

Comments upon Initial Assessment of the Australian Competition and Consumer Commission of the Certification Trade Mark Application (CTM1390450) of the Australian Egg Corporation Limited

5

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Summary

25 A case is presented here that the application for a Certification Trade Mark
from the Australian Egg Corporation Limited should not be rejected outright
but returned to the AECL for modification. The modification in mind is to
use statistics for mortality and production performance to vouch for welfare
as the 'state of an animal' and as critical control points for interventions
according to the AECL's proposed quality management scheme. Statistics
30 used in this way can foreclose on the potential to mislead or deceive and
can drive progressive and evidence-based improvements to free range
systems, including rational reductions in stocking density. This last
possibility is not available for other CTMs related to free range production
systems. None of them can be said to foreclose on the potential to mislead
35 or deceive.

Introduction

40 Comments made here form a broad preliminary assessment of matters
pertaining to the ACCC's Initial Assessment of the Certification Trade Mark
Application (CTM1390450) of the Australian Egg Corporation Limited. They
seek to show where further information is required for decision-making and
where innovatory solutions to a notoriously wicked problem could reside.

¹ I am identified more fully by a career summary provided as a postscript.

- 45 The message is qualified support for paragraph 3 of ACCC’s initial
assessment of the Certification Trade Mark Application (CTM1390450) of the
Australian Egg Corporation Limited. The qualifications in mind relate to
possible misleading and deception about the nature of free range egg
production systems. They concern:
- 50 1. Arbitrariness in the naming of systems of laying hen husbandry:
Names such as ‘barn’ and ‘free range’ are insubstantial and without
integrity. They focus on perceptions and deflect attention from the
reproduction of biological niches that allow for satisfactory welfare in
given husbandry systems for laying hens.
- 55 2. The value of certified trade marks in public affairs when they are
reliable indicators of realities: Trade marks can complement
instruments of public policy such as laws, standards and quality
management tools (e.g. HACCP) in maintaining good practice and
conduct and driving continual improvement in the welfare of laying
60 hens. Good² welfare of hens is identified as *an aim pursued by society*
(paragraph 21 of Initial Assessment).
- 65 3. The repercussions from the Initial Assessment if the ACCC for other
CTMs related to egg production, and which have been approved: In
short, these other CTMs will also fail the rules set out in paragraph 20
of the Initial Assessment. They too may mislead and deceive about
the true nature of free range. They could require re-assessment in
order to prevent unintended public detriment.
- 70 4. The proposition that past and proposed CTMs of the AECL frame best
generic practice for CTMs related to egg production because they
embed welfare among other crucial issues (biosecurity, food safety
and environmental protection). Furthermore, these CTMs tap into the
75 personal responsibility and know-how of those that actually deliver
care for laying hens and are without the corrosive influence of ‘cause
related marketing’. CTMs that do not recognize the causal
connections among animal welfare, food safety and biosecurity are
inherently flawed and cannot assist towards good welfare.
- 80 5. The circumstances leading to ACCC’s initial assessment of the CTM
application of the AECL reflect a failure in the application of reliable
knowledge to a vexed public issue that has redounded upon the
aspirations of the AECL. This failure may result from the influence of
85 biases that can apply to the assessment of scientific research³. More

² The adjective ‘good’ is used according to its commonsense meaning as described by James Rachels (2002) in ‘Ethics: History, Theory and Contemporary Issues, edited by S.M. Cahn and O. Markie, Oxford University Press.

³ David Sackett provides a typology of biases in Sackett, D.L. (1979) Bias in analytical research. *Journal of Chronic Diseases*, 32, 51-63. Richard Owen describes reader biases such as rivalry bias, moral bias, prominent author bias, famous institution bias and

specifically, however, there has been slow follow through on the results of local and context-relevant scientific efforts that were instigated in the early 2000s. The results of these efforts were not available for most recent edition of the Model Code of Practice for the Welfare of Animals: Domestic Poultry 4th Edition (2002). They form the backbone of the present comments and are used to propose possibilities for making progress with CTMs and other measures for advancing the welfare of laying hens.

95 May I please be given the opportunity to appear before the ACCC to clarify issues the issues presented in this submission?

The classification of husbandry systems for laying hens

100 'Free range' and 'barn' are inadequate descriptors for systems of laying hen husbandry. They have different meanings in different parts of the world. For example, the FAO Manual on Small Scale Poultry Production (2004) uses free range to describe a rudimentary production system where birds are not confined whatsoever and where shelter may or may not be provided. The current use of 'free range' and 'barn' sets the scene for continuing and unresolvable difficulties with any CTM for egg production.

110 The tables comparing standards for free range egg production shown on pages 28 to 30 of the Initial Assessment list stocking density (space), beak trimming and times of outside access but no other parameter. None of the standards shown provides an adequate description of the niche that may provide for welfare. Discussions of space alone without considering what is in the space will be unproductive. In this regard, the UK's *Code of Recommendations for the Welfare of Livestock: Laying Hens* is useful because it contains recommendations on the management of free range that could be augmented by other information and rendered into a comprehensive and comprehensible description of the 'free range' niche (see box below).

120 The other information in mind is crucial elsewhere in the present submission. It comes from a project titled "The assessment and development of best management practice techniques for Australian laying hens housed in conventional and alternative laying systems". This project comprised a survey of industry practice and experiments that commenced in April 2003 at the University of Queensland's National Layer Hen Management, Gatton.

125 In any case, it is difficult to envisage a precising definition for free range that may apply in legalistic approaches to layer hen welfare.

130 In ecology, a niche is the place occupied by a species in its habitat, including all the chemical, physical and biological components such as what it eats, the time of day at which the species feeds, temperature, moisture, the parts of the habitat that it

esteemed professor bias in Owen R (1982) Reader bias. *Journal of the American Medical Association* 247, 2533-2534.

uses (for example trees or open grassland), the way it reproduces and the way it behaves⁴.

135 The domestic fowl is a member of the order Galliformes, along with its likely
progenitor, the red jungle fowl (*Gallus gallus*)⁵. 'Galliformes are terrestrial,
spending their day foraging for food in grasslands or the understory of the forest.
Birds have a short down-curved bill, used to peck plant material from the ground or
from short vegetation... They also have large strong feet, a crucial asset that allows
140 them to access seeds and roots. The habitat of the red jungle fowl is woodland
edge and secondary scrub in tropical and sub-tropical areas from sea level to 2,000
metres. Their feeding ecology and diet is seeds, including rice and invertebrates⁶.

145 'The Red Jungle Fowl... is usually found in thickly wooded country, where it lives in
flocks, feeding on seeds, fruit, buds and insects, particularly termites'⁷.

The manner in which beak trimming is used as a factor for defining free
range is unsound in several of the standards mentioned in the Initial
Assessment. Beak trimming is an animal welfare impost. But, the
150 cannibalism and feather picking that it is designed to prevent is a much
larger impost. This means that beak trimming could be used as a
discriminator for free range, with conditions attached. The logic is that if
both beak trimming and cannibalism are absent, the system is 'free range'.
If either beak trimming or cannibalism is present, the system is not free
155 range. Verifying the absence of cannibalism mandates the regular recording
and assessment of performance measures including mortality rates.

Verification of welfare through simple vital statistics is applicable across the
board. Standards that mandate the absence of beak trimming but have no
160 processes for verifying the absence of cannibalism and feather picking are
unsound and without a reasonable basis for trust. Also, on verification of
welfare and beak trimming, SARDI (South Australian Research and
Development Institute) and the Poultry CRC have prepared a handbook on
beak trimming and cannibalism in poultry that sets out best practice (Beak
165 Trimming Handbook for Egg Producers Best Practice for Minimising
Cannibalism in Poultry, Phil Glatz and Michael Bourke, Landlinks Press,
2006)

The Initial Assessment points to a report from Compassion in World Farming:
170 'Feather-picking and cannibalism tend to occur in environments that
frustrates the behavioural needs of foraging birds'. This statement would be
sufficient for evidence-based policy and practice if 'tends to occur' were
actually 'always occurs' and if the report guided towards specific diagnosis
of missing factors in the environment. Other reviews of layer hen welfare
175 such as those produced by the University of Melbourne's Animal Welfare
Science Centre and research into beak trimming such as that of the South
Australian Research and Development Institute explore the multifactorial

⁴ The Hutchinson Dictionary of Science, 1995.

⁵ Charles Darwin: The Variation of Animals and Plants under Domestication, vol 1. 1868

⁶ Grzimek's Animal Life Encyclopedia Second Edition, Volume 8 Birds 1.

⁷ Larousse Encyclopedia of Animal Life, 1967.

180 nature of cannibalism. Genetics is one of the factors involved. The tendency
towards cannibalism is known to be sufficiently heritable for genetic
selection to assist in its control.

185 Use of the term ‘free range’ on any CTM at all will conflict with the rules
governing CTMs as shown in paragraph 20 of the Initial Assessment. CTMs of
all sorts must connect to a system of verification through simple vital
statistics if they are to demonstrate that they do not mislead or deceive on
whether animal welfare has actually been protected. In this regard, CTMs
related to ‘free range’ may either set the scene for untrustworthy practice
or impel the use of simple statistics as a way of garnering trust.

190 The term ‘barn’ as it applies to laying hens seems to have appeared in
Australia the mid 1990s. It rebadges the earlier intensive system where birds
are kept in sheds but not in cages. The results of the project on
benchmarking conventional and alternative housing systems mentioned
earlier, indicates that barns may not be amenable to modifications that
195 prevent the severe welfare problems they cause.

CTMs as components of public policy in Australia

200 Comments here concern the value of certified trade marks as one of the
possible drivers for good animal welfare, the repercussions for all other
CTMs related to egg production that are entailed in ACCC’s Initial
Assessment and considerations that should guide standards for animal
welfare.

205 These comments reflect a personal worldview that may be shared by others.
They are based on the notion that ethics consists of knowing what’s right,
doing what’s right and doing what’s right for the right reason. In the first
regard, the view expressed in some writing about animal welfare, that
science can be in conflict with ethics, is rejected as unsound. It infers that
knowing the right thing to do is not a necessary condition for good conduct.
210 ‘Doing the right thing for the right reason’ provides a check against factors
(ignorance, prejudice, personal gain etc) that may obscure knowing and
then doing the right thing. The right reason is never anything other than
‘because it is the right thing to do’.

215 Good conduct in relation to animal welfare can be informed by branches of
ethics beyond that applying directly to the treatment of animals. The
Australian Animal Welfare Strategy has been successful because it fosters
civility of discourse about animal welfare and seeks to be inclusive and fair
in all its dealing. The diversity of its membership has allowed a connection
220 with the ethics used in health care and shown them to be relevant to animal
welfare. In mind here are the Belmont principles of respect for persons,
beneficence and justice⁸.

⁸ Catherine Berglund (2007) describes principles as the fundamental propositions from which specific goals or duties can be derived. She lists the principles as beneficence (doing good and providing care), non-maleficence (not doing harm or trying to minimize harm), autonomy (the principle of allowing

Comments on CTMs as a component of public policy are:

1. The intention of the AECL that the ESA certification scheme, and the proposed CTM, will be a national egg quality assurance program covering farm practices is judged as conceptually sound because it encompasses animal welfare, food safety and biosecurity. It marks a laudable step forward and provides a model for any other CTM for eggs produced under any husbandry system.
 - Animal welfare, biosecurity and food safety are united by aspects of their biology. Risk factors for food safety and biosecurity are also risk factors for animal welfare. CTMs that do not enmesh food safety and biosecurity with animal welfare are unsound in terms of biology and are thus untrustworthy.
 - Since CTMs for animal welfare that are not associated with assurance systems are without a means for verification, they will require supplementation. This requires additional and unnecessary effort and is inefficient because it leaks energy without gain.
 - Food safety and biosecurity are seen as ‘pre-competitive’ issues in the sale of animal food products. Food cannot be food, that eaten to maintain life, unless it safe to eat. Food safety is an expectation not an optional extra. Biosecurity is a common good and ‘pre-competitive’ for that reason. Animal welfare should also be ‘pre-competitive’ and not an optional extra that can be used for advantage in trade.
 - The ‘doing what’s right for the right reason’ component of ethics is infringed by CTMs that specify for animal welfare alone. Scope cannot be given for the imputation of moral deficiency to those who cannot afford the premium for good animal welfare that may apply to foodstuffs. Imputations of this nature are a detriment to society.
2. The ESA, and the proposed CTL, is commended in principle but not in all its detail. Since the AECL is a producer owned company, it taps into the knowledge and experience of those with hands-on responsibility for the delivery of welfare to laying hens. The ESA gives life to ‘consent of the governed’.
 - The approach to animal welfare in Australia is embodied in Australia’s unique Animal Welfare Strategy. It begins with personal responsibility, which is informed and augmented by Codes, standards and guidelines. CTMs that tend to highlight the moral authority of an

and promoting self-rule, of people making decisions about their own lives), justice (the principle of fair allocation of community resources and burdens and respect for persons (principle of upholding autonomy. Berglund, C (2007) Ethics for Health Care, Third Edition, Oxford University Press, Melbourne.

- 270 outside organisation and detract from personal responsibility are
suspect from the viewpoint of ‘doing the right thing for the right
reason’.
- 275 • Knowledge is always imperfect and can always be improved. The
experience of those engaged in any pursuit is necessary for advances
based on reliable evidence. The constructive partnership between
farmers and scientists is a truism. For this reason, assurance schemes
for egg production imposed from outside and without verifiable input
from producers lack integrity that can be had from knowledge. CTMs
without any connection whatsoever to acceptable assurance schemes
for egg production compound will lack even more integrity because
280 their capacity to mislead or deceive cannot be monitored.
3. Respect for persons is a vital component of dealings around quality
management schemes and by extension, CTMs. Egg producers may be
fearful about animal welfare because it can entail slurs and
285 stigmatization or worse.
- Anything that fetters communication with animal carers on matters of
animal health and welfare is wrong and will lead to bad consequences
for all. For example, delays in reporting mortalities in poultry could
290 be cataclysmic where influenza is involved. I am unabashed about
expressing my personal veterinary predilections in this regard.
 - Reliable communication is required for sound quality management.
Quality management and associated CTMs will not be supported by
295 reliable information without the empathy and respect for persons
that paves the way for communication.
 - Charters for respect, fairness and decency towards animal carers,
akin to those operating in the health care system, may be a
300 background requirement for any organisation wishing to have a CTM
for egg production.

Application of reliable knowledge to the welfare of laying hens

- 305 If CTMs are to pass tests about public detriment they must be based upon
reliable knowledge. In this regard, a crucial knowledge gap was recognized
in the late 1990s when revision of the existing Model Code of Practice for
the Welfare of Animals: Domestic Poultry was being contemplated. This gap
was the lack of knowledge about the actual health and welfare problems
occurring in different egg production systems in that part of Australia where
310 most production occurs. The need was for egg production systems to speak
for themselves and to provide hypotheses for further scientific investigation
that derive from biological events in production systems as they occur in
Australia.
- 315 The project designed to rectify the knowledge gap provides information that

can guide decisions about the CTM application of the AECL. My records show that it was referred to as Project UQ-93A “The assessment and development of best management practice techniques for Australian laying hens housed in conventional and alternative laying systems” according to the morph of the Rural Industries Research and Development Corporation that existed in 2004. The broad outline of this study and information about broad results are available from my personal records⁹. I was enthused by this study at the time and remain enthused because it was and remains unique in getting a snapshot of what actually happens in egg production systems.

Sadly, I have been unable to locate a final report for UQ-93A (unavailable from the 2012 morph of RIRDC) and my interrogation of Internet databases such as Scirus, PubMed, Science Direct and Google Scholar has been fruitless. As a consequence, I rely upon my memory and personal records for my account of the information that could be critical for the ACCC decision. This may be no bad thing, because hindsight identifies UQ-93A in terms of contemporary epidemiology and the methods of contemporary epidemiology could be valuable in a re-analysis of findings. In particular, methods are available for the fine-grained analysis of contingency tables (e.g. in the XLSTAT statistical software package). The experimental component can be depicted as a prospective cohort study and a powerful one at that.

[Note that other studies listed in 2004 may be relevant to the ACCC decision¹⁰. Final results of these studies have not yet been pursued through RIRDC or through Internet databases.]

UQ-93A had two components. One was an industry survey of 30 farms across eastern Australia to provide a snapshot of production efficiencies - *National Survey of Commercial Egg Production Systems in Australia (2000-2004)*. The initial approach had to be modified from monthly collection of data to the collection of data at the end of the life of each flock.

The experimental component of the project commenced in April 2003 at the National Layer Hen Management Unit, University of Queensland, Gatton - *The Assessment and Development of Best Management Techniques for Australian Laying Hens in Conventional and Alternative Systems*. Isa-brown pullets were placed into replicates of four different production systems. These were Australian conventional cages, the latest European conventional cages in a controlled environment system, the barn layer system and the

⁹ I was on the oversight team for the project and reported on its project to the Australian Department of Agriculture Fisheries and Forestry and the Primary Industries Steering Committee. The coordinator of the oversight team was Dr Irene Gorman, R&D Manager, Australian Egg Corporation Limited. Other members of the team were the late Dr John Barnett of Melbourne University (a victim of Victoria’s 2009 bushfires) and Dr Bidda Jones of RSPCA.

¹⁰ Project DAQ-283A “Layer strains for alternative systems”. Project US-107A “Non-invasive stress assessment of commercial egg industry husbandry practices”. UQ-97.A “Pilot study on the use of time lapse video to study the behaviour of laying hens housed in conventional and modified cages”

355 free-range system. The pullets came from the same hatch and were reared
under conditions that were similar to the production system into which they
were placed. The project was aimed at strategies to improve the
production, health and welfare of birds managed under the different
systems.

360

My view remains that UQ-93A was of sound design and directed at pivotal
questions regarding layer hen welfare. Furthermore, the researchers and
support staff had sound practical experience of and enthusiasm for poultry
husbandry. The site at Gatton had the right facilities and the department
365 head involved was encouraging and able to lead scholarly effort¹¹. I remain
convinced that the results of UQ-93A are unique and critical to progress with
the welfare of laying hens in Australia. For these reasons, I am perplexed
and disturbed that the results are not in the public domain. It is sad that the
group at Gatton may not have been able to enjoy the success of their
370 efforts.

UQ-93A was delayed for four years and partly because testing of the
Edinburgh enriched cage for laying hens under Australian conditions was
given priority. The Edinburgh cage was bad for welfare because it facilitated
375 damaging vent picking and cannibalism. However, the testing itself provided
an object lesson that scientific investigations of the welfare of laying hens
should be about testing well-formulated hypotheses rather than verifying
preconceived ideas. Furthermore, experience with the Edinburgh enriched
cage terminated wrangling about the natural pre-eminence of research from
380 Europe and its automatic application to conditions in Australia.

Indications of findings from UQ-93A about barn and free-range husbandry
come from a letter from me to Irene Gorman in 2004. At the time, I was
given a ream of Excel spread-sheets to peruse. Regrettably, I have no
385 current access to them. This letter to Irene Gorman seems to be my last
communication on laying hens. A pre-occupation with bovine spongiform
encephalopathy dominated my employment at DAFF from that time.

Extracts from the letter to Irene Gorman are shown below. They
390 demonstrate the success of UQ-93A in clarifying issues for further
investigation.

On barns:

395 'As for barn systems, projects were not meant to decide which of the
production systems provided better health and welfare. However, it is clear
from both the survey and the Gatton study that barn systems do not provide
for good health and by extension for good welfare. The problem is severe.

¹¹ The researchers were Geoff Stewart and Geof Runge. The department head was Wayne Bryden.

400 • Egg production is clearly lower in barn systems in both the survey and in the Gatton study. Egg production is a sound guide on metabolic vigour.

405 • Mortality is substantially higher in barn systems. Unless deaths are the result of peracute disease without any decline in health, mortality is a cardinal indicator of both health and welfare.

410 The question now is whether the problems that exist in barns can be rectified or whether they are far too embedded into the barn system itself to be rectified.'

On free range:

415 'It would be premature to believe that free-range systems were superior as to welfare than barns. The industry survey includes farms regarded as the best in the trade. The spread of mortality in the three replicate free range systems in the Gatton study would appear to indicate that free range systems could be widely variable in their health and welfare performance.'

420

On bone strength:

425 'How do the figures in the Gatton study stack up against those already published? The differences among the systems between humerus and femur are intriguing. Significance?'

On the stress-related hormone, Corticosterone

430 'Does the decline between 35 to 70 weeks indicate an adaptation to the system? Significance between dates and among systems?'

Concluding remark:

435 'It is always difficult to know the best way to present a mass of data. Too tightly presented and the reader can be locked out of discussion. Some idea of spread in some of the observation would have been useful.'

440 **Relevant points from unpublished studies on the welfare of laying hens in Australia**

Points of present relevance arising from UQ-93A are that:

445 1. Readily available lifetime statistics such as production performance and mortality of flocks and their cohorts¹² are satisfactory indicators of overall welfare of laying hens. They measure welfare outcomes.

¹² A cohort is nothing more than an identifiable group.

2. Mortality rates and production performance statistics are necessary components¹³ of any package of objective measures of welfare.

- 450 • They provide a sufficient measure of welfare when they are applied to the same system for production. In this regard, a shared set of risk factors¹⁴ operates across ‘free range’ systems and differences in mortality rates and production performance among free range operations point to differences in the impact of risk factors.
- 455 • On the other hand, use of mortality rates and to compare between production systems is confounded by the operation of different sets of risk factors in different systems.
- 460 3. Readily available lifetime statistics can be used as critical control points when quality management for a given production system is built upon the HACCP system.
- 465 • A gradation of control points can be used to determine whether welfare is acceptable or when different types of intervention are called for.
- 470 • The quantitative findings of UQ-93A can assist in determining control points for free range.
- 475 4. A case exists that mortality rates and production performance varies widely among cohorts in free-range husbandry. Unless, this case can be refuted by reasonable evidence, the designation of free range by itself can be reckoned as unreliable indicator of good welfare and has a tendency to mislead or deceive.
- 480 5. The most exciting finding from UQ-93A comes from one of the replicates of free range and is not referred to in the letter to Dr Gorman. According to my memory, this replicate had the second highest of all production performances across all groups and a similar ranking for mortality rates. Furthermore, birds in this replicate had the heaviest live weights across all groups and consumed the least of the offered feed.
- 485 • The laws of thermodynamics are reliable and the only possible explanation is the particular environment for this replicate. It contained one or more large Moreton Bay Figs.
- 485 • Analysis of the impact of this fig on the physical, nutritional and social environment of the hens could be used to define what should

¹³ A necessary condition is one that is required for something to happen or a conclusion to be drawn. A sufficient condition is one that is enough for something to happen or a conclusion to be drawn.

¹⁴ Risk factors derive from attributes of animals (e.g., genetic susceptibility, age, sex, breed, immune status and weight) or from the environment of animals (e.g., nutrition, housing, husbandry practice, infectious or toxic agent).

be present in the environment when a system is designated free range.

- 490 • For example the tree may have helped manage anti-predator
behaviour and associated anxieties through the pattern of light and
shade perceived by hens, modified the tendency for cannibalism and
feather picking by controlling light intensity, provided shade and
495 modified the microclimate through transpiration and provided a
source of nutrition from its fruits and buds and from the
microenvironment it allowed for invertebrates.

6. The findings of UQ-93A have implications for global food security
because they point to an underutilised and underexplored feed resource
500 for poultry. The findings are a contrast with those reported in the FAO
Manual of Small Scale Poultry Production (2004). They can be portrayed
as a breakthrough.

7. There is a case for banning the use of barns in Australia because the
505 welfare problems associated with them may be difficult to rectify.
Furthermore, these welfare impacts may derive from the atmosphere in
barns and this same atmosphere may be a hazard for people.

8. It is usual for barns in North America to have barnyards where animals
510 have access to open ground. The use of barns as a designation may be a
presumptuous and may lead people to wrong perceptions regarding
welfare outcomes.

Reasoning that could be applied to the CTM of the AECL

515 1. Welfare status is expressed by the state of an animal in the same way
that disease is expressed by the state of an animal. It is not possible to
vouch for welfare on laying hens in free-range systems by reference
alone to any of the present standards. Population statistics that reflect
the general state of animals are required to foreclose upon possible
520 misleading and deception.

2. Area alone does not specify for good welfare outcomes for laying hens in
free range conditions if the area does not contain factors promoting
welfare or contains factors detrimental to welfare. Measures of welfare
525 outcomes can indicate the presence or absence of such factors and
identify them for possible amelioration.

3. Mortality rates and production performance measures are readily
530 available statistics that indicate general welfare outcomes for laying
hens. These can and should be used to verify the claims of any CTM
about welfare. In fact, all CTMs listed in the Initial Assessment have the
potential to mislead or deceive.

- 535 4. AECL's CTM application should not be rejected outright. Instead, the AECL could be invited to prepare modifications that can demonstrate the use of mortality rates and production performance statistics as critical control points in their HACCP processes. AECL is best placed to design these control points.
- 540 5. AECL's CTM application has raised concern because of the high upper limit for stocking rate. Problems identified by population statistics and their use as critical control points will require remedy by attention to stocking rates (lowering them) or adjusting features in the environment. In other words, the CTM of the AECL has the potential to drive
- 545 progressive improvements to welfare. It sets in train an evolutionary process for identifying the best conditions for free-range. Outright rejection of AECL's CTM will foreclose on such opportunities and the field will be left to CTMs that will not drive improvements.
- 550 6. The AECL's proposed CTM is unique in that it embeds animal welfare with food safety and biosecurity. It also connects to a quality management system that requires good communication with producer. Any process that enhances lines of communication with producers is important for biosecurity and the common good. Lines of communication
- 555 associated with possible 'punishers' or which displace personal responsibility are counter-productive. Outright rejection of the AECL has a potential for detriment to society.

560

Post script

David Adams - Career Summary

- 565 • Retired in April 2006 as a Senior Principal Research Scientist in the Office of the Australian Chief Veterinary Officer (Australian Department of Agriculture, Fisheries and Forestry, DAFF) - task was the analysis of scientific matters as a contribution to public policy.
- 570 • Joined DAFF in 1990 as a member of the Bureau of Rural Resources and, since that time, has worked on a gamut of issues related to animal-based agriculture.
- 575 • Specialty became zoonoses (diseases that transmit from animals to man) and food-borne diseases. From 2001, prion diseases (BSE, scrapie etc) were all-consuming. In 2002-2003, David Adams (together with Corinne Lasmezas of France's Service De Neurovirologie and now at the Scripps Institute in Florida) designed, coordinated, edited and wrote parts of the scientific and technical review of the World Animal Health Organisation (OIE) on the prion diseases. This review subsequently underpinned international guidelines for managing these diseases in animals.
- 580 • Authorship of "A Review of the Welfare Aspects of Layer Hen Housing in Australia: the Working Group of the National Layer Hen Housing Review. Occasional Paper No 1 of the Animals Health Committee of the Agriculture and Resource Management Council of Australia and New Zealand/Standing Committee on Agriculture and Resource Management, 162 pages, ISBN 0 642 22270 3 (December 1994).
- 585 • Veterinary career with farm animals commenced in 1965 and in the Central West of NSW (Molong and Cowra).
- 590 • Worked with the CSIRO Division of Animal Health, mainly at Armidale in NSW, but initially at the McMaster Laboratory in Sydney.
- 595 • Has a D.Phil. from Oxford University (1974) and an M.V.Sc. from Sydney University (1971): both in immunology.
- 600 • Publications in the fields of immunology, parasitology, animal behaviour and veterinary medicine.
- 605 • Record of activities in animal experimentation and the management of laboratory animals, which led to an involvement in matters of animal welfare.
- Adjunct Associate Professor in Comparative Disease Ecology in the University of Canberra from 1998 to 2006.

- 610
- Past member of the Animal Welfare Committee of Australia's National Health and Medical Research Council.
- 615
- Since retirement, coordination of an issue of Italy's Veterinaria Italiana, which was devoted to the long distance transport of animals and has co-authored a review of the physiological aspects of religious slaughter of livestock - both in association with previous colleagues in DAFF. Provided background papers on prion diseases and is co-authoring a systematic review on the embryos of sheep and goats as a hazard for the transmission of scrapie. Input to the Foot and Mouth Eradication Campaign of China and South-East Asia.
- 620