showed that it shared high sequence identity with an equine influenza virus from Wisconsin USA isolated in 2003 (A/equine/Wisconsin/1/03(H3N8).

Viruses were subsequently isolated from horses at Randwick Race Course, Centennial Park Equestrian Centre and Morgan Park, Queensland. Nucleotide sequence analysis of the HA genes from all these viruses showed very high sequence identities with each other, the index isolate and the Wisconsin virus. These initial comparisons clearly demonstrated that the Australian viruses showed no significant sequence changes and therefore would have no expected changes in pathogenicity compared with other isolates of equine influenza that have caused outbreaks elsewhere in the world.

The ability of AAHL and EMAI to rapidly confirm the initial diagnosis and the immediate response of State veterinary authorities to prevent movement of horses are probably the most important factors in preventing nationwide spread and allowing eradication to remain a feasible objective. The subsequent and considerable laboratory testing in affected States has proved highly effective in providing a sound scientific basis for the control and subsequent 'proof of freedom' activities. This outbreak has provided a unique opportunity to exploit new diagnostic tools on an unprecedented scale to effectively deliver veterinary laboratory services in support of a response to a major emergency disease event.

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Dr Martyn Jeggo is the Director of CSIRO's Australian Animal Health Laboratory (AAHL) and has headed AAHL since September 2002. He brings a wealth of experience in controlling and detecting exotic and emerging animal disease to his role of Director of the Australian Animal Health Laboratory (AAHL). From 1996-2002, Dr Jeggo was the Head of the Animal Production and Health Science Section of the Joint Food and Agricultural Organisation/International Atomic Energy Agency (FAO/IAEA) Division of Agriculture, in Vienna, Austria. Dr Jeggo's many achievements include that he developed an international external quality-assurance program for veterinary laboratories; is a leading member of the Foot and Mouth Disease (FMD) Global Research Alliance and a Member of the Royal College of Veterinary Surgeons (MRCVS). In the time that Dr Jeggo has been Director of AAHL, some A$55 million has been brought in to improve and upgrade the facility.

Dr. Jef Hammond is a senior research scientist based at CSIRO's Australian Animal Health Laboratory (AAHL) in Geelong, Victoria, Australia. He is a virologist with expertise in developing livestock viral vector vaccines and investigating livestock immune responses to viral diseases. At AAHL, he leads terrestrial animal exotic disease diagnostics and coordinates foot-and-mouth disease (FMD) research projects which impact on Australia's preparedness to deal with an outbreak of the disease. Dr. Hammond is also the Australian coordinator of a global collaborative project (the Global FMD Research Alliance) that is developing a new generation of control measures for FMD. He is an expert on both the national FMD expert advisory group and the Australian FMD vaccine advisory panel. Recently, he has also fulfilled the role of scientific response coordinator at AAHL for the emergency response to the equine influenza outbreak in Australia.

Dr Peter Kirkland is a Veterinary Virologist and Principal Research Scientist in the Virology Laboratory for the NSW Veterinary Laboratory Network at EMAI, Camden. He has expertise in diagnosis and research of a number of major viral diseases of animals and has been responsible for leading the laboratory's response during a number of of exotic disease incidents over the last decade, including the recognition of 2 new viral pathogens.

New gene technology certification guidelines

Office of the Gene Technology Regulator (OGTR)

Over the past 12 months, the Office of the Gene Technology Regulator (OGTR) has implemented a number of major reforms to the certification guidelines for physical containment (PC) facilities. The recent changes are more outcome-focussed and are more aligned with other standards and regulations (www.daff.gov.au/aqis/import/general-info/qap/class-5/criteria, www.standards.com.au).

The revised PC4 guidelines focus on the highest level of containment with limited options due to the nature of work conducted in those facilities. By contrast, the recent PC2 laboratory, animal and plant guidelines allow facility managers to choose a range of approaches to contain genetically modified organisms (GMOs), depending on the type of work being undertaken.

People managing and working in laboratories or specialised facilities are expected to know about the work being conducted in their facilities and the risks associated with that work. With every facility being different, the new PC2 guidelines provide organisations with sufficient flexibility to tailor their own risk management measures to maintain containment. This outcome-focus has reduced the number of variation requests sent to the OGTR.

One of the most noticeable changes to the PC2 guidelines is their division into three sections:

- Requirements that must be met before certification can be granted.

- Conditions that must be complied with after certification has been granted.
- Behavioural requirements expected of facility users.

This change of format aims to focus on different areas of responsibility, with further clarification provided by additional guidance notes.

Simplified checklists have also been introduced for PC2 facilities to assist with annual inspections and a new application form has been developed that covers all categories of facilities.

The guidelines have been revised after extensive discussion with researchers working with GMOs, biocontainment engineers, architects and other stakeholders. While the focus is on containment of GMOs, the requirements aim to be consistent, where relevant, with the Australian/New Zealand Standard (AS/NZS) *2243.3:2002 Safety in Laboratories Part 3: Microbiological aspects and containment facilities)* and Australian Quarantine and Inspection Service (AQIS) criteria for Quarantine Approved Premises (QAPs). The OGTR is represented on a number of Standards-setting committees and routinely liaises with other regulators in Australia and overseas to monitor developments and promote harmonisation.

We strongly encourage anyone planning to build a new PC3, PC4 or large scale facility to contact the OGTR. Early discussions have helped identify problems before they occur and the office has developed considerable experience in finding solutions to most containment issues.

Over the coming year, the OGTR will be reviewing the PC3 guidelines. In the meantime, facility managers and Institutional Biosafety Committees (IBCs) are always welcome to discuss their particular circumstances with OGTR staff. Feedback from researchers and IBCs during the revision of guidelines was very helpful and OGTR staff are always willing to listen to suggestions on possible improvements.

The certification guidelines, application forms and checklists can all be found at www.ogtr.gov.au/pubform/certification.htm.

L-R: Gene Technology Regulator Sue Meek, Karina Dennis, Scott Phillips, Andrew Keal, Georgina Helman, Hai Pei Zhu, Ian Coleman, Eric Raedt, Andrew Berry, Robyn Cleland & Rebecca Newton.