



DANDER

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President's Report

Sadly, we lost life member Dinah Fry-Smith on 2 May this year. Dinah was a great stalwart of the AVPA, a wonderful character and will be missed greatly by many of us. Clive Jackson has prepared an obituary for Dinah which is included in this issue.

We are still mostly absorbed with the issues of incorporation and our position with the AVA and most of our activities have been in this sphere over recent weeks. In May I wrote to AVA and outlined our intentions to move to a dichotomous structure, with the AVPA becoming an incorporated body and establishing a link to the AVA as an advisory body through a re-constituted Poultry Special Interest Group (SIG). This SIG will have membership consisting only of AVPA members who are also AVA members and will function as a normal AVA SIG. From the AVPA viewpoint, the SIG will be a committee of AVPA, reporting and accountable to the full AVPA membership and AVPA executive. The letter was tabled before the AVA board and they have indicated agreement and pleasure to work with us through this new framework. The new SIG will have to work within the AVA constitution. Our committee dealing with this issue will meet with AVA shortly to progress things.

On our front we have been looking towards the best method of incorporation which appears to be becoming a registered non-profit company. The alternative (state incorporation as

an association) doesn't work for our structure (and when we inquired of another similar group operating under that method, they found they were actually uncovered interstate and had to quickly become a registered company themselves!). So a company seems to be the best way forward.

One thing we need first is a legal constitution. Secretary Ben Wells has put in an enormous effort in drafting a document (with wonderful assistance from his wife Vicki for which we offer our heartfelt thanks). This has been based on an existing format from another organisation. Our committee has looked through this and we've had some very useful input from George Arzey. This is a substantial document and a draft copy will be circulated shortly to the membership for comment.

The next step is insurance. We definitely require to be covered for Public Liability and probably for Director's Insurance. We feel that Professional Indemnity is unnecessary for our activities (which are the most expensive part to cover). Insurances will be the greatest costs to be involved in the move and we are searching out quotes at present.

Planning is underway for our next scientific meeting later this year and I look forward to seeing many of you in Adelaide.

Peter Groves

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DANDER Celebrates 30 Years of Publication

AVPA Office Bearers 2006 - 2007

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Therapeutics	Susan Bibby	<sbibby@scolexia.com.au>
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The Australian Veterinary Poultry Alliance is a Special Interest Group of the Australian Veterinary Association. Membership of the AVPA is available to individuals and groups working in, or interested in, any veterinary aspect of poultry.

Dander will be published quarterly (March, June, September and December). Contributions are welcome. Electronic copy is requested. Deadline for copy is by the end of the second week of the month of publication. Please send information on abstracts of interesting papers, summaries of reports, case histories, social news etc. to Kevin Whithear, School of Veterinary Science, The University of Melbourne, 250 Princes Highway, Werribee 3030, Victoria <kevingwt@unimelb.edu.au> fax 03 9731 2366.

Summary of Upcoming Scientific Meetings

- July 2007** **AAAP/AVMA Annual Meeting**, Washington Convention Center, Washington, D.C. July 14-18. AAAP Lodging and Hotel Reservation forms are available at: www.aaap.info. For more information email: AAAP@uga.edu.
- September 2007** **XV Congress of the WVPA**. China International Conference Center for Science and Technology (CICCST), Beijing, P.R.China. September 13-16. Fax: +86 10 62174126. Email: llwang@wvpc2007.org. Web: www.wvpc2007.org.
- October 2007** **AVPA Scientific Meeting Adelaide**. Comfort Inn Haven Marina, Glenelg North SA. October 30-31. Contact Dr Kim Critchley. Email: kimcritchley@hotmail.com.
- June-July 2008** **23rd World's Poultry Conference and Sixth Asia Pacific Poultry Health Conference**. Brisbane Conference and Exhibition Centre. June 29 - July 4. AVPA Contact Dr Kevin Whithear; Email: kevingw@unimelb.edu.au.
- August 2008** **8th International Marek's Disease Symposium**, Townsville, Queensland. August 17-21. Contact: Dr. G. Burgess, School of Veterinary & Biomedical Sciences, James Cook University, Townsville, Queensland 4811. Phone: 07 4781 5472; Fax: 07 4781 6833; Email: graham.burgess@jcu.edu.au
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XV Congress of the WVPA

As noted above, the XV Congress of the WVPA will be held In Beijing from 13-16 September 2007. The Aussie contingent will be punching above its weight with 3 of the 13 Keynote Presentations to be given by AVPA members, including the Houghton Lecture by Dr Amir Noormohammadi. The keynote addresses are listed below. For more information visit: www.wvpc2007.org.

Dr. P. F. McMullin - *Managing for poultry health in a changing world*
Dr. A. Hensel - *Poultry products and public health- a critical survey*
Dr. Z. Cui - *Comparisons of various immunosuppressive viral infections for their interactions in immunosuppressive effects on vaccinations against AIV and NDV*
Dr. A. H. Noormohammadi - *Who is smarter, mycoplasma or the host?*
Dr. P. J. Blackall - *Bacterial respiratory diseases - the challenges of the future*
Dr. X. Liu - *Influenza A Virus, Newcastle Disease Virus and their clinical infection in domestic waterfowl*

Dr. C. Hofacre & T. Bagust - *Postgraduate education and training for avian veterinarians: Past, present and future*
Dr. D. Cavanagh - *Current and future ways of detecting enteric and other viruses of poultry*
Dr. H. M. Hafez - *Turkey diseases new challenges for veterinarian*
Dr. R. Witter - *The path to a better vaccine for Marek's disease*
Dr. I. Davidson - *Avian tumour viruses their diagnosis and control*
Dr. D. Swayne - *Changing face of AI ecology and its control - from wild birds to poultry and back again*
Dr. K. Yu - *Avian Influenza in China*

MEMBERSHIP MATTERS

Below is a list of members & their financial status as of 22nd June. We have a 6-month period of grace, so the final deadline for 2007 membership renewal is **31st July, 2007**. I know there is often confusion whether subs are up to date. I will attempt to improve the process for future renewals.

However with the upcoming important decision making process only financial members will have the right to vote. So please renew your membership as soon as possible, we will benefit from your input & support.

An Application Form for New or Continuing Membership 2007 of AVPA is on the back page of this edition of *DANDER*.

Peter Gray, Hon. Treasurer

2007 Current Members (no action required)	2007 Current Members (no action required)	2006 Members (Please pay by 31 st July, 2007)
Arzey, E.	Johnston, R.	Ash
Arzey, G.	Jones	Bibby
Ashby	Jorgensen	Black
Bagust	Karaconji	Bradshaw
Bains (Life Member)	Langford (Life Member)	Brown
Barlow (Life Member)	Lindsey	Browning
Barnett	McDermott	Burke
Basher	Malliadis	Culligan
Bates	Marks	D'Andrea (Sunnybrand) Sustaining
Beers	Minkiewicz	Doyle (OzBiopharm) Sustaining
Blackall	Moffatt	Jackson
Buckley	Morrow	Kite
Burgess	Mulqueen	Laghai
Christensen	Noormohammadi	Lehrbach
Chubb (Life Member)	Ravindran	MacKenzie
Claxton	Reece	McQueen
Cooper (Bayer) Sustaining	Reeves (Fort Dodge) Sustaining	Meaney (Elanco) Sustaining
Critchley	Roberts	Mortimer
Cundy	Rubite	Pace
Curtin	Ruth	Philps
Devlin	Scott	Remington
Dietemeyer	Sexton	Richards
Evans	Shamon	Robinson
Firth	Shinwari	Tinworth (Bioproperties)
Gilchrist (Life Member)	Sillince	Sustaining
Gray	Spradbrow	Underwood
Groves	Swainston (Life Member)	Vanderfeen
Grimes	Templeton	Walters
Hampson	Turner	Wells
Hughes	Wagner	Whiteley
Islam	Walkden-Brown	Williams
Jenner	Whithear (Life Member)	
Johnston, N.	Wylie	

Treasurer's Report

AVPA financial statements for 2005 and 2006, as presented by the Treasurer at the February AGM are presented on the following page.

Peter Gray, Hon. Treasurer

Profit & Loss Statement

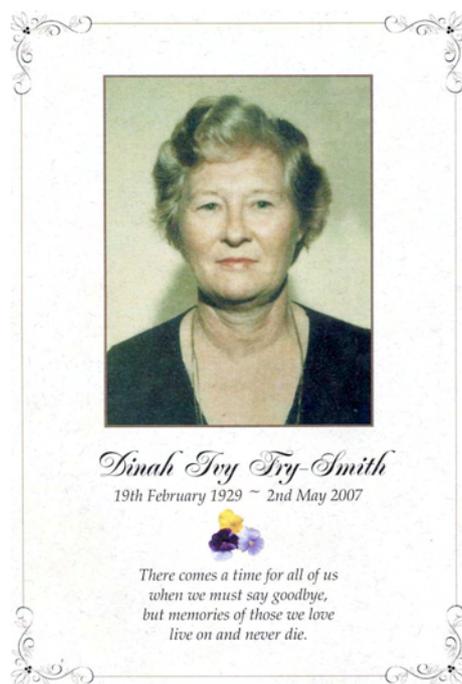
<u>Income</u>	2006	2005
Membership Subscriptions Ordinary	\$3,631	\$3,424
Sustaining Memberships	\$1,800	\$1,800
Sponsorship	\$4,436	\$-
Conferences	\$18,674	\$9,719
Publications/Advertising	\$-	\$600
Interest- AGC	\$997	\$1,401
Interest-NAB Chq A/C	\$3	\$2
Interest NAB Term Deposit	\$1,025	\$171
Total Income	\$30,567	\$17,117
<u>Expenses</u>	2006	2005
Bank Charges	\$7	\$16
Interest AVA	\$-	\$25
Book-Keeping	\$362	\$1,459
Depreciation	\$14	\$15
Conferences	\$8,544	\$7,199
Newsletters	\$1,200	\$1,600
Committee/Governance	\$384	\$-
Scholarships	\$5,000	\$-
WVPA Subscriptions	\$756	\$638
Postage	\$-	\$141
Total Expenses	\$16,267	\$11,014
Net Profit/(Loss)	\$14,300	\$6,103

Balance Sheet

As at 31/12/06	2006	2005	Difference
Assets			
<u>Current Assets</u>			
Cash at Bank	\$37,724	\$23,161	\$14,563
Petty Cash	\$-	\$168	\$(168)
National Term Deposit	\$11,487	\$10,914	\$573
AGC Money Market Optimiser A/C	\$42,809	\$41,360	\$1,449
Interactivity A/C with AVA National	\$(3,248)	\$(791)	\$(2,457)
Total Current Assets	\$88,773	\$74,812	\$13,961
<u>Non-Current Assets</u>			
Furniture & Equipment	\$163	\$163	\$-
Accumulated Depreciation	\$(37)	\$(23)	\$(14)
Total Non-Current Assets	\$125	\$139	\$(14)
Total Assets	\$88,898	\$74,951	\$13,947
Liabilities			
<u>Current Liabilities</u>			
GST Collected	\$530	\$30	\$500
GST Paid	\$(64)	\$-	\$(64)
Provision for Annual Leave	\$-	\$788	\$(788)
Total Current Liabilities	\$466	\$818	\$(352)
Total Liabilities	\$466	\$818	\$(352)
Net Assets	\$88,433	\$74,133	\$14,300
Equity			
Retained Earnings	\$74,133	\$68,030	\$6,103
Current Earnings	\$14,300	\$6,130	\$8,170
Total Equity	\$88,433	\$74,133	\$14,300

OBITUARY

Dinah Fry-Smith (19 February 1929 – 2 May 2007)



The AVPA lost one of its Life Members and one of its industries most experienced poultry microbiologists when Dinah passed away recently after a long battle with endometrial cancer. Dinah possessed a green thumb when it came to growing poultry viruses in chicken embryos and cell cultures. This skill probably arose from her origins in Somerset, England on the family vegetable farm and several years of experience in media production and bacteriology at the Veterinary Research Station, Glenfield, NSW in the early 1960s. In 1967, she saw the light and moved to the Poultry Section of that laboratory. Dinah has written an extensive article about her time at Glenfield that will also appear in *DANDER*. Dinah was an excellent team member of many research and diagnostic groups for almost 40 years and was dedicated to providing laboratory support through her loyalty and enthusiasm. At Glenfield, her expertise extended to salmonella serology, isolation and antigen production, tissue culture growth of Marek's disease (MD) viruses, viral vaccine assays, growth of infectious bursal disease virus (IBDV) in chicken embryos, isolation of the V877 strain of IBDV and development of a seed lot; serological testing for a wide range of poultry pathogens and use of chicken isolators for poultry disease research. When Dinah left Glenfield in 1980 she was able to use that expertise to help establish a new diagnostic laboratory for Table Talk Poultry at Marsden Park, NSW. She eventually became Manager of that laboratory and over the next nine years was responsible for extensive poultry product testing, serological surveillance of breeding flocks, avian leucosis eradication and microbiological support for diagnostic services. She also developed a *Mycoplasma gallisepticum* vaccine from the parent strain of the current MG ts-11 vaccine. Dinah was able to achieve an MASM

though recognition of her extensive experience in microbiology. In the early 1990s, a consulting company set up by Paul Gilchrist contacted Dinah and she travelled to China and Indonesia to assist with establishment of laboratory diagnostic services funded through Australian aid programs. Dinah continued to work part-time up until 2006 as a microbiologist for Baiada Poultry at the Birling Laboratories where she passed on her skills to many of the younger staff members. Dinah never lost her enthusiasm for poultry microbiology and right up to March of this year, she was delighted to hear that some of her recent advice on methods of CAM inoculation of chicken embryos had improved vaccine virus yields for a local vaccine manufacturer.

Dinah served as Assistant Secretary to the AVPA from 1989 to 1990. Dinah assisted with the organisation of many local conferences including the Xth International Congress of the World Veterinary Poultry Association in Sydney in 1993. Dinah was made a Life Member of the AVPA in 2000.

Dinah has been a great friend to many AVPA members. I have known her for over 40 years and worked with her for at least 25 of those years. She always maintained her enthusiasm for poultry microbiology and was forever grateful that the AVPA accepted her and recognised her contribution to avian health. Her happy and joyful nature at AVPA meetings and dinners will be sadly missed.

Vale Dinah Fry-Smith

Clive Jackson

THE POULTRY SECTION, GLENFIELD NSW

Significant Personalities and Achievements 1923-1989

Dinah Fry-Smith, Len Hart and Ian Bell

The Veterinary Research Station (VRS) Glenfield was opened in 1923 with **H.R. (Doc) Seddon** as Director. He and **H.R. Carne** were the first to investigate some poultry diseases, isolating *Salmonella pullorum* and identifying tick fever. At this time, there were no other laboratory facilities available to poultry farmers, and no veterinarian had a special interest in avian species until the advent of **Joe Hutchison** (1929-32). Joe instigated the practice of farmers bringing their problem birds to him. Thus a specialised Poultry Section came about and, once established, it was generally accepted that the poultry industry had special needs and disciplines. Private submissions were continued until 1977, after which specimens had to be submitted through a veterinarian.

Joe investigated a mortality in parrots at Taronga Zoo, and although the cause was not determined, it was most likely psittacosis. He contracted a serious disease, again not diagnosed but which was almost certainly psittacosis, from which he nearly died (there were of course no antibiotics available in those days). He developed a fowlpox vaccine using a virulent strain which proved effective and was widely used for several years. He also embarked on a scheme to test birds in two poultry flocks against *S. pullorum* using tube agglutination, and to slaughter those which were serologically positive in an attempt to eradicate the disease.

Work on these flocks was in progress when **Len Hart** (1932-49) commenced duties at the VRS. Joe Hutchison resigned a few weeks later to go into private practice and set up a laboratory at Parramatta. At this time, **Bill Murphy** had been assigned as a field veterinary officer servicing the poultry industry and was responsible for the field-work for the two flocks under *S. pullorum* surveillance. Six to seven hundred fowls were bled each day and the scheme was followed for about three years, by which time all birds on both farms tested negative. In 1937 Len produced a stained pullorum antigen for use in rapid whole-blood testing in the field; this was soon developed commercially and formed the basis for pullorum eradication schemes throughout Australia. In the early 1930's a respiratory disease was investigated. Although they followed the methods of Nelson, who in the USA had incriminated "cocco-baciliform bodies" as the causative agent of a long standing respiratory problem (later known as chronic respiratory disease or CRD) and *Haemophilus* as the causative agent of coryza, they were unsuccessful in isolating an agent.

In 1935, fowls with a severe respiratory disease were submitted for diagnosis. Infectious laryngotracheitis (ILT) virus was isolated in chick embryos by Dr Macfarlane Burnett at the Walter and Eliza Hall Institute, Melbourne. Using tracheal exudate from peracute cases, vaccination by cloacal application was commenced by Len and Tom Hungerford. This procedure was used in many outbreaks and eventually was widely adopted by veterinary practitioners as the sole preventative measure until an egg-grown, freeze-dried vaccine was produced by Arthur Webster Pty Ltd and Commonwealth Serum Laboratories

(CSL). The CSL vaccine was used successfully in a blanket-vaccination campaign in Western Australia in 1948-49, following the secondment of Len to investigate the cause of a devastating enzootic which he confirmed to be ILT. Other veterinary officers were seconded to the Poultry Section from time to time, but were usually diverted to other duties after a stay of less than six months. In the meantime, Len participated in much of the other work at the VRS, such as complement fixation tests for contagious bovine pleuropneumonia, swine fever diagnosis in the 1941 epizootic, and the production of a scabby-mouth vaccine in collaboration with Jack Hayston and Jack Keast.

From 1935-41, various poultry diseases were diagnosed for the first time in Australia or NSW: septicaemic pullorum disease in adult fowls, infectious enterohepatitis in chickens, avian encephalomyelitis, trichomoniasis in doves and pigeons, fowl cholera, and moniliasis (candidiasis) in turkeys, geese and fowls. Seeds of Mexican poppy (*Argemone mexicana*) and of *Araujia sericifera* were shown to be toxic to fowls, and infectious sinusitis of turkeys was studied. In 1946 Len was successful in culturing the causative agent of coryza, *Haemophilus gallinarum* (now *Avibacterium (Haemophilus) paragallinarum*) and showed the disease to be widespread. He and McClymont reported on studies of the effect of vitamin A deficiency on hatchability and egg production, and on the inadequacy of high wheat content rations for hatchability. In 1948, **F.G. Fielder** reported on several severe outbreaks of staphylococcosis, and Len developed an egg-grown vaccine to immunize against spirochaetosis. Technical officer (TO) **Norm Blinman** worked in the Poultry Section for many years until 1966, and gave valuable assistance with the work on coryza and the fowl tick fever vaccine. The Director of the VRS was **Bill Hindmarsh** (1936-47).

Sandy Pearson (1949-52) was fortunate to continue to have the services of Norm, and they did further work on spirochaetosis and pullorum disease, which was still a serious problem for chicken producers. At that time, the Poultry Section was looking after the health of the Seven Hills Poultry Research Station flocks. Genetic selection and laying trials were being carried out, and Sandy went to Werribee to learn artificial insemination of chickens and turkeys. Fowl pox was a problem and they began to use a mild strain of pigeon pox as a vaccine. At Glenfield, they filtered the material from upper respiratory infections in chickens to try to identify the pathogens present. Assisting in the Section were **Tom Reece** and **Andy Romalis**, who made the media. At this time, the Poultry Section was still the only avian diagnostic centre in NSW. The Director was **Graham Edgar** (1947-1959).

Beri Sinkovic (1951-61) joined the Poultry Section. He and Sandy were busily engaged on ILT, which was a recurrent problem. Private practitioners such as

Tom Hungerford, Bill Nosworthy, and Drs Pfeifer and Szeibert would take tracheal scrapings from birds naturally infected with a "hot" field strain and vaccinate surrounding flocks with the wet material, as they considered the freeze-dried vaccine to not be as efficacious. This worked fairly well until an inoculum became contaminated with *Pasteurella multocida*, which was spread widely and caused great losses. This served to highlight the primitive nature of avian vaccines and the Department began to look at the production and legislation of safer vaccines. After Sandy left, Beri was the only veterinarian until 1955, when he was joined by **Owen Evans** for a year, then by the charismatic **Miran Lindtner** (1957-1969). Miran was a great supporter and the manager of the Yugal football team, and many match results were discussed over the post mortems. Miran trialled the use of iodine for the prevention of ILT, but the main advance in the control of this disease was the wider acceptance of the commercial vaccine made by CSL. Beri collaborated with Rob Cumming, who had recently made the first isolation of infectious bronchitis (IB) virus in Australia, and they were able to demonstrate the nephritic manifestation of the local disease. Beri left the Department in 1961 to take up the first lectureship in Poultry Diseases at the University of Sydney. The Director by this time was **Jack Keast** (1959-76).

Paul Gilchrist (1961-63) joined the Poultry Section. Many trials were conducted to improve procedures for the safety, efficacy and administration of avian vaccines, particularly ILT, and also a prototype vaccine against IB. Respiratory diseases were becoming an increasing problem in the developing intensive broiler industry, then being pioneered locally by the Ingham brothers, and a survey was conducted in 1963 to differentiate the causes. This yielded the first isolations of *Mycoplasma gallisepticum* (Mg), *M. iners* and *M. gallinarum*, as determined by biochemical reactions. Field trials were carried out in the use of erythromycin and tylosin against the clinical disease CRD, but the causative organism, Mg, was not serologically identified until 1971 by Rosenfeld in Queensland. In 1963, a new laboratory building was completed at the VRS and the Poultry Section moved to its present (1989) location.

Clive Jackson (1966-79) and **TO Dinah Smith** (1967-80) initially worked on the composition of commercial *S. pullorum* stained antigens, following a resurgence of Pullorum disease in Australia in 1966. This resulted in the proportion of standard and variant isolates being changed in the local commercial preparation. Intensive culturing of embryos and pullorum reactors was carried out in an attempt to eradicate the disease from breeding flocks. Surveys were also undertaken on rearing methods, disease status, mortalities, transport and processing of broilers in order to pinpoint and break the cycles of infection with *Salmonella typhimurium*. As a result of their findings (1969) hygiene was considerably improved in the industry. Serological surveys were conducted for Newcastle disease (ND) and avian influenza (AI), showing that lentogenic strains of ND virus were widespread in NSW but AI was absent. One of the first SPF flocks in Australia was established at Glenfield in 1968.

From 1969-70, Clive undertook Marek's Disease (MD) research at the Houghton Poultry Research Station, UK. Subsequently he co-operated with Beri Sinkovic in the development of a vaccine against MD using herpesvirus of turkeys (HVT), and also isolated and developed an apathogenic strain of cell-associated MD virus which was used as a vaccine seed. Later recognition of the influence of maternal antibody on the efficacy of HVT vaccines led to the development of alternating vaccination programmes. A considerable set-back occurred to the commercial use of these and fowlpox vaccines when they were found to be contaminated with reticuloendotheliosis virus (REV). During 1971-76, isolators were developed and installed for viral research purposes with the aid of moneys made available by the Australian Chicken Meat Research Committee and the Poultry Research Advisory Committee. In 1972, *Pasteurella anatipestifer* was confirmed in ducks and became recognised for the first time as a problem in broiler chickens. During 1978-79, successful trials were carried out on the use of aerosol sprays for the mass administration of IB vaccines, and serological surveillance programmes were developed for the poultry industry. The appearance of infectious bursal disease (IBD) was another set-back to the broiler industry. Research resulted in the purification of an isolate at Glenfield which was passed as a seed to Webster's in 1978. Work was undertaken on haemorrhagic enteritis virus (HEV) in turkeys in 1979, surveys on the new problem of egg drop syndrome (EDS), and avian encephalomyelitis using a serum neutralisation test.

Several other veterinarians worked in the Poultry Section during this period. **Kevin Whithear** (1969) and **Bill Mayger** (1971-72) each worked on mycoplasmas. **Paul Macqueen** (1972-76) did some of the early work on MD-susceptible strains of chicken in conjunction with Seven Hills and the University of Armidale. **Ian Gardner** (1975) and **Bruce Roberts** (1976) spent brief periods in the Section. **Steve Dunne** (1975-80) and Paul were involved in the investigation of REV contamination of vaccines and the "Nakanuke" feathering defect, and Steve conducted some preliminary work on *Haemophilus* vaccines. Technical officers included **Kevin Cooper** (1973-86), **Frank Shiel**, **Mac Fenwick**, **Lark Whittingham** and **Peter Curtin**. Field and isolator assistants were **John Reid**, **Ken Cunningham**, and **Roger Dwyer-Gray**.

In 1979, Clive resigned to go to Hyline Chicks and Dinah joined Table Talk Poultry the following year. Clive and Dinah had established the specialised virological procedures which were becoming of increasing importance to the diagnosis and control of poultry diseases. Following Jack Keast's retirement, **Peter Mylrea** (1977-83) became the Director.

Around this time the VRS was restructured into a Regional Veterinary Laboratory (RVL), one of five around the State, and a Central Veterinary Laboratory (CVL) divided into several specialist laboratories including the Poultry Section. The function of the Poultry Section remained unchanged: it continued to handle all avian diagnostic material submitted to Glenfield, as well as to conduct research into disease problems concerning the poultry industry. An industry liaison position of Special Veterinary Officer (SVO) was created in head office with Paul Gilchrist (1974-83) as the first incumbent. His role included overseeing avian vaccine and poultry industry regulations, and he was instrumental in attracting grants for research.

Garry Cross (1980-86) joined the Department as Poultry Section Leader in 1980; in 1983 he took on the additional role of SVO, vacated when Paul was appointed to Chief of the Division of Animal Production. In 1981, **Edla Arzey** transferred from the RVL and **TO Lorraine Ritchie** joined the Poultry Section from Parasitology. In 1983, **Judith Handlinger** (1983-84) joined the Section. Garry's dual role allowed the creation of a new veterinary position in the Section which was filled in 1983 by **Ian Bell**, previously a veterinarian with A.A. Tegel.

The Section became involved with early investigations into big liver spleen (BLS) disease, ascites and the effect of gossypol on broilers, and field trials with the live V4 Newcastle Disease vaccine. These latter investigations culminated in 1986, when Ian spent several weeks in Malaysia performing challenge trials which demonstrated the vaccine's efficacy following mass application under commercial conditions. **Caroline Norman** (1983-86), a former employee of Hyline Chicks, provided capable technical assistance with the NDV vaccine trials. The diagnostic workload included monitoring flock exposure or immunity to avian encephalomyelitis by embryo susceptibility and serum neutralisation tests, serological monitoring of commercial SPF chicken flocks for haemorrhagic enteritis virus (HEV), serology for egg drop syndrome (EDS), histopathology on commercial poultry and aviary birds, and the isolation and identification of avian mycoplasma.

In 1986, Garry left the Department to take up the position of Senior Lecturer in Avian Medicine at the University of Sydney, left vacant by the retirement of Beri Sinkovic. Garry's tireless energy, enthusiasm and quick wit will be remembered by his colleagues in the Department and the poultry industry for many years. Kevin Cooper was transferred from the Poultry Section the same year. He had devoted thirteen years to the Section, accumulating much knowledge and training several VRO's and TO's along the way. After a brief stint in the Mastitis Section, Kevin was appointed to the position of Chief Technologist for the Department's state-wide veterinary laboratory service.

Following Garry's departure, the positions of Section Leader and SVO were divided. Edla was appointed Section Leader, whilst **Ian Roth** was promoted from VO Tamworth to SVO Poultry. **Judy Scion** worked in the Section as a VRO during 1987. **TO John Summerfield** joined the Section from Virology in 1986, and **TO Alison Hallstrom** transferred from Microbiology in 1987, bringing the technical staff of the Section to three.

In 1986, the Section commenced industry-funded research on the epidemiology of reticuloendotheliosis (REV) and the development of new vaccines against infectious laryngotracheitis (ILT). These projects saw the return to Glenfield of Beri Sinkovic in an honorary role as project supervisor. The REV component, under Edla's direction, aims to confirm the transmission of REV by insect vectors and to identify the species involved.

The ILT component received a boost following several major outbreaks of ILT during 1986/7. With **George Arzey** (Veterinary Officer Poultry Health) as principal investigator, the project has successfully studied two virus strains which offer improved safety whilst maintaining efficacy compared with the established SA2 vaccine. Ian Bell was Section Leader during 1987/88. During 1988, Dinah briefly rejoined the Section as a TO following the closure of the Table Talk laboratory. **Rod Hoare** became Director of the Veterinary Laboratories in 1986.

The past two decades have seen significant changes in the direction of the Poultry Section. The employment by poultry companies of staff veterinarians and the establishment of their own pathology laboratories has led to decreasing reliance by the chicken meat industry on government services for routine disease diagnosis. Consequently, an increasing proportion of the Poultry Section's diagnostic workload has come from the commercial egg, game bird and waterfowl industries, backyard poultry, and from other avian species. During the 1980's, cage and aviary birds submitted by private practitioners became a major component of the diagnostic workload. However, it became evident that tightening financial and staff resources could not allow the continuation of such emphasis on companion (non-agricultural) animals, and this work was largely phased out during 1987. In recent years, export testing and contractual flock health monitoring have expanded rapidly to become the Section's major non-research activities. In response to the increasing complexity of poultry diseases, to fulfil the needs of submitters and research councils, and to meet export testing requirements, a high standard of virological and serological expertise has continued to develop under Edla's guidance and with Beri's assistance. Cell-culture capabilities have expanded and ELISA technology has been adopted and developed. The Section has entered the computer age, with word-processing and facsimile facilities to improve the quality and speed of diagnostic reporting, and the in-house development of data bases to handle laboratory records, finances and journal references. These achievements are greatly enhanced by the dedication and expertise of Lorraine and Alison.

The staff of the Poultry Section look forward to 1989 in anticipation of further successes. That year will see, after 66 years at Glenfield, the transfer of the veterinary laboratories to the **Elizabeth Macarthur Agricultural Institute (EMAI)** at Menangle. The Poultry Section is well-placed to respond to increasing organisational and financial pressures, whilst continuing to provide world-class diagnostic, flock health monitoring and certification services; to conduct a variety of applied research projects; and to develop and implement new laboratory procedures to keep pace with technological developments and the evolving needs of the Australian poultry industry

The original of the above account of the early years of the Poultry Section at the Veterinary Research Station, Glenfield was dated March 1989 and was signed by Dinah Fry-Smith. Its publication in *DANDER* is dedicated to the memory of Dinah Fry-Smith. A list of the personnel who have worked at Glenfield up until 1989 is on the following page.

Staff at the Poultry Section, Glenfield NSW (1923 To 1989)

1923-30 D.V.R. (Doc) Seddon, Director
1923-28 H.R. Came, Veterinary Research Officer (VRO)
1929-32 Joe Hutchison, VRO
1932-49 Len Hart, VRO
1949-52 Sandy Pearson, VRO
1951-61 Beri Sinkovic, VRO
1948-66 Norm Blinman, Technical Officer (TO)
1955-56 Owen Evans, VRO
1957-69 Miran Lindtner, VRO
1961-63 Paul Gilchrist, VRO,
1963-64 Jerzy "Yurek" Grescovic, VRO
1966-68 Frank Shiels, TO
1967-68 Mac Fenwick, TO
1966-79 Clive Jackson, VRO
1967-80 Dinah Smith, TO
1969-70 Kevin Whithear, VRO
1971-72 Bill Mayger, VRO
1971-72 Ken Cunningham, TO
1972-76 Paul Macqueen, VRO
1973-86 Kevin Cooper, TO
1975 Ian Gardner, VRO
1975-80 Steve Dunn, VRO
1975-76 Peter Curtin, TO
1975-80 John Reid, Field Assistant (FA)
1975-78 Roger Dwyer-Gray, FA
1976 Bruce Roberts, VRO
1976-80 Lark Whittingham, TO
1980-86 Garry Cross, VRO Special Veterinary Officer (SVO)

1981- Lorraine Ritchie, TO
1981- Edla Arzey, VRO
1983-84 Judith Handlinger, VRO
1983- Ian Bell, VRO
1983-86 Caroline Norman, TO
1987- Judy Seton, VRO
1986- John Summerfield, TO
1987- Alison Hallstrom, TO



Dinah Fry-Smith with two other Glenfield Poultry Section identities, the late Beri Sinkovic and Clive Jackson.

Industry Health Issues

Report on NSW Poultry Health Liaison Group Meeting 23 March 2007

The following items were discussed: spotty liver, aspergillosis, chlamydiosis, *Pseudomonas* in layer chicks, AE, phosphorus deficiency, infectious stunting syndrome, infectious proventriculitis, EDS, ILT vaccine shortage, IBDV vaccine update.

1. Spotty liver-

On histo it is focal hepatic necrosis. An acute lytic necrosis, fibrin and some inflammatory reactions (toxin involvement?).

In breeders occasionally only in one genetic line and only in open sheds.

Culture on 3 occasions yielded –

1. Mixed bag of bugs.
2. *E. coli* from the gut, rest of the tissues *Staphylococcus aureus*.
3. *E. coli*

Mostly never isolate any bugs from spotty liver cases.

Usually seen between November to January.

Spotty liver has not been seen in Ross birds. Some breeders in some areas, has never been seen.

Has been seen also in layers (FR), at around 30 wks of age. *S. aureus* was cultured.

There was some speculation that bird genotype and nutrition could play a role in the expression of the disease. Also round worm effective control (6 weeks intervals) appears to keep spotty liver under control. Possible internal organ damage through migration of larvae or endotoxins/exotoxins. May also be linked to an acute protein increase that has been seen with fever, decreased feed intake and body weight loss.

Effective floor cleaning was also mentioned as contributing to the control of spotty liver. Diesel + Fenitrothion + cresylic acids.

Almost anything works. Recovery after treatment with CTC. Treatment with Amoxicillin also OK.

2. Aspergillosis

Aspergillosis cases in broilers mentioned. Related to hatchery. Improved ventilation in the hatchery improved the problem.

Aspergillus flavus and *A. niger* found in carcasses at processing. 5-8 mm nodules. Pedunculi hanging off the internal carcass.

Feed related? Silo maintenance?

3. Chlamydiosis

Has been diagnosed by immunofluorescence (IFA) in a FR flock. Significant mortality and production drop. *Coryza* also involved and previously *Pasteurella multocida* isolated on the same farm. Responding well to CTC. Mortality dropped from 8-10 /day to less than 2/day.

Another recent case in experimental broiler flocks raised in cages and located in Sydney Uni. Clinical expressions - weepy eyes and cough. Source not determined but reportedly 1-2 ducks held in the same room on the floor previously, had some degree of conjunctivitis that was attributed at the time to physical irritation from the litter.

4. *Pseudomonas*

Sporadic incidences of mortality in day old layer batches associated with *Pseudomonas*. Used to be cultured from Mareks vaccine. Source can't be found. Responding to treatment with CTC

5. AE

Presented in broiler breeder flocks. Atypical signs similar to Ionophore toxicity. No classical tremors etc. Histopathology indicated AE.

6. Phosphorus deficiency

In broilers. Hock and wing walking. H/P indicated phosphorous deficiency. Likely to be associated with phosphorus availability in the feed. Dicalcium phosphorus of Chinese origin.

7. Infectious Stunting Syndrome

Seen in pullets and broilers. In broilers leading to a 10-point Feed Conversion cost.

In layers possibly associated with vertical transmission.

8. Infectious Proventriculitis

No information provided on this topic (ed).

9. EDS 76

Has been diagnosed in 2 layer flocks in Sydney. Both unvaccinated against EDS. Both farms have epidemiological links through common egg fillers and exchange of personnel with no attention to biosecurity requirements. On the first farm the EDS was most likely present since Christmas. It started in one shed and spread occurred to the other sheds.

On the second farm only in one shed. Both farms are on reticulated water. The source of the EDS on the first farm has not been identified.

Although pullet vaccination is encouraged, not many layer flocks (particularly cage layers) undertake vaccination against EDS 76. Barn and free-range layers adopt EDS vaccination more than cage layers.

ILT vaccine

Both ILT SA2 and A20 unavailable until at least the end of May 2007. This will be a big batch. The batch is currently in a test phase. AQIS has requested additional testing because the vaccine is made using overseas SPF eggs and on USA soil.

Intervet ILT vaccine is similar to SA2 and a small batch may be available soon. The rest later.

Vaccination during lay (birds that missed because of unavailability of ILT vaccine) likely to affect laying performance and knock the birds around. In broilers weight gain after vaccination may be affected (7-8 day growth.) GA comment – Such an effect was not apparent during our ILT experiments in the mid 90's. There was no significant weight difference between vaccinated broilers and controls).

Half a dose by the eye drop method is feasible since need higher vaccine titre is needed for DW application.

11. IBDV vaccine

Major problems getting AAHL to test for IBDV produced in overseas SPF eggs. The batch derived from these eggs following a declaration of a national critical need has not reached the market because of testing delays.

George Arzey Convenor

Edla Arzey - Notes taker

Getting serious about Avian Influenza vaccination

George Arzey

Senior Veterinary Officer (Avian Health) NSW DPI

Vaccination of poultry against Avian Influenza is considered by some as the last resort, “desperate tool” for eradication and by others a tool that should be used quickly to be effective.

Some would like to see evidence of uncontrolled spread of the disease before contemplating vaccination. Others are inclined to examine the potential for spread and balance the risk of reacting too late against the ‘risk’ of vaccinating too early.

Historical perspective, rightly or wrongly, is often used as an important aspect of risk assessment and Australian experience during five AI outbreaks has provided some with the impression that Avian Influenza in Australia could be easily and promptly eradicated. Others are perhaps more weary of our historical perspective and the possible differences between different subtypes of the virus.

In 3/5 outbreaks, spread was encountered on at least one additional farm. In Tamworth 1997 vicinity spread was encountered on 2 additional farms within the Restricted Area.

None of the outbreaks in Australia occurred in truly highly populated poultry areas.

Regardless of the route of the spread in the 3 outbreaks that remains unclear, vicinity spread to farms within the RA was evident in Victoria in 1976, Victoria 1992 and NSW 1997.

The Queensland outbreak in 1994 was on an isolated layer farm with very little potential for vicinity spread and the Bendigo outbreak in 1985, similarly, did not provide the scope for spread.

The spreadability of different AI subtypes could also be different, being influenced by different latent and infection periods and pattern of spread observed in one outbreak is not necessarily applicable to others.

Vicinity spread could include the following elements:

Airborne spread (aerosols, dust, feathers etc)
Cats, dogs and other wandering animals
Wild birds
Humans
Flies and other insects
Vehicles

Debate about the relative importance of the role that vicinity spread plays in the epidemiology of AI is not lacking and one of the critical elements associated with vicinity spread is the ability to control vicinity spread during an outbreak.

Perhaps one of the important aspects highlighting the potential difficulties associated with control of vicinity spread is the finding in 1983 in Pennsylvania USA that 30% of adult house flies and other less abundant species of flies that were collected around poultry infected with AI, contained AI viral particles.

One could elaborate on the risk associated with such infection and the number of viral particles required to initiate an infection in a flock and indeed this could provide useful information for a risk assessment but the bottom line is that farms in the vicinity of an IP, especially a large flock, should be regarded as significantly at a greater risk of disease spread than other farms.

In a paper examining the effectiveness of traditional control measures in 4 different outbreaks in 4 densely populated poultry areas (Canada, Italy, The Netherlands; 2 regions) it was concluded that the bio-security measures, movement restrictions and culling of infected farms, all of which were initiated early on in the outbreaks, did have an effect but for all four outbreaks only reduced the reproductive number (the farm to farm spread) to close to the threshold value of 1 (PLoS ONE | www.plosone.org 6 April 2007 | Issue 4 | e349).

Marangon and Capua (2005) when examining vicinity spread in Italy, neighbourhood farms within 1 km of IP were regarded as representing more than 25% of the total risk factors for acquiring the infection (*The control of avian influenza in areas at risk: the Italian experience 1997-2003* S. Marangon, I. Capua, E. Rossi, N. Ferre', M. Dalla Pozza, L. Bonfanti, A. Mannelli)
library.wur.nl/frontis/avian_influenza/05_marangon.pdf

In Canada in 2003 airborne spread was recognised up to a distance of 900 metres with aerosol infection remaining viable for up to 30 hours.

Is it significant that the only Asian country that is claiming successful eradication of H5N1 is India where vicinity culling of all poultry was practised?

Wind borne transmission of ILT, a relatively fragile respiratory virus that has been reported to spread with no direct contact on a few outbreaks in NSW, has recently been assessed between commercial poultry operations in Delaware USA. The paper published in International J of Poultry Science Vol 4 page 263-267 in 2005, concluded that location within 3km from a clinically infected commercial flock presented a significantly higher risk of infection for conventional ventilated flocks.

The importance of airborne transmission was also recognised for Salmonella enteritidis (Holt et al Avian Diseases 1998, Vol 42 pp 45-52).

Is avian influenza unique?

In a paper "Decision trees to optimise control measures during the early stage of a Foot & Mouth disease outbreak" (Preventive Veterinary Medicine 2002 pages 301-324) *The Optimal Control Strategy for Densely Populated Livestock Areas*, ring vaccination was identified as the optimal control strategy whereas ring culling was identified as the optimal strategy for sparsely populated livestock areas.

Simulated FMD outbreaks in Australia, France and the Netherlands demonstrated that the strategy of stamping out and movement controls on its own is "ALMOST NEVER the economically optimal strategy."

Ring culling within a radius of 1 km of IP was identified also as an effective strategy for the Classical Swine Fever outbreak in the Netherlands in 1997 and the FMD outbreak in the UK in 2001 demonstrated the effectiveness of ring vaccination and culling.

In the Netherlands, a pig population of more than 1000 pigs/km² were classified as high density areas.

In Lowestoft UK where the H5N1 outbreak in turkeys was reported this year, the poultry population density is reported to be approximately 4000 birds/ km².

By comparison, in some areas of Australia the poultry population density has been estimated to be 60,000 birds/ km².

Are we ready for an AI outbreak in highly populated poultry production areas?

The benefit of a swift and successful eradication without the use of vaccination is alluring. However, the realism of the risk of failure must be considered even by the most optimistic disease control strategists.

There will always be arguments put forward against vaccination. It is important to consider them and the technical difficulties that may emerge following vaccination; be it surveillance or declaration of freedom. However, if the risk of failure to control a disease by the traditional methods of eradication is significant, the possible difficulties associated with vaccination could be esoteric in nature.

A bit like worrying that stopping a truck sliding out of control down the hill towards a village may damage its bonnet and cause a bit more work for the mechanic that will have to fix the breaks.

If vaccination is to emerge as a less risky approach than reliance on eradication alone, do we possess the ability to vaccinate a large number of farms in a short period of time?

Considering the zoonotic aspects of Avian Influenza and the OH & S requirements, the capacity to muster the required workforce and the workforce ability to work long hours must be considered.

Other imperative considerations are:

1. Experience or elementary training of vaccination crews.
2. Number of persons available to do the work at a relatively short notice.

In NSW during the ND outbreak at Horsley Park, I organised the vaccination of 4 layer flocks in the vicinity of the infected farm by training the owners and supplying the live vaccine. A similar approach could take place perhaps if a live AI vaccine was available in Australia. However, currently only inactivated AI vaccine is considered and the logistics of vaccination using an injectable-type vaccine that requires individual handling are challenging indeed when a large number of farms need to be vaccinated in a tight time frame.

If there is a necessity there must be a way!

If it is deemed necessary to vaccinate a large proportion of the poultry population in the face of an AI outbreak, there must be a way to approach this challenge.

The approach could include:

- Recognising the logistic challenge
- Planning ahead for the logistics of widespread vaccination
- A State base or a national approach to planning and;
- National or State base operational ability to do the job if required
- Identification of personnel (Industry and/or Governments that are earmarked to do the job and receive training in advance of the outbreak.
- Industry wide flexibility in allocation of resources if required
- Willingness to pool resources

It is only through a concerted Industry and Government approach that the challenge of a possible vaccination against AI could be approached in areas where vaccination is most likely to be required.

AVPA Biannual Meeting 30th – 31st October 2007 Adelaide

Conference Location:

Haven Marina Motel Convention Rooms, Comfort Inn Haven Marina, 6-10 Adelphi Tce, Glenelg North SA 5043.

The Haven Marina overlooks the Patawalonga and is a short walk from the Glenelg foreshore and beach. It is also only a 5 min walk to the Glenelg/City Tram and Jetty Rd shopping precinct. The airport is approximately 10 km or a 10 min taxi ride. For those who may wish to stay on, the Glenelg area is a major beach and tourist destination as well as being only a half hour drive from the Southern Vales wine area with ready access to the Adelaide CBD via a 15-20 minute tram ride.

Accommodation Contact Details and Rates

Comfort Inn Haven Marina, Phone 08 8294 1553, Fax 08 8294 5773, Email reservations@haveninn.com.au. Toll Free for reservations 1800 882 038. Standard Rates \$135, Corp Room \$140+, Deluxe rooms \$140-160

Other accommodation in the area

Buffalo Motor Inn, 766 Anzac Highway Ph 08 8294 6244, approx 500 metres from the venue, rates \$100-120 a night

The Taft Motel and Apartments, 18 Moseley St Ph 08 8376 1233, approx 1 km from venue, motel units from \$105, 1 & 2 bedroom apartments from \$135.

For those wanting real upmarket,

Oaks Plaza Pier, 16 Holdfast Promenade, Toll Free 1300 551 111 approx 500 metres from venue, overlooks beach. Rates from \$170.

Stamford Grand Moseley Sq, Toll Free 1300 301 391 approx 1 km from venue but easy walk across park and beach front. Rates from \$180.

Conference Dinner

The dinner planned for the evening of the 30th is to be on board the Buffalo, a replica of the sailing ship that brought the first settlers to South Australia, and located in the Patawalonga, directly opposite the Haven Marina.

Conference Program

The conference programme is still in the formative stage but one major theme will be food safety and we have a number of speakers already booked on this subject. A call for papers is now open. In particular, presentations with a field orientation would be welcome. Those wishing to give a presentation should send titles to Dr Kim Critchley <kimcritchley@hotmail.com>.

The 2007 Stork Poultry Award Goes to Peter Scott

AVPA member and Past President Dr Peter Scott was recently awarded the Victorian Chicken Meat Council 2007 Stork Award. The citation for the award was as follows:

Peter developed his interest in agriculture whilst growing up in Streatham, Victoria where he attended school locally. He commenced his Bachelor of Veterinary Science at Melbourne University in the mid 1970's and graduated in 1979. After spending a number of years working for the Victorian Department of Agriculture as a Veterinary Pathologist and Researcher he completed his PhD in 1989.

Peter was appointed Company Veterinarian and Livestock Manager for Steggles Victoria in 1989, a position he held for 7 years then moving from Steggles to Eatmore in the same position until 2001.

Due to Peter's technical expertise, he has been involved in working on projects that has helped the poultry industry overcome many disease issues with which we have been confronted. His research includes: Inclusion of body hepatitis, runtng /stunting syndrome, fowl cholera and avian mycoplasmas. Peter has also been intimately involved in the development and implementation of numerous vaccines currently used by our industry today. He was also a member of a research team that was the first in Australia to isolate and identify a Canine Para-Influenza virus.

Peter has given his time freely and worked tirelessly on a number of Government Technical Committees for our Industry. Peter is or has been a member of: Victorian Broiler Industry Negotiation Committee, Victorian Broiler Code Committee, Consultative Committee for Emergency Animal Diseases, Newcastle Diseases Consultative Committee, Research and Development Committee of the Australian Egg Corporation and the FSAZ Technical Group

As well as being Hazeldene's Livestock Manager and Veterinarian he is also currently working as a Senior Research Fellow at Melbourne University Veterinary School and as a Project Supervisor for the Poultry CRC. Peter is an active member of the Australian Veterinary Poultry Alliance, Australian Veterinary Association, World Poultry Science Association, Australian Association of Veterinary Pathologists, and the American Association of Avian Pathologists.

Somehow with what little spare time he has, he has managed to find a wife Marina, and have 3 children with whom he is actively involved. His personal passion is cars and he is a self-confessed petrol head – loves big motors, big noise. He promises faithfully to one day get his Concourse 1952 Riley onto the road.

Peter has always been willing to assist anyone in the poultry industry. For his commitment to the Victorian Poultry Industry, the 2007 Stork Poultry Award is made to - DR. PETER SCOTT

Experiences and Rewards in Pursuit of a Career in the Poultry Industry Part 2

Balkar S Bains

Newcastle Disease

In the early 1960's it was a common practice to submit routine specimens to the Animal Research Institute (ARI) at Yeerongpilly for confirmation of a field diagnosis. This service was exceptionally useful in advancing personal knowledge but limited in terms of a rapid response to support a field diagnosis and subsequent recommendations for action.

During 1966 a few chickens from a broiler flock with a history of poor performance were submitted to ARI. A few days later PTL management were notified that Newcastle Disease (ND) has been detected by serological diagnosis in one of their broiler flocks. Therefore, according to legislation, quarantine was to be imposed on all poultry production premises and all interstate movement of chickens was to cease immediately. This notice meant closure of all PTL poultry business located on the same premises that included a hatchery, broiler farm and processing plant. The margarine production plant was located on the same premises in close proximity to the poultry operations and so could not be isolated and was therefore directly affected by the quarantine notice. This started a flurry of activity and panic and I found myself in a difficult situation, to say the least. The puzzle was that the flock had no clinical signs, no lesions on post-mortem and no mortality suggestive of ND warranting the imposition of quarantine. A high level management meeting with government officials resolved that since the source of broiler parents was from NSW, it was appropriate to delay the introduction of quarantine until the ND status in other states such as NSW and Victoria were established. The quarantine orders were put on hold and testing of broiler flocks in other states commenced as a priority. ND positive flocks were detected by serology in other states in flocks without any clinical signs of ND. The orders of quarantine were therefore withdrawn and the hunt for the virus commenced in earnest. A ND virus isolate eventually designated V4 was made.

In the beginning of seventies, the New Zealand government seriously considered and agreed to allow the import of broiler breeds under specified terms and conditions. This concept was opposed by the Australian Poultry Industry on the basis of the potential risk of ND introduction into New Zealand and the potential threat of NDV being brought to Australia in the future. The Australian poultry industry combined its efforts to oppose the New Zealand government initiative and the technical committee of Australian Poultry Industry Association (APIA) was instructed to review the pros and cons of the potential risks of the introduction of ND into Australian poultry flocks. I was then a member of the APIA technical committee that debated the pros and cons and reported to the industry accordingly.

While this issue was being debated in Australia, an outbreak of vvNDV in California was confirmed. To gain first-hand experience, APIA decided to send me as an

observer to California under the direction of the FDA. It was a unique experience from an industry perspective, especially to gain first hand experience in the eradication of ND by vaccination and the successful use of sentinel chickens to monitor infection.

I capitalised on this visit to the USA to establish several personal contacts with people with specific scientific expertise and made valuable contacts in the poultry industry as well. For the following six years I was an annual visitor to the USA and each year attended the Western Poultry Diseases Conference at Davis, California and presented two papers on scientific subjects of personal interest to me at that time.

Salmonella typhimurium

Apart from food safety issues, *S. typhimurium* in the early seventies was identified as a major cause of highly significant mortalities during the first 10 days of broiler placements. While therapeutic and prophylactic measures were successful to a point, the issue of potential sources of infection required more diligent investigations. A two year long investigative project was undertaken to determine all possible avenues of entry of salmonellae in the chicken production chain and to develop preventative measures to combat the problem. The investigation included routine sampling for salmonella isolation as follows:

1. Grandparents received from NSW.
2. Broiler breeders monitored from day old to the end of the production cycle.
3. Monthly floor litter samples from broiler breeder flocks.
4. Monthly nest box litter samples.
5. Monthly visceral organ samples from culled hens.
6. Embryo dead in shell from hatchers.
7. Five day old broiler chicken organ samples.
8. Random collection of 10 caecae from each broiler flock processed.
9. Chicken carcasses post packaging.
10. Raw ingredient prior to receiving at the feed mill.
11. Both breeder and broiler feed samples.
12. Litter samples before and after methyl bromide fumigation.

The outcome of this project was very informative, a total of 34 salmonella serovars were recovered that were submitted to salmonella serotyping centre in Adelaide. Salmonellae were isolated from samples submitted from all sources listed above. In vitro sensitivity test was carried out to identify therapeutic drugs most effective against *S. typhimurium* isolated from broiler and breeder flocks. The chlorine addition concentration in the wash and rinse water in the processing plant was determined and regularly monitored to prevent salmonella contamination during processing. The outcome of all the trials was published.

Chronic Respiratory Disease

Chronic respiratory disease (CRD) was common in all broiler flocks and associated with high morbidity and mortality. The severity of CRD was more significant during winter months and affected flocks were invariably treated with water-soluble drugs. The introduction of tylosin shifted focus to the isolation of *Mycoplasma gallisepticum* (MG) presumed to be the main predisposing infection in the development of CRD. Isolation of MG from field specimen at the PTL laboratory was not successful; instead the serum plate agglutination test was often used to diagnose MG infection in broiler and breeder flocks. A preventative medication program was evaluated in several broiler flocks by measuring commercial parameters. All available drugs with a claim for CRD control were included in the trials. The results confirmed that a single dose of tylosin at a strategic point gave the best results as opposed to the recommended two treatments i.e. first at day one and second at three weeks of age. The results of these trials were published and the single dose usage became a standard recommendation in the industry.

Histomoniasis

A disease presumably affecting only turkeys suddenly appeared in broiler flocks in the early seventies. The typical liver lesions seen in turkeys were infrequently seen in broilers but the intestinal lesions were seen consistently, both in the field and in specimens from processing plants. It was speculated that the sudden appearance of the infection might have been associated with the introduction of new anticoccidial Monensin. However, there was no evidence to support this allegation and it had no impact on the use of Monensin or the incidence of coccidiosis in a flock. The disease was diagnosed in new and old broiler houses, new and old litter and no relationship to season or concurrent infection could be established. The episode lasted three years and the most effective preventative measures included feed medication with Ipronidazole, Sulfuride and Hepzide and others. Where the infection came from, what were the predisposing factors and what led to the disappearance of infection remains a mystery.

Marek's Disease and Leucosis

Apart from an all-in-all-out program and routine sanitation there was not much could be implemented to control these diseases. The finding that black beetles in broiler sheds might be implicated as a carrier of Marek's Disease (MD) virus brought into focus the need to apply insect control measures as part of the total sanitation procedure after depopulation. Concurrent outbreaks of coccidiosis requiring treatment were a common occurrence in broiler flocks affected with MD. Tumours in breast muscles and visceral organs were often observed. The immunosuppressive effect of MDV was never measured in terms of the incidence of other diseases but these were accepted as *fait accompli*. The distinction between MD and Leucosis was mainly based upon age incidence viz MD was the disease of young chickens and Leucosis was the disease of chicken over 16 weeks of age.

Adenovirus Infections

Among the respiratory disease complex, in the early seventies there appeared to be a new pattern of clinical

signs that persisted well beyond anything previously experienced. Some colleagues described it as Infectious laryngotracheitis (ILT) of Queensland Type. In Queensland ILT was a notifiable disease and there never was confirmation that this disease was caused by ILTV. There were also some concerns that it may be an ILT vaccine virus but it was a mystery how the vaccine virus jumped the state border.

While there was confusion surrounding the aetiology of this new respiratory infection adenovirus was frequently isolated from the tracheas of chicken exhibiting typical signs of the disease. Inclusion Body Hepatitis (IBH) was well recognised in North America by the mid seventies and it was especially linked with simultaneous IBD virus infection. During routine examination of carcasses at the processing plants in Australia in the mid seventies an unusual higher incidence of bursa atrophy was observed. . The significance of these observations was unclear as the causative agent was as yet not determined. However, our field observations confirmed the presence of a new disease not previously seen or diagnosed in Australia. It was IBH and it occurred in broiler flocks about 5 weeks of age. The details of these observations and the presence of IBH in Australia were published.

Reovirus Infection

The broiler chickens often culled as being retarded or showing poor growth rate continued to present a challenge to determine the causative agent. The most frequent isolate from the intestines and more so from the bursa was identified as reovirus. The significance of these findings was as yet uncertain, but the observations were published in an effort to generate more interest in the role of reovirus infection in broiler chickens.

Observations at the processing plant continued to confirm an increasing incidence of the presence of infection just above the hock joint in all broiler flocks. Field observations also recognised the presence of such infection in broiler as young as two weeks of age. A diligent attempt to isolate and identify the causative agent of this infection confirmed reovirus with secondary infection with staphylococci. This was the same infection which in other countries was known as Tenosynovitis. The results of our findings were published.

Nutritional

Confidentiality has always surrounded nutrition formulations and the diagnosis of nutritional deficiencies relied upon clinical signs that often were more confusing than helpful. The most spectacular was the sudden increase in the incidence of mortality in broiler flocks over two weeks of age that appeared otherwise healthy. This mystery was ultimately solved as being a biotin deficiency and it became a common practice to treat affected flocks with biotin and choline chloride via drinking water with positive and spectacular responses.

Lazy Leg syndrome was often experienced and was perhaps associated with an increase of arsenicals in the feed formulation or possibly just an increased feed intake in some broiler flocks. In flocks with clinical signs dominated by ataxia and an inability to walk, infectious agents had to be eliminated as potential causes. In one case which I investigated, all the clinical signs suggested

ricketts as the problem but this was disputed by the nutritional department. Without appropriate action, the problem became worse and ultimately thirty thousand chickens of two weeks of age had to be destroyed.

Another most unusual clinical condition in breeder flocks that was never seen before or described in any publication was investigated. A diligent and daily follow up in affected flocks including histopathological lesions pointed to the possibility of a nutritional deficiency of vitamin E or selenium. Trials were set up immediately to establish the definitive cause which proved to be selenium responsive deficiency condition. The results were reported and it was the first ever report of selenium deficiency in broilers in Australia. This publication then became the most important document to approve the inclusion of selenium in poultry feed in Australia.

Poultry Information Exchange (PIX)

From mid sixties onwards there was rapid expansion of customer technical services offered by the poultry industry which reflected negatively on the services offered by the Queensland Department of Primary Industry (DPI) poultry section. After many reflections a meeting was held at the Egg Marketing Board premises to find a way for the poultry industry and the DPI poultry section to cooperate more closely. The meeting participants included, B. Bains. N. Milne. R. Byrnes. G. Gilbert and B. Moffatt and all agreed that working in collaboration was the best way forward. The starting point was to have a joint seminar or a conference that focussed on issues facing poultry farmers. The key to this cooperation was to give this conference a name that reflected that need. Therefore the name given was the Poultry Information Exchange (PIX) to emphasize that we both learn from each other.

Papua New Guinea (PNG)

The poultry industry in PNG was being developed by Australian expatriates with some technical support from the local Primary Industry Departments. PTL became the major supplier of feed and day old chickens to satisfy at least 90% of the PNG requirement. My first visit to Port Moresby was in 1968 and in the subsequent 8 years visited at least twice to all regions of PNG in providing

technical support as well setting up standard procedures for management, medication and vaccination for all types of poultry. It perhaps was the first time a poultry veterinarian from an Australian commercial enterprise provided this service to the PNG poultry industry.

Academic Experience

From 1973 to 76 inclusive I taught the Poultry Medicine course at the University of Queensland Veterinary School. It was an opportunity to share my practical experience with future colleagues. In my opinion, the Poultry Medicine course should be introduced in 4th year to encourage students to seek out poultry industry opportunities with adequate time in hand. Interested in the academic world, I accepted a position of Senior Lecturer at Massey University Palmerston North NZ commencing in 1977. From Massey University I came to Roche, about which I shall reveal in the next issue of *DANDER*.

Experiences gained during this period was shared with others through approximately 30 publications. In addition, I published a book *Manual of Poultry Diseases* which, by courtesy of Roche, was given free to all relevant people in the international poultry industry and with no royalty to me. The book reflected personal experiences and was not a review of poultry diseases. It was my way of sharing my knowledge and thanking the poultry industry and many colleagues who help me to acquire this knowledge. The popularity of the book soon became apparent when I learnt that in Taiwan, a translated copy in Chinese, was sold in book-shops. The book was also translated into Korean and Arabic languages with my consent and without any royalty to me.

Membership of Australian College

With the establishment of the Australian College of Veterinary Scientists, some colleagues were awarded membership status without examination. The criteria used for the selection of individuals for this award and the privilege were never revealed, even on inquiry. I was given an exemption from the preliminary examination and completed my membership during 1976.

The above is the second instalment of Balkar Bains' memoir *Experiences and Rewards in Pursuit of a Career in the Poultry Industry*. The third and final Chapter based on Balkar's experiences while working for Roche will be published in the September edition of *DANDER*.

Editor

Chlamydiosis and IBH Research Projects in Search of Specimens

The University of Melbourne in conjunction with RIRDC (Chicken Meat Program) are currently conducting two research projects on Chlamydiosis and Inclusion Body Hepatitis.

Chlamydiosis: The main aims of this project are to investigate the extent and prevalence of chlamydiosis in Australian poultry flocks and to develop reliable detection and serological tests for chlamydiosis in poultry.

Inclusion Body Hepatitis: The main aims of this project are to establish the necessary diagnostic tools to allow avian adenoviruses to be isolated and typed in Australia, to use these tools to investigate outbreaks of IBH in Australian breeder and broiler flocks and also to investigate if IBH outbreaks are linked to immunosuppressive conditions Infectious Bursal Disease and/or Chicken Infectious Anaemia.

The researchers would appreciate submission of relevant specimens by the industry to further the objectives of each of these projects. The following forms describe information and specimens required for submission. Thank you for your cooperation

Amir H. Noormohammadi, Project Leader



FACULTY OF VETERINARY SCIENCE

Microbiology/Pathology Department,
250 Princes Hwy,
WERRIBEE VIC 3030

Ph: (03) 9731 2000
Fax: (03) 9731 2366

SUBMISSION FORM Suspected Chlamydia cases

(In conjunction with Chicken Meat Industry/University of Melbourne Research Project)

Submitted by		Contact Phone #		Date	
Type of Poultry Farm (eg: broilers, layer, breeder, ect.)		Poultry Company			
Location of Farm		Postcode		Size of flock	

Details of current outbreak

Age of affected birds		Date of onset		Date of onset of symptoms		Morbidity rate	
Symptoms of the affected birds:							
Lesions (where known) of the affected birds:							
Have you confirmed your diagnosis? If yes, please provide details of diagnostic tests.							
Additional Information including if multiple sheds are involved:							

Sample description (tick ✓ appropriate sample type and select applicable storage conditions of sample/s)

Whole bird		Liver		Spleen		Head and neck	
Fresh / Frozen		Fresh / Frozen		Fresh / Frozen		Fresh / Frozen	
Cloacal swab		Conjunctival swab		Choanal/ tracheal swab			

SAMPLE SUBMISSION REQUIREMENTS

- **Whole bird** is preferable where the sample/s can be submitted fresh within 2-3 days of mortality.
- For individual tissue samples, please collect all three tissue types (liver, spleen and head and neck) and store separately where possible, clearly labelled with tissue type and bird identification (to indicate different tissues from same bird).
- If submission of the tissues not possible, please take a dry swab sample and submit.
- Fresh samples, submitted chilled or on-ice within 2-3 days of collection, are preferable.
- Where samples will be submitted >3 days post collect, please freeze samples immediately upon collection.
- Samples are to be shipped to The University of Melbourne, Faculty of Veterinary Science (address as per letterhead) chilled or on-ice, marked 'ATTENTION: Heather Lambie and 'Refrigerate on Arrival'.

Contact details: Heather Lambie (Research Assistant) lambieh@unimelb.edu.au (03) 9731 2031
Dr. Amir Noormohammadi (Research Leader) amirh@unimelb.edu.au (03) 9731 2275

NOTE: All information supplied on this form is for research purposes only. Farm identification details will remain confidential.



FACULTY OF VETERINARY SCIENCE

Microbiology/Pathology Department,
250 Princes Hwy,
WERRIBEE VIC 3030

Ph: (03) 9731 2000
Fax: (03) 9731 2366

Submission Form for Suspected Inclusion Body Hepatitis (IBH) / Fowl Adenovirus (FAV) cases

(In conjunction with Chicken Meat Industry/University of Melbourne Research Project)

Submitted by		Contact Phone #		Date	
Proprietor of Poultry Farm		Poultry Company			
Location of Farm		Postcode			

Details of current outbreak

Age of affected birds		Date of onset		Date of peak mortality		Mortality rate at peak	
Symptoms & lesions (where known) of the affected flock:							
NB: Please provide a copy of the "Batch Management Record" where possible.							
Have you confirmed your diagnosis?				If yes how?			
Additional Information including size of the flock/shed and if multiple sheds are involved:							

Background Information

FAV Vaccination History of Parent Flock/s		FAV vaccine details (if applicable)	
IBDV Vaccination History of Parent Flock/s		IBDV vaccine details (if applicable)	
CIAV Vaccination History of Parent Flock/s		CIAV vaccine details (if applicable)	
Additional Information:			

Sample description (tick ✓ appropriate sample type and select applicable storage conditions of sample/s)

Whole bird		Liver		Thymus		Bursa	
Fresh / Frozen		Fresh / Frozen		Fresh / Frozen		Fresh / Frozen	

SAMPLE SUBMISSION REQUIREMENTS

- **Whole bird** is preferable where the sample/s can be submitted fresh within 2-3 days of mortality.
- For individual tissue samples, please collect all three tissue types (liver, thymus and bursa) and store separately where possible, clearly labelled with tissue type and bird identification (to indicate different tissues from same bird).
- Fresh samples, submitted chilled or on-ice within 2-3 days of collection, are preferable.
- Where samples will be submitted >3 days post collect, please freeze samples immediately upon collection.
- Samples are to be shipped to The University of Melbourne, Faculty of Veterinary Science (address as per letterhead) chilled or on-ice, marked 'ATTENTION: Penelope Steer' and 'Refrigerate on Arrival'.

Contact details: Penelope Steer (Research Assistant) psteer@unimelb.edu.au (03) 9731 2029
Dr. Amir Noormohammadi (Research Leader) amirh@unimelb.edu.au (03) 9731 2275

NOTE: All information supplied on this form is for research purposes only. Farm identification details will remain confidential.

AVPA Sustaining Members 2006

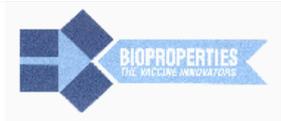
Please see the AVPA website for information on sustaining members and links to websites

Sustaining members contribute funds that help defray costs of services to members of the AVPA. We thank all sustaining members for their active interest and support.



Bayer Australia Ltd, 875 Pacific Highway Pymble 2073 NSW. (02) 9391 6218

Contact: Neil Cooper 0418 970 351 <neil.cooper.nc@bayer-ag.de>



Bioproperties Pty Ltd, 36 Charter Street Ringwood 3134 Victoria. (03) 9876 0567

Contact: David Tinworth 0418 334 766 david.tinworth@bioproperties.com.au



Elanco Animal Health, PO Box 516 Echunga 5153 SA. (08) 83888867

Contact: Daryl Meaney 0429 637034 <meaney_darryl@lilly.com>



Fort Dodge Australia Pty Ltd, PO Box 6024, Baulkham Hills 2157 NSW

Contact: John Reeves Fax (02) 9889 2151 <reevesj@fortdodge.com.au>

OzBioPharm

OzBioPharm Pty Ltd, 24 Parkhurst Drive Knoxfield 3180 Victoria. Tel/fax: (02) 9440 5360

Contact: John Doyle 0407 446 144 <john.doyle@ozbiopharm.com.au>



Sunnybrand Chickens, Pty Ltd Ewingsdale Road Byron Bay 2481 NSW. (02) 6639 6888.

Contact: Tony D'Andrea <tdandrea@sunnybrandchickens.com.au>

avpa



The Australian Veterinary Poultry Alliance

SIG of Australian Veterinary Association

ABN: 63 008 522 852

Tax Invoice

Application for new or continuing Membership 2007

The annual membership fee is:

AU\$49.50/\$NZ65.00 for ordinary membership and AU\$330/\$NZ380 for sustaining membership.

Australian members- fee is inclusive of GST.

NZ members- fee is GST exempt.

Membership fees are due by the 31st of January of each year.

Please complete details so that records can be kept current.

Name: _____

Employer: _____

Address: _____

Phone: _____ Mobile: _____

Fax: _____ Email: _____

Qualifications: _____

Special Interests: _____

Signed: _____

Date: _____

Please return the completed form and a cheque (payable to the Australian Veterinary Poultry Alliance) to the AVPA Treasurer:

Dr Peter Gray
Honorary Treasurer
Australian Veterinary Poultry Alliance
C/- Inghams Enterprises
PO Box 233
Morisset
NSW 2264
Email: pgray1@bigpond.com