Eggs Battery cages	Welfare Code for Poultry	Comprehensive document containing standards	As a Code, provides sufficient detail	A technical manual or notes providing detail on specific aspects would be helpful	High level impact especially if support technical manual was provided
	QDPI 'Do your cages meet the 1995 and 2001 stds?'	Comprehensive document explaining requirements and how to comply	None identified; unsure if has been directly distributed to producers	Very useful self-assessment tool	High level impact
	Egg Corp Assured (ECA) QA	QA program which provides standards relating to Animal Welfare for different production systems	Limited access to readily available info on non-caged systems	Publishing of technical guidelines booklet for producers incl those wishing to use non-caged systems and relevant training courses would be beneficial	ECA compliance – high impact Moderate impact if more info on alternative systems available as small % of industry
	ACEL video series	Working on an egg farm	Unsure of use of materials; no manual available	Publication of technical notes to accompany video might be helpful	High level impact
	Free Range Farmer's Association*	Stds published on website but not specific technical information	More information on actual husbandry would be useful	Producer's manual would be useful	Moderate impact if non-caged systems included as small % of industry
	VET Rural Training Package	Cert III and IV (Poultry Production)	Unsure if training on non-caged systems included	Opportunity to incorporate training on non-caged systems, if not already	Moderate impact if non-caged systems included as small % of industry
Beak Trimming	Poultry CRC and NSW TAFE training manual	Comprehensive manual on how to do the procedure as well as other alternative options for reducing cannibalism without beak trimming	Correct technique is backed by legal requirement for accreditation of operators; doesn't appear to be any limitations	Greater promotion of other strategies to avoid need for beak trimming	Significant impact through accreditation program

Meat Chickens	VET Rural Training Package	Cert III and IV (Poultry Production)	Unsure if training on free-range systems included	Opportunity to incorporate free-range systems in curriculum, if not already	Moderate impact if free-range systems included as small % of industry
	Welfare Code for Poultry	Comprehensive document containing standards	As a Code, provides sufficient detail	A technical manual or notes providing detail on specific aspects would be helpful	High level impact especially if support technical manual was provided
	QA Programs in AW	QA program which provides standards relating to Animal Welfare for different production systems	Limited access to readily available info on free-range systems; unable to locate detailed technical info for any system type	Publishing of technical guidelines booklet for producers including those wishing to use free-range systems and relevant training courses would be beneficial	QA compliance – high impact Moderate impact if more info on alternative systems available as small % of industry
Animal Welfare	VET – Rural Training Production Package offered in Ag Colleges, TAFEs etc.	Units of competency are (RTE2131A) Care for health and welfare of livestock (RTE3136A) Comply with industry animal welfare requirements (RTE4120A) Implement and monitor animal welfare programs	Lack of resources and professional development on Animal Welfare	Provision of professional development; more resources designed to engage agriculture students	Significant impact on awareness of codes etc, but only moderate impact on overall welfare outcomes and more long term

* www.freerangefarmers.com.au

NOTE: Appropriate bird handling including attitudinal behaviour is also an important welfare consideration.

Informal Education – Industry

Australian Egg Corporation Limited (AECL)

www.aecl.org/ or www.eggs.org.au

The Australian Egg Corporation (AECL) is a producer-owned company which integrates marketing, research and development and policy services for the benefit of all stakeholders. AECL is mainly funded through statutory levies collected under the *Egg Industry Service Provision Act 2002* and Australian Government funds for the purposes of research and development.

AECL represents approximately 400 commercial egg producers who distribute a range of products to the local market including caged eggs, barn-laid eggs, free range eggs and specialist eggs.

Australian egg farmers need to care about the health and welfare of their flocks. They know that keeping their hens healthy, happy and safe – whether they be cage, barn or free-range – underpins the long-term sustainability of their entire farming enterprise.

AECL, in partnership with the Hen Welfare Advisory Group, animal scientists, egg farmers and welfare experts continually looks at ways to improve the health and welfare of hens.

AECL provides training for poultry handlers. The AECL has produced a Fact Sheet on Animal Welfare in Egg Production, available at: <http://www.aecl.org/images/File/production%20system%20fact%20sheet.pdf>

Vaccination Workshops and Training Manual

Vaccination is only effective if it is carried out correctly. This requires skilled operators who can handle birds and vaccines correctly so that a correct and effective dose is applied to each bird.

Topics covered in these Australia-wide workshops included:

- reasons for vaccination
- what and how vaccines are administered in the egg industry
- bird welfare care and consideration when vaccinating
- demonstration of eye drop/wing-web vaccination
- procedures for injection of inactivated vaccines
- record keeping.

The vaccination manual is designed to be used during training and will help new farm staff to gain the necessary skills, knowledge and attitudes to become competent vaccinators.

Video Series: Workplace Training for Layer Farm Staff

The AECL has developed a series of training videos for workplace learning so that farm managers can provide training that is immediately relevant to their enterprises. Best practice knowledge and skills from researchers, educators and farm managers was used to underpin the video scripts. The video series transfers this information to the egg industry and promotes improvements in the implementation of quality assurance programs, improved standards of husbandry and bird welfare and improvements in profitability, efficiency, and sustainability.

Video titles are:

- Producing Quality Eggs
- Routine Checking
- Handling Birds and
- Cleaning and Maintenance.

The video series supports the National Egg Industry Quality Assurance Program as well as competencies from the revised Rural Production Training Package. This means that the video series is a usable resource for entry level employee training both by industry itself and the formal vocational education and training (VET) sector.

Beak Trimming Training Manual

Beak-trimming is common practice within poultry flocks to reduce the potential for poultry to attack and kill one another (cannibalism) and for the purpose of improving feed conversion by reducing food wastage. It also reduces stress associated with dominance interactions in the flock.

Although animal rights organisations may not be in favour of the procedure it is deemed necessary in cage egg production systems. Good training and good skills is therefore very important. The AECL has developed a training manual.

Egg Corp Assured

AECL has established Egg Corp Assured (ECA), a national egg quality assurance program designed to help commercial egg producers develop an approved quality assurance program for their business and be recognised for doing so.

The Egg Corp Assured quality assurance program addresses issues including food safety, biosecurity, animal welfare, egg labelling and environmental sustainability. These programs must be audited by a registered third party auditor.

Consumers can look to ECA as a mark of a quality product produced under strict guidelines.

Only egg businesses that have had their quality assurance program audited against Egg Corp Assured standards by an accredited ECA auditor are entitled to apply for the ECA trade mark.

Free Range Egg and Poultry Association of Australia

No website – see State-based Associations below.

Free Range Farmers Association Inc Vic

www.freerangefarmers.com.au/

The Free Range Farmers Association Inc. Vic is a not-for-profit State registered group of Victorian commercial egg farmers that are prepared to demonstrate, by practice to published Standards, that it is not necessary to debeak or confine (like aviary, barn and cage) egg laying hens.

This Association is the Victorian accrediting affiliate to the National Free Range Egg and Poultry Association of Australia Inc.

Essential features for accreditation are:

1. It is not necessary or permitted for hens to be de-beaked or in any other way mutilated.
2. Hens are free to range, forage and dust bathe in a predator protected and sustainable vegetated farm environment during day light hours.
3. Hens are protected from inclement weather with shedding which provides night time shelter, perches, feed, water and secluded comfortable egg layer boxes.
4. No other form of egg production (no aviary, barn or cage) is permitted on member farms.
5. No eggs of a non Association accredited origin are allowed to be stored and packaged on the accredited farm. Farms must be able to show audit trail records for accredited eggs exchanged between its members.
6. FRFA Inc.Vic Membership with accrediting is available to any Victorian located poultry farmer that is prepared to present for an inspection to the published Standards.
7. Applicants must be able to demonstrate to the independent third party experienced inspector that they practice genuine extensive Free-Range Poultry farming to the highest standards of animal welfare, land sustainability and food integrity.

Free Range Poultry Association of Queensland

www.freerangepoultry.com.au/index.htm

The Free Range Poultry Association of Queensland was formed to ensure that the consumer received a genuine free range product. The Association uses qualified, independent le auditors to carry out farm audits in accordance with the Free Range Standards. Accredited members have to produce the products according to standards and in compliance with the Model Code of Practice for the Welfare of Animals - Domestic Fowl. Animal Liberation regards the Free Range Poultry Association accreditation systems as the most humane of all other commercial production methods. The association has a very close working relationship with most animal welfare organizations. The Association's standards and practices are based on the Farm Animal Welfare Council's "Five freedoms".

Egg Industry Extension and Resources

Victorian Farmers Federation

www.vff.org.au

The Victorian Farmers Federation (VFF) is Australia's largest state farmer organisation and represents 70% of farmers in Victoria. The VFF consists of an elected Board of Directors, a member representative Policy Council to set policy and seven commodity groups representing dairy, grains, livestock, horticulture, chicken meat, pigs and egg industries.

Farmers are elected by their peers to direct each of the commodity groups and are supported by Melbourne-based staff. Each VFF member is represented locally by one of the 230 VFF branches across the state and through their commodity representatives at local, district, state and national level.

The Victorian Farmers Federation Egg Group represents more than 60 egg producers across Victoria. It has an executive board of eight producers, elected annually, and an Executive Officer. There are three egg production systems – cage, free range and barn-laid. Producers of all systems have a united voice through the VFF Egg Group on industry issues such as: drought, codes of practice, animal welfare, animal health, food safety, the environment, research and development, education, training, feed grains, imports and industry relations.

New South Wales Farmers Federation

www.nswfarmers.org.au

The NSW egg industry produces 67 million dozen eggs worth \$104 million at the farm gate which represents 35% of Australian production. The industry is spread across NSW with some concentration in Sydney due to historical production.

The Egg Producers Committee has seven members representing independent and contract growers from across NSW. They work closely with the national body Australian Egg Corporation Limited on issues with an increasing national significance. Historically, the welfare of hens in cage production systems has dominated priorities. More recently, the committee has been facilitating the development and implementation of quality assurance for a range of production aspects.

The NSW farmer's website contains fact sheets including:

- Animal Welfare advantages of different production systems
- Egg Production System definitions and facts
- Facts on Layer Cage legislation
- Concerns over lack of Layer Cage legislation
- Tabled comparison of different production systems.

Australian Poultry Growers Industry Forum

<http://chookyard.com.au>

Chookyard.com.au is an online industry network forum for poultry producers of all levels and sizes. It has a News section and links to clubs, associations and industry resources.

South Australian Farmers Federation Poultry Committee

www.saff.com.au

The SA Farmers Federation website includes the 2003 industry report: 'Cracking the Egg Industry Challenge (A Strategic Review of the SA Egg Industry)'.

Queensland Egg Farmers Association

www.eggfarmers.org.au

The Queensland Egg Farmers Association Inc. members represent the majority of Queensland's large and small commercial egg producers who supply approximately 80% of the Queensland market.

Many Queensland egg farms are owned and operated by families who have been producing and selling farm fresh eggs for several generations. Other members represent larger companies whose resources have allowed heavy investments in hen welfare research, improved housing and production facilities and improved facilities to ensure that flocks receive only the most nutritious and healthy feeding diets.

Collectively, Queensland's 78 registered egg farms house approximately two million birds producing around 37 million dozen eggs per annum using a combination of caged hen, barn-housed and free-range production methods.

Of these farms, three currently produce eggs using the barn-housed method and 33 produce eggs using the free-range method. Barn eggs represent less than 4% of the State's production while free-range eggs currently represent around 8% of production.

The Queensland Egg Farmers Association website has [information on animal welfare](#) including reference to Barnett and Newman's "Review of Welfare Research in the Laying Hen and Management Implications for the Australian Egg Industry", *Australian Journal of Agricultural Research*, 1997, Vol 48 pp 385-402.

The Commercial Egg Producers Association of WA Inc.

www.wafarmers.org.au

Part of the Western Australia Farmers Federation, the Commercial Egg Producers Association of WA, is an industry lobby group that aims to develop and implement policy and create benefits that will ensure a profitable future for its members, and a viable future for the egg industry in WA.

Egg Producers

Pace farm

www.pacefarm.com

Pace Farm is a fully integrated egg and egg product producer and marketer with 2,000,000 hens. Operations include:

- the rearing of pullets
- the farming of eggs under all three production styles, free-range, barn laid and caged
- the grading and packing of eggs
- a breaking plant that produces egg products

- the sale and marketing of all products
- the transport and delivery of the product range through their own private fleet of trucks.

Pace Farm has developed a humane approach to the production of eggs, launching such specialist brands as Liberty® Barn Laid RSPCA and Eco Eggs (a 100% organic free-range product).

Daily Fresh Eggs

<http://www.dailyfreshheggs.com.au/>

Daily Fresh eggs operate a poultry farms with 160,000 birds. Daily fresh eggs are produced on its farm under HACCP certified quality assured conditions.

The company has operations in Australia and several parts of Asia, and over recent years, have diversified into egg packaging, state-of-the-art poultry caging systems and egg-grading machinery.

Operations are integrated with these technologies, taking total production to 30 million eggs annually.

Sunny Queen Farms

www.sunnyqueen.com.au

Sunny Queen Pty Limited is a 100% Australian farmer-owned company specialising in the distribution and marketing of the highest quality fresh farm eggs and egg products across Australia. The company's "Farm to Table" quality program is its mark of assurance that eggs are of the highest quality. Farms are located throughout Queensland, NSW and Victoria.

The company's website includes educational information and Teacher's Worksheets, some which have relevant welfare information:

- Teachers Note - Fact or Fallacy Worksheet
- Fact Sheet 1 - Eggsacting Tests Find Poultry is the Safest
- Fact Sheet 2 - Where do Eggs Come From?
- Fact Sheet 4 - The Inside Story on Egg Freshness
- Fact Sheet 6 - From Farm to Table
- Fact Sheet 7 - What is an Egg Made of?
- Fact Sheet 8 - Hormones
- The Good News About Eggs Just Got Better.

Novo Foods – Aussie Pride, Farm Pride and Golden Egg labels

www.aussieprideeggs.com.au

Novo Foods and its eggs producers are market leaders in the sales, marketing and distribution of eggs to major supermarkets and major food service customers nationally. Eggs are marketed in different states under the Aussie Pride, Farm Pride and Golden Egg labels. All facilities have EggCorp Assured accreditation and other HACCP-based QA programs in place.

Novo Foods was formed in 1999 in response to the need for state-based organizations to form a national body that could supply eggs regionally, in addition to offering promotional and marketing support to the country's largest retailers. Novo is Australia's first national producer and marketer of eggs.

It is unique in its co-op culture, in that it affords individual farm producers the expertise, back-up and cost efficiencies associated with a national body, thus allowing them to supply the highest quality, freshest eggs into their local markets. Novo Foods stresses the importance of its local state producers and the effort to supply consumers with eggs that are produced locally in their respective states.

The website has information about the three housing systems and animal welfare.

Formal Education – Higher Education Sector

Poultry CRC

www.poultrycrc.com.au/

The Australian Poultry Cooperative Research Centre (Poultry CRC) is a joint venture established and supported under the Australian Government's Cooperative Research Centres Program.

The program produces PhD and Masters graduates tailored for the needs of the poultry industry using resources from the Poultry CRC (including industry-funded scholarships), the Australian Postgraduate Awards and other sources of funding from related industries, such as the feed industry. The program also produces university degree, industry certificate, TAFE and high school graduates with training that helps speed up innovation across the industry.

The Poultry CRC carries out research and then uses the results to improve the competitiveness of the Australian egg and chicken meat industries. It aims to ensure the cost-effective and socially responsible production of safe, quality poultry products for domestic consumption and export markets. Headquartered at the University of New England in Armidale, NSW, the Poultry CRC has an extensive collaborative network of researchers, educators and support staff from 23 participating organisations.

Poultry CRC Education Program

The Poultry CRC's Education Program operates across the full range of qualifications and sectors as defined in the Australian Qualifications Framework (AQF), which comprises national qualifications issued in:

- the secondary schools sector
- the vocational education and training (VET) sector (TAFE and registered private providers)
- the higher education sector (mainly universities).

The Poultry CRC has a Fact Sheet on Auditing Animal Welfare by Dr John Barnett, which discusses why addressing animal welfare is important for poultry companies. It states that:

Some poultry companies are including animal welfare in their Quality Assurance (QA) programs in response to consumer and market demands indicating that animal welfare is a quality issue. ... There is an increasing need for suppliers to provide information on animal welfare and management practices at all stages of production, transport and processing.

Poultry Hub

www.poultryhub.org/

The Poultry Hub, developed by the Poultry CRC, is focussed on poultry production in Australia and features a poultry encyclopedia, event promotion, news, job classifieds, training opportunities and current research activities. This site allows people to share their resources and knowledge of poultry and the poultry industries.

An overview of the Education and Training opportunities for the poultry sector can be found at: www.poultryhub.org/index.php/Education_and_Training

Rural Industries Research and Development Corporation (RIRDC)

www.rirdc.gov.au and www.rirdc.gov.au/99comp/egg1.htm

RIRDC education resources include the following completed research project reports:

- Video: Reducing feather pecking
- Improvements in laying flock management to optimise performance in a changing industry
- A Computer Program for the Formulation of Economically Optimal Layer Diets
- Hen Egg Production on Low Protein High-Grain Diets Supplemented with Free Amino Acids
- Evaluation of the performance of tunnel ventilated layer housing
- The relationship between calcium nutrition, appetite, growth, production and skeletal development in early egg production
- Cage density effects on production and welfare of layers
- Identification of Key Professional Groups' Knowledge and Attitudes to Eggs
- The Effect of Extraneous Factors on Egg and Egg Shell Quality in Laying Hens
- The significance of wet droppings in laying hens
- Comparisons of the relative profitability of imported and local strains of commercial layers
- Educational Materials: Egg Shell Quality Problems
- Video: "Egg shell quality problems: Causes and solutions".

The 2003 RIRDC report 'National Environmental Management System for the Meat Chicken Industry' and the EMS for Meat Chicken Farms – Participants Training Manual focus on environmental management issues but will include animal welfare in the future.

Animal Welfare Science Centre (AWSC)

www.animalwelfare.net.au

The Animal Welfare Science Centre is a partnership of the University of Melbourne, Monash University and the Department of Primary Industries (Victoria). The Centre focuses and coordinates research and academic resources of the three collaborating organisations, providing the animal industries, animal users, farming communities, Government and the academic and general community with an internationally competitive research, training and teaching resource in animal welfare science.

The Centre conducts animal welfare research and development within four major program areas, one which is particular relevance to animal welfare. Program 4 is its tertiary and post-graduate training program which draws on research performed in the Centre's other program areas. Of particular note to poultry production is:

Program 2: Housing and husbandry effects on animal welfare

Confinement of animals and painful husbandry procedures are controversial issues for many in the general community and the Centre has a number of research projects studying some of these most controversial issues for farm and companion animals. Current programs include the importance of nests for the welfare of laying hens.

Dr John Barnett's work has made a critical contribution to the welfare risks associated with confinement housing for poultry and clearly indicates that the major risks of confinement arise from spatial and social restriction. Thus, the design of the housing system is more important to welfare than the system per se. John has developed a welfare audit system for the layer industry comprising resource information as well as a self-assessment and recording protocol. To date there has been no formal adoption of the system.

Current student projects include 'The critical role of the stockperson to layer hen welfare and productivity'. AWSC has also completed a quality assurance program for the poultry industry (farm to processing). The project has developed practical documentation for existing industry quality assurance programs, based on sound science and that demonstrates meeting existing legislation and Codes of Practice for animal welfare.

Current research projects which are likely to have education and/or training implications include:

- Behavioural and physiological measures to identify fundamental animal welfare requirements
- Physical and social requirements of animals
- The effect of human-animal interactions on the welfare of animals
- The role of human contact in reducing the aversiveness of routine husbandry practices
- The use of selection tools to evaluate desirable animal handler characteristics
- Teaching and training programs in animal welfare, livestock handling and for scientific graduate and post-graduate programs
- Teaching and training programs for industry and animal carers.

Undergraduate subjects on Animal Welfare (University of Melbourne)

- Animals In Society – 1st year core unit for 'Bachelor of Animal Science Management' and elective for all other science courses.
- Applied Animal Behaviour Science - 3rd year unit for 'Bachelor of Animal Science Management'.
- Animal Welfare and Ethics– 4th year unit.

From 2008 all three subjects will form a stream of broader units, under the new generation degrees, designed to inform student about animals and human society, animal behaviour and animal welfare and ethics.

Graduate Subjects on Animal Welfare (University of Melbourne) – available from 2009 as core units in the Masters in Animal Welfare by Coursework or electives in the Masters of Animal Science by Coursework Programs

- Advanced Applied Animal Behaviour
- Advanced Animal Welfare

Training Programs

Targeting human-animal interactions to improve animal welfare and productivity (research article: human-animal interactions).

Animal welfare quality assurance

A series of projects has been completed to develop animal welfare quality assurance programs for the animal industries. The aim of these projects is to develop practical documentation for existing industry quality assurance programs, based on sound science and that demonstrates meeting existing legislation and Codes of Practice for animal welfare. A QA welfare program has been developed for the egg industry but has not been adopted.

University of New England – School of Rural Science and Agriculture

www.une.edu.au/ansc/health

The School of Rural Science and Agriculture brings together scientists with expertise in a wide variety of agriculturally related fields and research. The School is the dominant research School within the University of New England (UNE). It has developed an international reputation in a number of disciplines and now has research expertise and provides graduate research training, particularly in the discipline of Animal Health Welfare and Behaviour.

UNE Centre for Animal Health and Welfare

www.une.edu.au/rsa/cahw.php

Researchers or students are involved in the Australian CRC for Poultry. A major area of research into production animal health and welfare at UNE includes improved welfare of housed poultry.

Bachelor of Veterinary Science courses

From 2008, there will be seven universities across Australia offering a Bachelor of Veterinary Science (University of Melbourne, University of Sydney, Murdoch University, Charles Sturt University, James Cook University, University of Queensland and University of Adelaide).

Today's Veterinary Science degree courses have a strong focus on animal welfare and the graduates from these courses are well equipped to show leadership in animal welfare matters.

University of Melbourne BVSc course

www.unimelb.edu.au

The University of Melbourne, Faculty of Veterinary Science has had a very close relationship with RSPCA Victoria since the Bachelor of Veterinary Science (BVSc) course was re-established in 1963. Since 1964, the RSPCA Burwood Shelter has provided extramural work experience for students in return for animal ambulance driving, and ferrying rescued animals to participating veterinarians for treatment, euthanasia, etc.

The introduction of a new BVSc curriculum at Melbourne in 1998 provided the opportunity to change the way animal welfare was taught starting from Semester 1 of the BVSc course. There have been six years of graduates (2001–2007) from this curriculum, and outcome assessments indicate that graduates are now better prepared to deal with animal welfare problems, and more informed and able to debate contemporary animal welfare issues, than graduates from the previous curriculum (1990–1997).

Note: Vet Science will become a graduate program requiring a 3-year undergraduate science degree under the New Melbourne Model. Refer to the new course content when available. The current course elements related to specifically animal welfare are outlined below.

Course content

The Melbourne BVSc curriculum is arranged within several frameworks. Key among these is the animal framework. The central focus in this framework is the management of animal health, welfare and disease. The work covers subjects that lead to the understanding of the normal and abnormal animal, how disease is produced, and how animals and their welfare are managed in the agricultural and companion animal industries worldwide.

First Year BVSc – Veterinary Professional Studies

Introduction to laws, ethics and morals, organisation of the veterinary profession and the management of animals in society. Learning is achieved through students working in syndicate groups, and presenting oral and written presentations. (Comparing and contrasting cultures and countries provide students with an international perspective for the rest of the curriculum).

Animal Health, Management and Welfare 1A and 1B

Practical classes are undertaken at the animal welfare shelters - dealing with shelter management, biosecurity, aggression tests, euthanasia of unsuitable animals, preparing suitable animals for adoption, educating the new owners.

Second Year BVSc – Animal Health, Management and Welfare 2A and 2 B

Lectures on the codes of practice and the performance of the industries in responding to issues raised by animal welfare/rights/liberation groups. By the end of second year students will have completed two weeks of compulsory extramural work in an animal welfare shelter and submitted a report. Some students have worked in shelters in India, Texas, Hong Kong, China, Singapore and the UK.

Third Year BVSc – Professional Practice 1

Students can undertake up to four weeks of the required 12 weeks of extramural work with veterinary practices associated with animal shelters.

Fourth Year and final year BVSc – Professional Practice 2

Lectures on legislation, guidelines and codes.

Professional Practice 3 – Lecture-free electives

Three-week elective as a trainee veterinarian in a clinic associated with an animal welfare shelter. (RSPCA, Lort Smith Animal Hospital, Lost Dogs Home, Cat Protection Society)

The operations of the animal welfare shelters in Melbourne have changed since the students commenced the compulsory extramural work from 1998. In 2006 there were more veterinarians working in these organisations than in 1998, and the standard of veterinary care has improved.

One reason for changing the curriculum and involving all veterinary students with the animal welfare societies from the start of the BVSc course was to improve the relationship between the veterinary profession and these societies in Victoria.

University of Sydney Faculty of Veterinary Science

www.unisyd.edu.au

Veterinary Science at the University of Sydney is a five-year course that has a strong emphasis on animal handling skills, and includes teaching programs in a wide range of animal industries. Students spend 12 weeks on horse, pig, beef and dairy cattle, sheep, and poultry farms. These experiences develop competency in animal management. Classes in dog and cat handling are also included in the course. There is also a strong commitment to provision of opportunities for students to spend time in veterinary practices and these extramural links with practising veterinary surgeons are an important component of the BVSc program.

At the Faculty of Veterinary Science, University of Sydney, Associate Professor Paul McGreevy teaches a unit of study titled 'Animal Behaviour and Welfare Science 3' (Course code ANSC 3106). Animal Behaviour and Animal Welfare Science is the study of normal and abnormal behaviours in domestic and captive species. This is one of the core knowledge areas for veterinarians because it facilitates the recognition of disease states and helps veterinarians to make informed comment on animal welfare issues. The Unit of Study draws on knowledge of many aspects of animal husbandry, evolutionary biology and physiology, pharmacology and psychology. The course focuses on the importance of understanding learning theory and trainers' techniques and includes demonstrations from expert animal handlers and trainers.

The unit builds on the understanding of animal form and operation students have developed in prior units. In Animal Behaviour and Welfare Science the behavioural and physiological responses of animals to stressors related to husbandry, housing, training and performance are explored in some detail. This unit enables students to develop a three-dimensional appreciation of the species differences in response to common management interventions that arise in the context of domestication. The principles of animal responses to distress are illustrated with production species as the main examples.

Bachelor of Veterinary Science (BVSc)

5 yrs

First two years give sound grounding in basic biomedical sciences. Fourth year includes Bird Health and Production unit. Incorporates lecture-free year as 'intern' in university and commercial partner practices.

Murdoch University School of Veterinary and Biomedical Sciences

www.murdoch.edu.au

At Murdoch University's School of Veterinary and Biomedical Sciences animal welfare is initially presented as a discrete unit in first year. Subsequent to this, animal welfare is reinforced informally through various units in the remaining four years. As from 2008, a new veterinary program has been approved, with a general science year followed by a new five-year vet curricula.

VET 106 Animal and Human Bioethics

This is a core first year unit for veterinary students and is taken as an elective by other biomedical or biological science students. A variety of lecturers are given from both Murdoch staff and others off campus, for example, RSPCA, Perth Zoo and DAFWA. Tutorials include activities such as a formal debate and role playing as Animal Ethics Committee.

Topics covered by this unit include welfare assessment (five freedoms, physiological responses and behaviour), agriculture and animal production systems, public interest groups (RSPCA, animal rights groups, DAFWA culling programs), animals in society and companion animals (human-animal bond), conservation and wildlife (wild animal management) euthanasia and ethics at the end of life (religious slaughter), animal experimentation, animal use and education and ethical decision making in a vet clinic or laboratory).

Non discrete units involving animal welfare themes

Continual reinforcement of animal welfare themes is continued in various units in the latter years. For example: VET246 Animals and Society and VET401 Applied Veterinary Medicine.

The curricula proposed for 2008 includes:

- **ANS106 Animal and Human Bioethics** – retained structure as VET106 above – still a core unit for veterinary students.
- **VET 242 Animal Systems I** – includes analysis of animal welfare in animal production systems (intensive and extensive systems).
- **VET 342 Animal Systems II** – includes more detailed animal welfare topics concerning both companion animals and farm animals. Animal welfare topics will constitute approximately 10 lectures. Topics such as human animal bond, welfare aspects of breeding and showing, implications of neutering programs, responsible pet ownership, and the relationship between animal abuse and human abuse. Farm animal topics will include welfare assessment on farms, principal welfare issues like husbandry procedures, mutilations, and transport and welfare effects of stockmanship.
- **VET 442 Animal Systems III** – will include welfare aspects of slaughter, disease control and epidemiology.
- **Veterinary Medicine and Surgery I and II** – earlier themes of animal welfare will be expanded as students focus on the prevention and treatment of disease in clinical setting.

Murdoch University, Human and Animal Bioethics unit

This unit offers students the opportunity to investigate the scientific and ethical justifications for using animals in agriculture research, education, recreation and as companions. It also covers the key aspects of the reproductive technologies and genetic engineering for both humans and animals. Other topics include the role of animals in society, euthanasia, and our responsibilities in the management of wildlife and in the advancement of genetic technologies. Students may direct their studies to the animal, human or biotechnological areas.

Charles Sturt University

www.csu.edu.au/faculty/science/savs/vet/index.htm

Bachelor of Veterinary Science

6 yrs

The Veterinary Science course at Charles Sturt University's Wagga Wagga campus commenced in 2005 with the enrolment of the first 45 students.

Veterinary Science at CSU arose from the need for more veterinarians who want to live and work in regional Australia and who have the knowledge and skills to work with a broad range of animal species from farm livestock to horses, companion animals and wildlife.

James Cook University

www.jcu.edu.au

Bachelor of Veterinary Science

5 yrs

Since 2006, James Cooks University's School of Veterinary and Biomedical Sciences has offered the Bachelor of Veterinary Science. Students acquire the knowledge and skills to diagnose, treat and prevent disease in a wide range of animals, including farm animals. In addition, students will acquire a thorough knowledge of animal production systems. Final year of the course is devoted to clinical and professional training and is delivered in a series of clinical rotations through veterinary hospitals, practices, laboratories and government agencies in Mackay, Townsville, Cairns, Charters Towers and Malanda.

Griffith University

www.gu.edu.au

Bachelor of Veterinary Science

6 yrs

Particularly geared towards working in the farm animal industries, this degree providing a solid grounding in agricultural production systems and the integration of nutrition, genetics, economics and epidemiology into the management of herds and flocks. The course recognises the role of vets in ensuring the safety of animal products for human consumption and the welfare of animals in livestock production systems.

University of Queensland

www.uq.edu.au

Bachelor of Veterinary Science

5 years

This program is concerned with the promotion of the health and welfare of vertebrate animals of special importance to society. This involves the care of healthy and sick animals and the prevention, recognition, control and treatment of their diseases, and the welfare and productivity of livestock. First year courses provide a foundation knowledge of animal structure and function, chemical principles, and animal husbandry. The structure and function of the normal animal, and its nutrition, breeding, and management, are studied in greater depth in second and third years. Fourth and fifth year students develop knowledge and skills in the prevention, diagnoses, treatment and control of diseases in domestic animals and birds. All years of the program contain a large component of practical work.

First year subject – Animal Handling, Behaviour and Welfare for Veterinary Students

University of Queensland Centre for Animal Welfare and Ethics (CAWE)

www.uq.edu.au/cawe

The Centre for Animal Welfare and Ethics (CAWE) aims to improve understanding of animal welfare, and ethical issues concerned with animal welfare, through research, teaching, legislation and training.

Animal Welfare is increasingly attracting attention worldwide. It is becoming increasingly recognized that housing an animal in an environment designed to maximize its sense of 'well being' is integral to the physical health, psychological health and reproductive capability of animals kept for many purposes including conservation, companionship and research. Due to this growing recognition of the importance of animal welfare, The Centre for Animal Welfare and Ethics (CAWE) was established at UQ and consists of a team whose purpose is to develop innovative practices, guidelines and management strategies to protect animals, enhance their health and ensure that the five standard freedoms of animal welfare are met.

The CAWE, in conjunction with the School of Veterinary Science, is presently aiming to increase welfare for animals kept for companionship, those used in both intensive and extensive animal industries, the CAWE is also involved in suggesting refinement techniques for handling livestock and are working to increase the welfare of animals housed for conservational purposes and research.

Veterinary Education and Information Network (VEIN)

<http://vein.library.usyd.edu.au/links/animalwelfare.html>

The teaching of animal welfare and animal welfare science is further supported by the University of Sydney Veterinary Education and Information Network (VEIN), which was launched in 2001. VEIN features pages devoted to animal welfare, alternatives and ethics with links to sites dealing with:

- Animal welfare information gateways
- General resources
- Guidelines and issues
- Organisations and government bodies
- Alternatives to animal use in teaching and research
- Environmental enrichment
- Production animal welfare
- Laboratory animal welfare
- Resources to reduce or replace animal use in teaching and research
- Animal rights
- Animal welfare essays.

In addition it has numerous pages devoted to a complete range of veterinary interests which would have partial interests in both animal welfare and animal welfare science including:

- Pain
- General resources
- Laboratory animals
- Non-laboratory animals
- Human resources
- Organisations
- Recommended research databases and indexes.

Postgraduate Courses

University of Melbourne, Faculty of Land and Food Resources

www.landfood.unimelb.edu.au

The Animal Welfare Science Centre, within the Faculty of Land and Food Resources, offers a Masters of Animal Welfare (Research) and PhD programs in Animal Behaviour and Welfare. In addition, from 2009, the Centre will teach core subjects for the Postgraduate Diploma in Animal Welfare and the Masters in Animal Welfare by Coursework, at the University of Melbourne.

Graduate Certificate in Animal Welfare (Monash University)

www.animalwelfare.net.au

The Department of Psychology at Monash University offers the Graduate certificate in Animal Welfare (GAW) as a fourth year certificate. The course is taught in the off-campus learning mode and students are required to attend a one-day on-campus workshop per unit. The GAW offers professionals the opportunity to further their education and personal development in the area of animal welfare. The course aims to provide valuable and relevant training in animal welfare issues for people working in areas of animal husbandry, animal training and veterinary care, and to provide graduates with knowledge and skills necessary to manage the ethical, biological, behavioural and human challenges relevant to animal welfare issues. The GAW is currently being reviewed.

Post-Graduate Foundation in Veterinary Science, University of Sydney

www.pgf.edu.au

The Post-Graduate Foundation in Veterinary Science of the University of Sydney formed in 1965. It was established to fund continuing education for the profession and over time the activities have been expanded to cover a range of different services. The Foundation's initiatives include regular refresher courses (2 to 5 days duration), along with publishing, technical information search and dissemination, and distance education.

Undergraduate Courses (other than Veterinary Science)

University of New England

www.une.edu.au

Diploma in Agriculture (DipAgr)

2 yrs

Provides graduates with a broad knowledge of agriculture so that they are able to contribute effectively to sustainable agricultural production in technical and support roles. The program is divided into three streams of Plant, Animal and General agriculture.

Advanced Diploma in Agriculture (AdvDipAgr)

3 yrs

Develop the skills, knowledge and technology needed to work in agriculture and primary industries sector in technical and managerial roles. Designed for people who hold a relevant diploma or who have relevant professional experience. Can be used for articulation into Bachelor of Technology or Agriculture. Opportunities for 8 weeks practical work experience.

Bachelor of Livestock Science (BLivestockSc)

4 yrs

This degree provides scientific training for a wide range of careers associated with the livestock industries. Specialist streams include Animal breeding and genetics with subject options in quantitative genetics, molecular genetics and/or bioinformatics; and Animal health and nutrition (with a Pig option).

Bachelor of Agriculture (BAgr)

3 yrs

An industry-orientated course providing vocational training with an applied and hands-on education. Specifically designed to produce agricultural managers with wide practical knowledge and experience. Includes: Animal stream with set first year and wide range of electives in second and third years.

Bachelor of Rural Science (BRurSc)

4 yrs

Covers basics of agricultural/animal production, agricultural economics and management. Includes 24 weeks of practical work experience. Students benefit from world class facilities and staff of CRCs (UNE is a major participant). Curriculum for first 3 years is fixed, with opportunity to complete a research project in 4th year.

Bachelor of Technology (BTech)

5 yrs

A cooperation between the Sciences Faculty and NSW TAFE: specifically designed for part-time external study, allowing students to seek employment on the basis of their Diploma and gain a Bachelor degree at the same time. Offers seven course work streams, including Agriculture, which articulate from specified TAFE Diplomas.

University of Queensland

www.uq.edu.au

Diploma in Applied Science (DipAppSc)

2 yrs

Trains students in broad areas of a chosen field so they are able to contribute to efficient, sustainable animal/agricultural production in technical and managerial roles, or in the management/utilisation of marine, forestry and environmental resources. Includes at least 30 days industry practice work in two or more approved positions.

Bachelor of Applied Science (BAppSc)

3 yrs

Flexibly structured program provides students with ability to apply mix of scientific; technical and managerial skills in areas such as: Animal Behaviour, Welfare and Control; Animal Production; Animal Science; and Animal and Plant Biosecurity.

University of Melbourne

www.unimelb.edu.au

Associate Degree in Agriculture

2 yrs

Provides students with a wide range of practical and up to date farming skills. Graduates will achieve an understanding of the biological and ecological aspects of farming systems which will lead to sustainable agriculture, as well as financial skills to enable successful management of any medium-sized business related to agriculture or its service industries.

Bachelor of Agriculture (final intake 2007)

3 yrs

Gives broad knowledge of fundamental science across a range of disciplines, with a high level of achievement in areas such as animal management and production. Disciplinary sequences include: Agricultural Economics and Business; and Animal Management and Production Science.

Bachelor of Agricultural Science (final intake 2007)

3 yrs

Gives broad knowledge of science across a range of disciplines. Students can combine study areas to prepare for careers in the agri-food industries, taking subjects from other degree courses within the Faculty of Land and Food Resources or choosing electives offered by Faculties of Arts; Economics and Commerce; Engineering; and Science.

Bachelor of Agricultural Science/Bachelor of Commerce (final intake 2007)

5 yrs

Provides an understanding of the businesses and activities within the food and fibre industries. Covers theoretical concepts and tools from economics, agricultural sciences, business management and marketing for analysing and communicating solutions to problems in agribusiness, natural resource use or agricultural policy. In fourth and fifth year students can choose to specialise in specific area.

Bachelor of Animal Science and Management (final intake 2007)

3 yrs

Provides an understanding of animals, their biology and ecology, their management in natural and farm production systems and as companions to humans. Also provides grounding in the technical, ethical and welfare considerations attached to human-animal interactions.

Bachelor of Science (New Generation Degree, 2008 onwards)

3 yrs

Gives broad knowledge of science across a range of disciplines. Students can combine study areas to prepare for careers in science, including animal science and management, pre-veterinary science and agriculture. Students can also take subjects across the university.

Animal Welfare Science Centre Undergraduate Contributions

In addition, the Animal Welfare Science Centre, within the Faculty of Land and Food Resources, offers a stream of subjects in animal behaviour and welfare open to all undergraduate students that can be taken as part of a broadening stream of subjects within the New Generation Degrees.

University of Sydney

www.usyd.edu.au

Bachelor of Animal and Veterinary Bioscience (BAnVetBioSc)

4 yrs

Provides an excellent path to careers in the animal industries, and animal and biomedical research. Involves studies in the structure and function of animals, their management and welfare in an agricultural, para-veterinary, laboratory or wildlife context. Gain specialist research skills in Fourth Year through the completion of a research project.

University of Western Sydney

www.uws.edu.au

Bachelor of Agriculture

3 yrs

Equips graduates with specialised knowledge and understanding of balance between agriculture, landscape ecology and business activities. Employment opportunities include: animal health and welfare; agricultural marketing/education; rural enterprise management (farms or agribusiness); and livestock industries. Includes industry-based project work.

Charles Sturt University

www.csu.edu.au

Bachelor of Rural Studies

6 yrs P/T

This degree addresses social, economic and environmental sustainability of rural communities. The course provides an understanding of overall operation of business/organisation, particularly for accountability and strategic planning purposes. Includes core area of agricultural and environmental management with subject on livestock production systems.

James Cook University

www.jcu.edu.au

Bachelor of Tropical Agricultural Science

3 yrs

Provides graduates with knowledge of issues involved in sustaining the productivity of the land, while preserving its environmental integrity. Subjects include: Animal Biology; and Physiology and Pharmacology for Veterinary Science and Agriculture. Honours consists of development of personal research project and thesis.

University of Queensland

www.qu.edu.au

Bachelor of Veterinary Technology

3 yrs

This courses prepares students for employment in areas such as: animal health and welfare (domestic, production animals and wildlife), government, research institutions, veterinary practice and veterinary nutrition and pharmaceuticals. The first two years are completed at the university's Graton campus with a focus on production animal studies. The final year is undertaken at the School of Veterinary Science at the St Lucia campus with subjects including:

- clinical aspects of small and large animal health including vet pharmacology and therapeutics
- veterinary anaesthesia support techniques.

University of Adelaide

www.adelaide.edu.au

Bachelor of Agriculture

3 yrs

Provides training and practical experience in all aspects of agriculture including agricultural applications, marketing, financial management and business studies. Third year allows for specialisation in livestock production. Focus on development of practical and managerial skills required to operate a farm.

Bachelor of Science (Agricultural Science)

3 yrs

Provides an understanding of how science and technology underlie modern agricultural practises and how they relate to the sustainable use of natural resources. Opportunity to specialise in area relevant to agriculture and resource management (eg. livestock sciences).

Bachelor of Science (Animal Science)

3 yrs

Offers broad range of animal science courses, including livestock species. Students undertake foundation science courses that form background for studies in animal physiology, nutrition, breeding and management. Strong emphasis on practical skills utilised in area of animal science. Also provides good preparation for Veterinary Science studies.

University of Western Australia

Bachelor of Science (Agriculture)

3 yrs

This degree prepares graduates for a career in research, management or extension in many areas of agricultural science. The Animal Science subject teaches students to understand basic physiological functions of animals; appreciate the adaptation of animals to their environment; improve communication and laboratory skills; and develop basic animal-handling skills. This unit begins with concepts of the behaviour and welfare of animals because society now demands that students be thoroughly trained in these areas.

Bachelor of Animal Science

3 yrs

There is a wide range of employment opportunities for graduates in animal science including the fibre, agricultural, food, biomedical science, fisheries and pastoral industries.

Core subjects include units in: Animal Science, Animal Nutrition, Animal Ethics and Welfare.

Curtin University

Bachelor of Agribusiness

4 yrs

This course offers majors in Aquaculture, Aquatic Resources, Farm Management, Agribusiness Marketing, Equine Management, Horticultural Management and Viticultural Management. The focus is on developing skills in the management and optimisation of systems to achieve profitable and sustainable outcomes. The course takes a holistic view of agribusiness, developing an understanding of linkages between consumers and the production, processing and distribution systems management associated with these industries. Professional development is enhanced during a period of 12 to 16 weeks in professional practice spent in an agribusiness organisation in Australia or overseas.

Murdoch University

Bachelor of Animal Science

The Bachelor of Animal Science Degree (BAnimSci) at Murdoch University is a four-year degree with Honours. Animal Science is the study of animals in agriculture aimed at efficiently increasing food production in an environmentally sustainable, innovative and ethical manner. The animal science course offers a modern educational approach to livestock production designed to equip graduates with the knowledge and skills appropriate to the needs of professional agricultural scientists.

The BAnimSc requires in-depth study of a range of fundamental subjects in animal biology applied to livestock production, combined with other complementary disciplines in chemistry, statistics, and economics. The first three years of the course are specified to ensure that all students cover the core knowledge for animal science. Industry skills are gained through the stream of animal production systems in the first three years. In Year 4, students undertake an animal science research project that will form the major part of their Honours assessment. In addition, 4th-year students can pursue their interests in specialties with increased flexibility through a choice of elective units. Before graduating, students must complete four weeks of approved work experience in an agricultural setting.

Formal Education – VET Sector

Agri-Food Industry Skills Council

The Agri-Food Industry Skills Council (AFISC) was formed in May 2004 as one of 10 industry skills councils established to represent enterprises and workers across the spectrum of Australian industries. The council is funded through DEST but is established as a private company reporting to a governing Board of Directors. The 14 directors reflect the interests of Australia's five major agri-food industry sectors, one of which is the 'Rural and Related Industries' Sector. This sector includes the Rural Production Training Package covering livestock/production animals and poultry welfare.

Council's aim is to provide accurate industry intelligence to the vocational education and training sector about current and future skill needs and training requirements of its industries. Council supports the development, implementation and continuous improvement of quality nationally recognised training products and services, including Training Packages. AFISC is integrating a lot of animal welfare into its training packages.

Training Package Review

In 2006 the Agri-Food Industry Skills Council managed a review of the Rural Production Training Package to determine its future skills development needs. Changes to Australian Government policy and procedures require the incorporation of employability skills, identification and removal of unnecessary duplication and template adherence.

The Rural Production Training Package is the national benchmark for skills development in the industry and comprises the nationally-endorsed qualifications for agricultural, production horticultural and related sectors.

Qualifications incorporated into this training package (some specialising in poultry production) are listed below.

- Certificates I-IV
- Diploma
- Advanced Diploma
- Vocational Graduate Certificate
- Vocational Graduate Diploma.

Training Package Reform

During 2007 the Agri-Food Industry Skills Council has responded to the challenge of simplifying national training packages by retaining the integrity of qualifications and units while at the same time reducing complexity.

The AFISC solution incorporates a range of initiatives that are designed to improve the understanding of training packages. The fundamental focus is on establishing clear industry and job needs, and clarity of purpose relating to units of competency and qualifications that are structured according to industry expectations.

Associated with this focus is a shift to incorporate implementation issues into consultation and development and promotion of industry guides. This initiative has the capacity to support training package improvement by providing contextualisation detail not possible in a unit of competency.

AFISC has recently completed a round of consultation with national bodies associated with the training package improvement (including rationalisation) and training package review projects.

A key strategy going forward is to consolidate the AFISC unit of competence framework. This will involve improving the content within units of competence to more precisely define the "specification of work" required by the relevant industry.

This will lead to a greater transparency and understanding resulting in more valid and consistent assessment outcomes. The major impact will be a reduction to the list of knowledge and skill and the range of variables. The evidence guides will also be reworked to remove ambiguity. This is designed to provide clarity in relation to developing valid assessment and support materials.

A key outcome of the Training Package Reform will be industry ownership. The reform will increase the capacity of industry (employers and employees) to own, understand, use and comment on their relevant section of the competency framework, as a result of the removal of content that does not add value.

This is an important opportunity for the AAWS. More information on Training Package reform will be available from AFISC in 2008.

Registered Training Organisations

Registered Training Organisations (RTOs) deliver industry-related training based around the competencies in the Training Packages endorsed by AFISC. It is noted that training in the livestock/production sector draws primarily on units of competency from the Rural Production Training Package. In addition RTOs are increasingly also using animal welfare related units of competency from the Animal Care and Management Training Package (RUV04) and the Australian Meat industry training package (MTM07). Some of the RTOs are profiled here.

TAFE NSW

www.tafensw.edu.au

Certificate I in Rural Operations (RTE10103)

150 hrs

For people with little knowledge or experience of rural industries who want to develop some basic technical and manual skills used in a rural enterprise. Ideal for people wanting to enter the industry and also appropriate for school students completing work experience as an introduction to work in a rural enterprise.

Certificate II in Agriculture (Poultry Production) (RTE20103)

370 hrs

For people in rural industries with no expertise but who want to develop basic technical and husbandry skills in the poultry industry. Also provides the underpinning knowledge required to apply these skills in the workplace. Learn how to work effectively in the poultry production industry and acquire the basic technical skills to be employed as a supervised worker in the industry.

Certificate III in Agriculture (Poultry Production) (RTE31003)

590 hrs

For people in the poultry industry with some expertise who want to develop advanced technical and husbandry skills. Learn how to organise and coordinate the procedures that employees in the poultry industry must carry out. Also learn about technical skills that a senior employee on a poultry enterprise should have. Suitable for owners of poultry operations who want to enhance their technical knowledge and skills.

Certificate IV in Agriculture (Poultry Production) (RTE40103)

500 hrs

For people in the poultry production industry with some expertise who want to develop advanced technical and supervisory skills. Suitable for owners of poultry production operations who want to enhance their technical and supervisory knowledge and skills.

TAFE VIC

www.education.vic.gov.au/tafecourses/default.htm

Certificate I in Rural Operations (RTE10103)

150 hrs

This qualification is part of the Rural Production Training Package. It develops basic skills and knowledge for a chosen farming stream. Students are provided with background principles and knowledge to support competencies learned and assessed on the job.

Certificate III in Agriculture (Poultry Production) (RTE31003)

3 yrs

This qualification is part of the Rural Production Training Package, Poultry Production stream, and provides training for employment as a senior poultry hand. A senior poultry hand is an experienced worker and is involved in co-ordinating a wide range of poultry production operations.

Certificate II and IV in Agriculture (RTE20103 and RTE40103)

2 yrs

Longerenong College provides practical training in farming as well as related technologies and business studies so the graduate can enter industry as a trainee manager, able to operate a farm enterprise, an agricultural contracting business, act as an overseer or work in the farm services industries in a range of agricultural sectors – including poultry.

Diploma of Agriculture (RTE50103)

2.5 yrs

South West Institute of TAFE VIC delivers this course in conjunction with the Advanced Diploma of Rural Business Management to give graduates a dual qualification. Provides the skills and knowledge in production systems, while the Advanced Diploma units provide the skills and knowledge in business management.

Advanced Diploma of Rural Business Management (RTE60203)

2.5 yrs F/T

South West Institute of TAFE delivers this course in conjunction with the Diploma of Agriculture to give graduates a dual qualification. Provides the skills and knowledge in business management, while the Diploma of Agriculture units provide the skills and knowledge in production systems.

Advanced Diploma of Agriculture (RTE60103)

2 yrs

Longerenong College delivers this course for people wishing to pursue a professional career as a supervisor, manager, or owner/operator in agriculture or agribusiness. Includes Certificate IV in Agriculture. Students graduate with both qualifications on completion of the program.

TAFE SA

www.tafe.sa.edu.au

Certificate III in Rural Business (RTE31703)

6 mths

These qualifications will provide graduates with the skills and knowledge required to successfully operate a rural business as a manager or owner.

Certificate IV in Rural Business (RTE40603)

6 mths

These qualifications will provide graduates with the skills and knowledge required to successfully operate a rural business as a manager or owner.

Diploma of Rural Business Management (RTE50403)

2 yrs

Provides the skills and knowledge required to operate a rural business as manager/owner, including: administering the business; installing a total quality management system; managing livestock production; managing machinery; managing pastures, fodder and crop production; marketing products; evaluating business performance; operating within a budget framework and rural business planning.

Diploma of Agriculture (RTE50103)

2 yrs

Skills covered include: administering the business; developing a business plan; developing a whole farm plan; implementing a property improvement plan; managing physical and natural resources; managing maintenance and arranging purchases and sales.

Advanced Diploma of Rural Business Management (RTE60203)

2.5 yrs

Incorporating Certificate IV in Rural Business and Diploma of Rural Business Management. Provides graduates with the skills and knowledge required to successfully operate a rural business as a manager or owner.

TAFE Tasmania (TAS)

www.tafe.tas.edu.au/index.htm

Certificate IV in Agriculture (RTE40103)

18 mths – 2 yrs

Aimed at those people who wish to work at a supervisory level in the Agricultural industry (eg. Leading Hand - Poultry). Workplace-based (trainers visit students on their worksite every 4- 8 weeks to assess progress). For students not currently in a suitable workplace, TAFE TAS may be able to assist.

Diploma of Agriculture (RTE50103)

1.5–2.5 yrs

This course is aimed at those people who wish to work as a farm manager, share farmer or may be contemplating farm ownership. Students will have direct responsibility for running a complete farming enterprise but may report to others.

Advanced Diploma of Agriculture (RTE60103)

15 mths – 2.5 yrs

Aimed at those people who are farm owners, company farm managers, supervising technical officers or large share farmers, who have responsibility for running the operation on a day-to-day basis, but also have the responsibility of planning both short and long term activities including budget control.

TAFE WA

<http://www.tafe.wa.edu.au/>

Certificate III in Agriculture (Poultry Production) (S384 - RTE31003)

A full-time course, run by C Y O`Connor College at its Narrogin campus.

Formal Education – Schools Sector

Poultry-related studies can be found in a number of high schools that emphasise the study of agriculture up to the Senior Secondary Certificate of Education.

In NSW, the Schools Animal Care and Ethics Committee does not allow the keeping of laying hens in battery cages as a routine procedure. If a school wishes to demonstrate this style of production then written approval must be sought. At the time of writing, no school had sought this approval.

Some examples of individual schools that run study courses in poultry include:

Hurlstone Agricultural High School NSW

www.hurlstone.com.au/public/content/ViewCategory.aspx?id=16

Higher School Certificate

The school's 120-hectare farm includes a commercial poultry operation consisting of around 450 birds in a barn system to supply eggs, while a pure breed poultry flock is also kept.

James Ruse Agricultural High School NSW

<http://www.jamesruse.nsw.edu.au/>

Higher School Certificate

James Ruse High School offers a curriculum specialising in agriculture, including a poultry enterprise with layer/broiler production on the 8 ha school farm.

Yanco Agricultural High School NSW

<http://www.yancoag-h.schools.nsw.edu.au/>

Yanco Agricultural High School has extensive farm resources which are utilised in theory and practice. Students are rostered, to gain 'hands on' expertise, in livestock enterprises which includes poultry.

Nepean High School NSW

<http://www.nepean-h.schools.nsw.edu.au/>

Nepean High School offers students the opportunity to work with poultry.

Atherton State High School Qld

Certificate II in Animal Studies (RUV20104)

Stand alone two-year certificate course with elective units that include: incubate eggs; maintain health and welfare of poultry; and monitor livestock to laying.

Wilsonton Agricultural Field Study Centre Qld

The Centre is part of the Wilsonton Agricultural High School. Both intensive (battery hens) and extensive (free-range) birds are kept. A range of breeds is kept and the birds are used for not only egg production but also trial work, eg. broiler production.

WA district high schools partner WA College of Agriculture – Narrogin

Corrigin and Kulin district high schools have forged a unique vocational competencies arrangement with the WA College of Agriculture - Narrogin.

Under the agreement, Year 9 and 10 students have the opportunity to undertake vocational education and training (VET) studies using the college's facilities. The Enterprise and Vocational Education coordinator with the Narrogin District Education Office reports that this successful partnership meant that Year 9 and 10 students are being retained at school and engaged in learning.

Through the partnership with Narrogin Agricultural College, students gain knowledge of farming operations such as seeding, harvesting, shed hand and tractor operations, chemical use, land and equine management, shearing, wool handling, poultry production and dairy and meat processing.

National Association of Agricultural Educators

www.naae.asn.au

The National Association of Agricultural Educators is a collective of State representatives who teach at schools that have a strong focus on agriculture. Many of the schools in the network have farms and run poultry operations. They include:

- Canberra Grammar School
- Farrer Memorial Agricultural HS, Tamworth, NSW
- Woodleigh School, VIC
- Nhill College, VIC
- Clare High School, SA
- Elisabeth Murdoch College, Langwarrin, VIC
- The SCOTS PGC College
- Tumut High School, Tumut NSW
- Coomandook Area School, Coomandook SA

Schools Education Programs

Queensland World's Poultry Science Association's High School Poultry Industry Education Project

<http://education.qld.gov.au/curriculum/area/science/animal-poultry.html>

The 8th Queensland World's Poultry Science Association's High School Poultry Industry Education Project was run in Queensland High Schools throughout 2007.

High schools with facilities for poultry can involve students in the project that is organised by the World's Poultry Science Association to promote the advancement of knowledge of all aspects of poultry science and the poultry industries.

The Education Queensland website describes the concept for the High School Poultry Industry education project as one that grew from a desire of the Queensland sub-branch of the World's Poultry Science Association to implement an educational activity that would counteract negative and inaccurate media information regarding poultry industry practices. According to the website, information appearing in the media about the poultry industries in national media is, misleading. There is a public perception often reinforced by people with a high standing in the community that is incorrect, when in fact:

- Hormones are not fed to poultry
- Antibiotics are not used indiscriminately
- Alternative layer production does not necessarily provide a more wholesome product
- Free range is not necessarily an environmentally sounder production system than cages
- Eggs are not necessarily linked to an increase in coronary heart disease."

Incorrect perceptions impact on the industries through loss of consumer support. The project was first introduced to agricultural students in 2000 when 11 of the targeted 38 schools participated. The support from educators has gradually increased, and 22 schools participated in 2006.

Australian Egg Corporation Limited (AECL) has funded the production of an information kit to expand the project nationally. Each year the participating schools are provided with a resource pack containing:

- a schedule of project time lines
- the project guidelines and rules

- industry information and contacts
- poultry information which provides students and teachers with reference material suitable as a teaching aid.

Students from participating schools develop a simple research trial which could be for example; a comparison between the growth of birds fed diets containing different levels of protein, in which the students measure feed consumption and growth.

The individual schools' requirements are collated and the Queensland poultry industry supplies the necessary birds to satisfy each schools' trial design i.e. broiler/layer chicks or layer/pullets. Industry groups also play a major role in the delivery of the birds to the schools.

The simple research trial is conducted during the second school term (6-8 weeks) and provides Queensland's Year 10 students with a unique opportunity to research Australia's poultry industries, their products and practices. To satisfy the project guidelines, students are required to undertake a short literature review of the Australian poultry industries which not only helps support their trial outcome but also opens a window of knowledge to the poultry industries.

To date, the project has been implemented annually by approximately 40% of the 48 agricultural schools throughout Queensland.

This project provides the Australian poultry industries with a couple of unique opportunities, firstly due to the animal's size and nature making it easy to research, handle and house (eg. stocking rates) compared with larger animals; and secondly provides a vehicle where correct practices/ information can be communicated from 'the industry' to consumers. The Queensland poultry industries through The World's Poultry Science Association, sees this project as one means of combating the industries' negative image, by providing young Australians with the opportunity to obtain correct information.

Contact: Paul Kent
WPSA Project Coordinator
Department of Primary Industries and Fisheries, Queensland
Poultry Research and Development Centre
Email: Paul.Kent@dpi.qld.gov.au

World Poultry Congress 2008, Brisbane, Australia

www.wpc2008.com

6th Asian-Pacific Poultry Health Conference, the 4th International Ratite Science Symposium and the 2008 Australian Poultry Information Exchange, all include youth and young scientist programs.

Informal Education – Government

NSW Government

<http://www.dpi.nsw.gov.au/agriculture/livestock/poultry>

In relation to the welfare of poultry, the NSW Department of Primary Industries has information on its website about poultry health, in particular keeping out diseases. This is also an extension AgNote on 'Keeping poultry on a small scale' and a book called *Backyard Poultry – Naturally*.

<http://www.dpi.nsw.gov.au/agriculture/livestock/poultry/production-small-scale/poultry-keeping-small-scale>

<http://www.agric.nsw.gov.au/reader/backyard-poultry-naturally>

Victorian Government

<http://www.dpi.vic.gov.au/dpi/nrenfa.nsf/LinkView/540634CCC7605C89CA256C720012F1AE2CE5FE7F6CB2DA5ECA256C85007F0D5B>

The Victorian Department of Primary Industries has information on egg production in the state, but not a lot on animal welfare apart from the ARMCANZ 1995 Standards for Cage design and Construction.

South Australian Government

http://www.pir.sa.gov.au/livestock/industries/chicken/egg_industry

Primary Industries Research South Australia (PIRSA) has developed a 10 Point Food Safety Plan detailing the minimum requirements for food safety for egg production, which includes some basic animal care information.

Guidelines and reports available from PIRSA (and on its website) that include some animal welfare information are:

- *Current layer cage facilities and farmers future intentions – Preliminary Report*
A preliminary report for PISC on current layer cage facilities and farmers future intentions.
- *Guidelines for the Establishment of Poultry Farms in South Australia*
- Guidelines for the establishment and operation of poultry farms in South Australia.

The PIRSA website also contains a copy of the South Australian Egg Industry Strategic Plan - funded and developed by producers, packers and government to address the challenges facing the industry. The document details the impact of the proposed cage specification changes to meet the proposed animal welfare requirements, grower intentions and develops a scenario for a way forward for egg production in SA. The report highlights the difficulties facing local egg producers as they approach the 2008 deadline and contributes to the egg industry's case for adjustment assistance as a result of the imposition of the proposed cage size requirements.

Western Australian Government

http://www.agric.wa.gov.au/search/search.cgi?collection=externalandform=customandmeta_y_or=0AAP0POU0andmeta_y_or=0AAP0POU0HEA0andmeta_y_or=0AAP0POU0MAN0andsort=date

There is not a lot of specific information on the Department of Food and Agriculture WA's website on poultry animal welfare.

There is a Fact Sheet on *Keeping Chickens in the Backyard* that gives some basic guidance to backyard chicken keeping, fox-proofing your pens, common diseases and general management. It is also intended to increase the vigilance of the public to identify exotic diseases, which could threaten the local poultry industry.

Tasmania

<http://www.dpiw.tas.gov.au/inter.nsf/WebPages/EGIL-5HU8B3?open>

Information about the Tasmanian egg industry is available on the website at the above URL.

General information about animal welfare can be found at:

<http://www.dpiw.tas.gov.au/inter.nsf/WebPages/EGIL-535VVF?open>

Queensland

http://www.dpi.qld.gov.au/cps/rde/xchg/dpi/hs.xsl/27_2698_ENA_HTML.htm

There is information on the Queensland Department of Primary Industries and Fisheries' website about the care and husbandry of poultry that includes some basic animal welfare information.

Informal Education – Animal Interest Organisations

RSPCA

www.rspca.org.au

According to the RSPCA, the “welfare of the battery-caged layer hen is the most compromised of all farm animals”. (RSPCA website)

The RSPCA states that battery cages do not allow the hens to stand properly, preen their feathers, stretch out or flap their wings. Battery hens cannot perch, cannot roost, cannot dustbathe, cannot forage for food, cannot satisfy their urge to lay their eggs in a nest. Preventing hens from performing these natural behaviours causes immense frustration. The restricted movement and lack of exercise in battery cages also causes skeletal and muscle weakness, and the cages' mesh floors and lack of perches can cause serious muscle damage.

The RSPCA cites evidence from research into hen welfare indicates that battery hens suffer intensely and continuously throughout their confinement in cages. The research suggests that “battery cages cause suffering to hens in at least seven different ways”³:

1. Chronic frustration of normal behaviours including dustbathing and wing-flapping.
2. Chronic inhibition of comfort behaviours and increased incidence of frustration behaviours.
3. Chronic stress and disruption of social interaction.
4. Acute suffering during the pre-laying period every day caused by frustration of nesting behaviour.
5. Prevention of foraging and feather pecking.
6. Inability to maintain bone strength due to restriction of exercise.
7. Lack of perching opportunities and prevention of roosting.

The RSPCA has a campaign to urge Australians not to buy battery cage eggs.

The RSPCA also states that “beak trimming should only occur under veterinary advice consistent with the principles of planned flock health maintenance as a means of curbing extensive feather pecking or cannibalism”.

RSPCA National Food Accreditation – accredited eggs

The RSPCA believes that farm animals must be treated in a way which meets their physical, physiological and psychological needs. Farm animals must not only be provided with appropriate food, shelter and veterinary care, they must have the freedom to express normal behaviours and be kept in an environment which avoids suffering. The RSPCA therefore opposes many common practices in farming and animal husbandry because it believes that such practices do not meet the animals' needs. One example is the keeping of hens in battery cages.

To try to bring about improvements in conditions for farm animals the RSPCA runs public campaigns and lobbies government and industry.

The RSPCA believes that it is vital that consumers are made aware of such practices and that consumers are provided with welfare-friendly alternatives. Creating a demand for welfare-friendly products provides an incentive to producers to adopt humane farming practices.

In the 1990s, the RSPCA developed a set of standards for egg producers that ensures a high standard of welfare for hens. That is, the hens are not kept in battery cages, have litter in which to dust bathe, space to flap wings, stretch and socialise, nests in which to lay their eggs, and adequate perch space.

Any egg producer can apply for accreditation for their farm. This will be granted if they are able to meet the high standards of welfare required and allow regular inspections to ensure that these conditions are maintained.

³ Baxter MR (1994). The welfare problems of laying hens in battery cages. *Veterinary Record* 134:614-619.

Eggs from an accredited farm are sold with the RSPCA logo so the consumer can be assured that the hens are kept according to these welfare standards. Accredited egg producers pay a royalty to the RSPCA. All royalties from accreditation are used to pay specialist officers who carry out regular inspections of the accredited properties, to fund the development of certification standards and to fund ongoing campaigns aimed at improving the welfare of farm animals.

The RSPCA urges consumers through advertising and publicity to choose eggs that have been produced in a barn-laid or free range system, such as RSPCA accredited eggs.

Animals Australia

www.animalsaustralia.org

Animals Australia (AA) campaigns on behalf of the 11 million laying hens in human 'care' and the 488 million chickens killed for their flesh in Australia each year. AA has a website dedicated to the cause called 'FreeBetty.com'.

Animals Australia Free Betty Campaign

www.animalsaustralia.org/freebetty/

Issues covered include:

Meet Betty – the natural lives of chickens

Meet Betty the battery hen – one of 11 million Australian laying hens

Meet Betty the broiler – one of 488 million birds raised each year for their flesh⁴

Take Action – How you can free Betty.

The call to action involves:

- Don't buy 'caged eggs'. Opt for free-range or egg-free alternatives.
- Choose cruelty-free alternatives to chicken meat such as vegetarian and mockmeat options.
- Speak Out!
- Tell family and friends about free Betty!

Compassion in World Farming

www.ciwf.org.au or www.ciwf.org/education/index.html or www.ciwf.org.au

Compassion in World Farming (CIWF) is an international animal protection organisation that actively campaigns to improve the lives of farmed animals worldwide. CIWF's has Headquarters in the UK, offices in France and the Netherlands, representatives in Australia and South Africa and works with like-minded organisations and individuals around the world. In Europe, CIWF coordinates the 36-member European Coalition for Farm Animals (ECFA).

Compassion in World Farming has received funding from 'Voiceless, the fund for animals' towards the development of educational projects in Australia since 2004. CIWF produces educational resources, including a DVD titled 'Farm animals and Us in Australia' presented and narrated by Hugo Weaving. The DVD resource covers egg and chicken meat production. A 28 second introductory clip has been added to the youtube website and the myspace website.

Humane Education: a compassionate ethic for animals Symposium (October 2007)

CIWF partnered with Griffith University Centre for Public Culture and Ideas (CPCI) in a major project to host a symposium in Brisbane in October 2007. The symposium, titled – Humane Education: a compassionate ethic for animals, was held at the Griffith University (Nathan Campus) EcoCentre and made possible by funding from Voiceless, the fund for animals.

⁴ 2006/07 estimate of 487.9m broilers slaughtered per annum from Australian Chicken Meat Federation, Inc, Industry Facts and Figures <http://www.chicken.org.au/page.php?id=4>.

Within a framework of Values Education the symposium brought together delegates from educational sectors across the nation, including practising teachers, lecturers, trainee teachers and tertiary students, together with parent bodies, government and animal welfare representatives.

A diverse programme covered the practical application of humane education in the primary and secondary school sector in Australia. Aspects explored in discussions include teacher training and curriculum development, Schools Animal Ethics Committee (AEC) representation, Values Education, education in agricultural, veterinary and social science. Sessions dealt with current issues and looked to future developments across the various fields.

Professor Terry Lovat, Pro-Vice Chancellor (Education and Arts) of Newcastle (NSW) University, delivered the Keynote Address. See www.ciwf.org.au for the Symposium Programme, speaker biographies and abstracts. Proceedings will be available in 2008.

Animal Liberation Victoria (ALV)

www.alv.org.au

Meet the Hens who lay your Eggs

www.alv.org.au/issues/chickens.php

Information on layer hen and meat chicken welfare issues.

"Battery Hens don't stand a chance - Help stop proposed Tooradin Egg Factory."

www.lovegan.com.au/misc/batteryhens/batteryhens_01.htm

A campaign to stop the development of a 300,000 bird egg farm that includes a powerful slide show of caged layer hen imagery set to the music of REM 'Everybody hurts'.

KFC Cruelty

www.openrescue.org/news/kfc.html

KFC are the target of a global campaign calling for an end to the suffering of the 850 million baby chickens cruelly raised and killed for the company each year. The website reports on animal abuse in KFC supplier sheds, and features a photo essay on the regular protests carried out against KFC's cruelty to animals. For over three years ALV have been conducting weekly demonstrations outside Melbourne City KFC as part of the international KFC Cruelty campaign. ALV protestors have shown video of ALV open rescues of meat chickens at KFC suppliers and given out free 'mock' chicken to show that there are delicious and cruelty-free alternatives to KFC. ALV has also distributed over a million leaflets, posters and postcards to KFC customers and passers by.

Animal Liberation South Australia

<http://www.animalliberation.org.au/hens.php>

A campaign against battery cage egg production.

Voiceless

www.voiceless.org.au

Voiceless is an animal protection organisation. It is getting active in the field of education and "hopes to ensure that the children and youth of today become the compassionate and informed decision-makers of tomorrow - taking action for animals".

The Voiceless website contains images and information on animal welfare in relation to egg and chicken meat production.

Voiceless aims are to:

1. Give grants to organisations that share its vision
2. Educate Australians and in particular young Australians
3. Work to modify or create legislation and policies to protect animals.

Voiceless has two educational initiatives - Animal Club and Voiceless Animal Advocates.

Animal Club

www.animalclub.org.au

The Animal Club is a national network of clubs in schools across Australia. Animal Club provides young people with a network through which they can take part in activities that promote respect and compassion for animals. Voiceless states on its website that this is the only national animal education program that inspires and informs students about animal protection issues and rewards schools through funding, prizes and incentives. The Club provides information, resources and links to humane education. School grants (or "seed funding") are available throughout the year via Animal Club.

Voiceless Animal Advocates

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

Voiceless Animal Advocates (VAA), is a national network of student societies on university campuses. VAA provides a forum to promote respect and compassion for animals amongst university students. Students on a particular campus run each VAA. VAA will organise activities at their university or in the community to raise awareness of animal protection issues. Currently, VAA is focusing on law students and Animal Law reform. Voiceless plans to expand VAA to encompass other university disciplines including veterinary science, politics and economics.

People for the Ethical Treatment of Animals (PETA)

www.peta.org

People for the Ethical Treatment of Animals (PETA), with more than 1.6 million members and supporters, is the largest animal rights organisation in the world.

PETA focuses its attention on the four areas in which as it says has the largest numbers of animals that "suffer the most intensely for the longest periods of time: on factory farms, in laboratories, in the clothing trade, and in the entertainment industry". PETA also works on a variety of other issues, including the cruel killing of beavers, birds and other 'pests', and the abuse of backyard dogs.

PETA works through public education, cruelty investigations, research, animal rescue, legislation, special events, celebrity involvement, and protest campaigns.

Two campaigns relevant to the poultry industry are:

PETA's Meet your Meat: Chicken

http://goveg.com/factoryFarming_chickens.asp

Actor and activist, Alec Baldwin narrates a story about 'factory farming'. Includes footage of hens.

PETA's Kentucky Fried Cruelty Campaign

www.kentuckyfriedcruelty.com

Free Range Canberra

www.freerangecanberra.org/

In 1997 the ACT Government passed legislation to ban the battery cage, however this legislation has never been implemented. This is because part of the legislation restricted the importation of battery eggs into the ACT and this required the agreement of all other Australian states and territories; this agreement was not granted. To overcome this problem Free Range Canberra aims to ban the production of battery eggs in the ACT – but not the importation or sale of battery eggs in the ACT.

In May 2007, ACT Greens MLA Dr Foskey tabled an important Bill to amend the ACT Animal Welfare Act to put in place a complete ban on battery cage egg production in the ACT by January 2008. Dr Foskey said she had legal advice that the Bill would not contravene the Australian Constitution, the Territory's Self Government Act or the Mutual Recognition Act. There is only one egg production company in the ACT that this would affect.

In 2004 and 2005, Free Range Canberra received a grant from Voiceless. The Free Range Canberra organisation has an email campaign to lobby the ACT Government.

Sustainable Table

www.sustainabletable.org

Sustainable Table is a website that: "celebrates the sustainable food movement, educates consumers on food-related issues and works to build community through food."

It is a very extensive website that advocates strongly against intensive farming and it includes a section on animal welfare.

Informal Education – Other

Kondinin Group

www.kondinin.com.au

The Kondinin Workbook Series includes *the Story of Eggs* book and the *Egg Resource Kit*. Based on the popular Workbook Series – *The Story of Eggs* book, the Teacher Resource Kit includes ready-to-use lesson notes, activity pages and resource sheets for seven of the eight key learning areas, putting a term's work at teacher's fingertips. Teachers have written these resources by using practical information from teachers, industry groups and education consultants across Australia.

Poultry Breeders

Royal Canberra National Poultry Show

www.rncas.org.au/Poultry2/site/index.php

Victorian Poultry Fanciers Association

<http://vpfa.org.au>

The Victorian Poultry Fanciers Association represents 43 affiliated clubs and societies and has a membership of approximately 500 people. These clubs and members support more than 65 shows across the state during the period April to August. The VPFA encourages its members to keep a code of practice that will ensure the best husbandry conditions for keeping poultry. VPFA has a code of practice to encourage good relations between neighbours, a working relationship with councils/shires, to give a clear understanding of a better way to keep poultry.

Other Associations

- The Rare Crested Breeds Network of Australia (Polish Centre)
- Exhibition Poultry Association of NSW
- Darwin Poultry Club
- Feather Clubs Association of Queensland
- South Australian Poultry Association
- Tasmanian Poultry Fanciers Association
- Exhibition Poultry Breeders Council of WA

Backyard Poultry

www.backyardpoultry.com

This site is dedicated to promoting and preserving backyard poultry keeping throughout Australia and New Zealand. Includes links to National and State Bodies; Breed Clubs; Poultry Clubs; Breeder Sites; Breed Sites; Sale Birds and Fertile eggs; Shows and Government.

Other Poultry Clubs with websites include:

- Australian National Pekin Bantam Club
- Australorp Club of Australia Inc
- Orpington Poultry Club of Australia
- Goose Breeders Network of Australia
- Warragul Poultry Club
- Bacchus Marsh and Melton Poultry Club Inc
- The Game Club of Victoria
- Bendigo Poultry Club
- Dapto Poultry Club Inc
- Dubbo Poultry Club Inc
- Darling Downs Poultry, Pigeon and Caged Bird Society Inc
- Mossvale Poultry Club Inc
- Wagga Wagga Poultry Club Inc
- Tenterfield Poultry Club Inc
- Gawler and Districts Poultry Fanciers Assoc.
- Lobethal Poultry Club
- Wyandotte Club of Australia - South Australia Branch Inc
- Maryborough Hervey Bay Poultry Club

Introduction – Chicken Meat Production

As a leading source of protein, chicken plays an major part in the Australian diet. Per capita consumption has increased from 6 kg in 1965 to 35 kg per person in 2005.

The chicken meat industry is quite distinct from the egg industry. The only eggs produced in the chicken meat industry are those needed to produce the generation of chickens. The egg industry is quite separate and in fact uses very different breeds of chickens.

In 2006/07, the production of chicken meat was forecast to reach 793,800 tonnes, from slaughterings of approximately 488 million chickens.

Most chicken meat is consumed locally, with less than 2% exported. Exports of 19,000 tonnes of poultry meat worth were forecast for 2004/05. The chicken meat industry's gross value of production is between \$3-5 billion.

The chicken meat industry is predominantly vertically integrated. Generally, individual companies own almost all aspects of production – breeding farms, multiplication farms, hatcheries, feed mills, some broiler growing farms, and processing plants. This makes chicken unlike most other rural industries, which typically operate through a more complex supply chain.

Three large integrated companies supply about 80% of Australia's broiler chickens:

- Inghams Enterprises
- Bartter Enterprises and
- Baiada.

All three are privately owned, with farming and processing operations in at least three states.

The balance of the market is supplied by another seven medium-sized companies, which each supply 1-3% of the national market, and a myriad of smaller processors.

Growing broiler chickens, from day old chicks to the day of processing, is generally contracted out by processing companies to contract growers. Approximately 800 growers produce about 80% of Australia's meat chickens under these contracts. Other meat chickens are produced on large company farms, or on farms owned and managed by 'intermediary' companies which own a number of farms, each managed by a farm manager, and who enter into contracts with processing companies to grow out chickens on a larger scale.

Contract growers own the farm and provide the management, shedding, equipment, labour, bedding and other inputs to rear chickens. The processing company provides (and owns) the chickens and provides feed, medication and technical advice.

Distribution across the six Australian States

	NSW %	VIC %	QLD %	SA %	WA %	TAS %	Total
% of total slaughterings	34.3	27.9	18.3	9.1	9.0	1.4	441.6 million chickens
% of total chicken meat produced	34.9	28.8	17.0	9.3	8.7	1.3	731 471 tonnes

Note: These figures are Australian Chicken Meat Federation (ACMF) estimates based on statistics contained in ABS Catalogue No. 7215.0 - "Livestock Products, Australia" and industry statistics for the year 2004.

Welfare issues surrounding chicken meat production

The welfare issues surrounding the raising of poultry for chicken meat production is similar to egg production and is focussed on housing environments.

Informal Education – Industry

Australian Chicken Meat Federation

<http://www.chicken.org.au/index.php>

The Australian Chicken Meat Federation (ACMF) is the peak coordinating body for participants in the chicken meat industry in Australia.

Its main objectives are:

- the promotion and protection of the interests of the chicken meat industry;
- the conduct or support of research on all aspects of the industry;
- the securing of representation on appropriate committees, boards and commissions;
- the approaching of government bodies on all matters of concern to the industry.

ACMF is the industry representative recognised by the Australian Government. It represents the industry at the national level in matters regarding international trade, quarantine, animal health, biosecurity, food standards and food safety, and animal welfare.

According to ACMF, the industry has three strong motives for looking after the birds in their care in a welfare-friendly manner:

1. Out of respect for the birds themselves, so they do not suffer.
2. So that they grow as well and efficiently as possible and they are not damaged in the process.
3. In recognition of and respect or community attitudes and expectations with respect to the humane treatment of livestock farmed specifically for their consumption.

The ACMF website has a page on Bird Welfare: <http://www.chicken.org.au/page.php?id=44>

Two Codes of Practice are available for download:

- Domestic Poultry Model Code of Practice for the Welfare of Animals.
- Model Code of Practice for the Welfare of Animals on Land Transport of Poultry.
This code is currently the subject of reconsideration in the context of the implementation of the Australian Animal Welfare Strategy, where a revised code for the transport of a broad range of livestock species (including poultry) is being developed. It is the intention to have the existing code replaced by this new code in due course.

There is also a page on Animal Welfare <http://www.chicken.org.au/page.php?id=16>

ACMF's Schools Education Materials

The ACMF has recently developed a *Hatchery to Home DVD* for Australian schools (a copy was sent in July 2007 to each school in Australia). It is a resource offering an insight into the chicken meat industry and supported with a full range of class room support material. The DVDs (one aimed at primary and one at secondary school) provide extensive material relevant to a range of curriculum topics such as agricultural sciences, food technology and health.

Teacher notes and lesson plans and information can be found at the ACMF website:

www.chicken.org.au/DVD

Chicken Meat Research

<http://www.rirdc.gov.au/programs/cm.html>

The Rural Industries and Research Corporation (RIRDC) Chicken Meat R&D Program is a major partner in the Australian Poultry CRC which ensures a comprehensive and well coordinated research program for the Australian chicken meat industry. The RIRDC Program has been adapted to collaborate with and complement the CRC program.

To remain competitive and expand its markets, the industry also recognises the need for it to continue to make significant gains in areas of technical and cost efficiency. While its record in this respect over the past fifty years has been impressive, new and more effective solutions to old problems will need to be devised to support industry growth and sustainability. Flock health and optimal bird nutrition and feed utilisation are critical to the productivity and efficiency of the industry.

Therefore, the Chicken Meat Program will, in collaboration with the CRC, continue to seek new ways to manage these issues, particularly through the exploration of alternative approaches for manipulating gut microflora so as to deliver beneficial impacts in terms of gastrointestinal health, feed efficiency and overall flock performance.

One of RIRDC Chicken Meat R&D Program's identified strategies for 2007/08 is:

- Assist industry to improve adoption of bird welfare quality assurance and audit programs.

Australian Chicken Growers Council

www.acgc.com.au

The Australian Chicken Growers Council is the peak body representing poultry meat farmers (chicken and turkey) in Australia. Between them, poultry meat farmers represent about 40% of the total industry investment and produce about 400 million birds annually.

Victorian Farmers Federation Chicken Meat Group

www.vff.org.au

The Victorian Farmers Federation Chicken Meat Group represents the interests of Victoria's 190 contracted broiler farmers.

The Group is structured into five branches reflecting the processor to which a grower is contracted. A major role of the Chicken Meat Group is to assist members in negotiations of the growing fee and contract conditions with the processors to ensure a fair deal to all parties.

The Victorian industry produces more than 117 million high quality birds annually, approximately 28 per cent of the total Australian production. Chicken is a very popular meat, being low cost, disease-free, consistent in quality, low in fat and available in many easy to prepare forms – factors that have contributed to an increase in consumption to 35 kilograms per head of population. The relative cost advantages are attributable to developments in bird-type, growing efficiencies and processing and marketing.

Challenges facing the industry in Australia are similar to all intensive livestock industries throughout the developed world. This is the increasing community awareness and interest of the health implications of food consumed and the environmental and animal welfare issues of food production. To address these issues the Chicken Meat Group has developed the Chicken Care initiative. This sets and audits standard of best operating practices for the industry.

New South Wales Farmers Federation Contract Poultry Group

www.nswfarmers.org.au

The NSW poultry meat industry produces 250,000 tonnes of poultry meat a year – 35% of the national production and worth \$1billion. The industry is vertically integrated into six processors who supply chicks, feed and medication to contracted growers. Growers own their growing sheds, are contracted to a single processor and are paid a fee per bird or per square metre to grow out the birds to slaughter age. The industry is mainly barn with a minority including access to an outdoor range.

The Contract Poultry Group has 10 members representing all geographic growing areas of the state on a proportional basis and all processor groups apart from Red Lea at this point in time. There are six branches: Far North Coast, Tamworth, Hunter, Central Coast, Sydney and Wollondilly. The committee works closely with the state ministerial committees the Poultry Meat Industry Committee and the Poultry Meat Industry Advisory Group. Both these bodies advise on the NSW Poultry Meat Industry Act that assists the relationship between processors and their contract growers.

The NSW Farmers Federation website has fact sheets including:

- NSW Poultry Meat Industry
- Unconscionable Conduct.

South Australian Farmers Chicken Meat Committee

www.saff.com.au

The Chicken Meat Section of the South Australian Farmers Federation represents the interests of meat chicken producers in South Australia. Through its work in lobbying on behalf of the industry the Section seeks to add value to the businesses of members.

Western Australian Farmers Federation Chicken Meat Committee

www.waff.org.au

Part of the Western Australia Farmers Federation, the WA Farmers Federation Chicken Meat Committee, is an industry lobby group that aims to develop and implement policy and create benefits that will ensure a profitable future for its members, and a viable future for the chicken meat industry in WA.

Informal Education – Animal Interest Organisations

Animal interest organisations have concerns about some of the practices involved with the intensive farming of chickens for the production of chicken meat. Although, there is not the same level of concerns as there is about battery caged hens for egg production, there are nevertheless issues that are a focus for animal interest organisations.

Visit the websites of the animal interest organisations listed previously to find out about any education and training available on chicken meat production.

Appendix 1 – Rural Industry Training Package

Competencies in the functional area: 'raising livestock' that have poultry welfare implications

- RTE1101A Support extensive livestock work
- RTE2110A Maintain livestock water supplies
- RTE5103A Manage livestock production
- RTE3114A Implement feeding plans for livestock
- RTE2114A Monitor water supplies
- RTE3115B Implement livestock husbandry practices
- RTE4119A Supervise animal health programs
- RTE3116A Mate and monitor livestock
- RTE4110A Supervise natural mating of livestock
- RTE3147A Prepare for and implement natural mating of livestock
- RTE2128B Provide feed for livestock
- RTE3119A Euthanase livestock
- RTE4104A Develop livestock feeding plans
- RTE5106A Develop production plans for livestock
- RTE2136A Load and unload livestock
- RTE3131A Transport livestock
- RTE2131B Care for health and welfare of livestock
- RTE3133B Prepare livestock for competition
- RTE4120A Implement and monitor animal welfare programs
- RTE5104A Develop livestock health and welfare strategies
- RTE2144A Carry out regular livestock observation
- RTE3124B Rear newborn and young livestock
- RTE3134A Slaughter livestock
- RTE2118A Handle livestock using basic techniques
- RTE1102A Support intensive livestock work
- RTE2134A Assist with feeding in an intensive production systems
- RTE3143A Monitor intensive livestock production growing environments
- RTE4114A Plan and monitor intensive production systems
- RTE2150A Maintain intensive production growing environments
- RTE3110A Co-ordinate and monitor intensive production performance
- RTE3118A Implement feeding plans for intensive production
- RTE2102A Brood poultry
- RTE3149A Supervise free-range poultry operations
- RTE2105A Collect, store and handle eggs from breeder flocks
- RTE3135A Artificially inseminate birds
- RTE2108A Identify and sex birds
- RTE2147A Beak trim chickens
- RTE2140A Maintain health and welfare of poultry