

Diagnostic & Analytical Services

– Winter 2011

INTRODUCTION

The Diagnostic & Analytical Services Unit (DAS) is a laboratory-based support unit which operates across the Science & Research and Biosecurity functions. The roles of the unit are to:

- » Maintain a cost-effective diagnostic and chemical analysis service across animal and plant health, as well as detection of chemical residues in agricultural products;
- » Maintain a laboratory response capability for incursions of exotic pests and diseases;
- » Maintain standards and statutory compliance across the department's research and diagnostic laboratories;
- » Maintain quality assurance systems across the department's research, analytical and diagnostic laboratories.

RESEARCH CAPABILITIES

- » Plant health laboratories at EMAI (plant pathology and molecular diagnostics) and at the Orange Agricultural Institute (OAI) (entomology).
- » Chemistry laboratory facilities at Wollongbar Agricultural Institute (residues, organic and inorganic analysis of plants, soils, waters, animal products) and Wagga Wagga Agricultural Institute (Animal feeds and edible oils analysis, including olive oils). The Wagga laboratories carry accreditation from the International Olive Council for chemical and sensory analysis (the only laboratories in Australia to do so), which is essential to support the export of Australian oils.
- » Operates the EMAI Fruit Fly Production Unit, which produces sterile fruit flies for monitoring and research purposes.

- » EMAI hosts the Australian Domestic Animal Pathology Registry on behalf of Animal Health Australia. It is also home to extensive animal pathology slide collections, administered by the Agricultural Scientific Collections Trust. Similarly, OAI houses a comprehensive agricultural insect and mite collection. All collections are available to suitable institutions for research and teaching purposes.
- » All DAS laboratories operate under international accreditations for technical competence (ISO 17025 – NATA accreditation) and national accreditations where applicable (eg Wollongbar has TGA accreditation for analysis of tea tree oils). The Department also has most of its research laboratories certified under ISO 9001, which is an internationally recognised guarantee of quality – in this field, the Department distinguishes itself from other research providers.
- » This financial year to the end of May, DAS has performed 261,817 laboratory tests and earned revenues of \$5.4 million.
- » The State Veterinary Diagnostic Laboratory at EMAI provides animal health monitoring and diagnosis for NSW. Equipped with up to date facilities and technology, the laboratory underpins animal biosecurity for the state.

CONTACT US

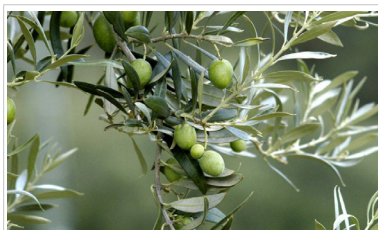
For more information on our full portfolio please contact Geoff Griffith 02 6626 1163 or greg.stevens@industry.nsw.gov.au

PROJECT UPDATES

SUPPORTING EXPORT MARKETS FOR OLIVE OIL

INTRODUCTION: Australia is a relatively new and small player in the export olive oil business. Nevertheless, due to a very active industry association (the Australian Olive Association - AOA) and the fact that only a small proportion of world production enters international markets, Australia has enjoyed success as an emerging producer. Australian export product mainly targets the premium, high-quality end of the market. Recently, growth export markets have included Spain, Italy, and the US.

FINDINGS: NSW DPI's Wagga laboratories, supported by the AOA, have successfully attained accreditation by the International Olive Council (IOC) for a range of chemical tests and sensory or organoleptic assessment of oils. Few laboratories in the world have attained this standard, and the Wagga laboratory is the only one in Australia to do so.



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PARTNERS: CSIRO, ACIAR

NEW BIOCONTAINMENT FACILITIES AT EMAI

The NSW Government is investing over \$56 million on upgrading buildings at EMAI to meet new biocontainment standards set by the Australian Quarantine and Inspection Service (AQIS). This project involves constructing new laboratories for virology and plant health, a new QC3 biocontainment block and refurbishing all other laboratories on the site. This will enable EMAI to safely handle organisms and prevent their escape from the site. DAS will be the operator of these facilities.

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RESPONSE TO EQUINE INFLUENZA OUTBREAK

INTRODUCTION: DAS has a successful history of early detection and comprehensive laboratory support for response efforts to eradicate exotic disease incursions. In the case of Equine Influenza (EI), an early initial diagnosis (within a few hours of receipt of samples at the laboratory) was possible due to advance training of staff and adoption of a real-time PCR detection technique. This enabled quick decisions by the Chief veterinary Officer to take measures to limit the spread of the disease.

FINDINGS: During the response operation, EMAI laboratories performed over 130,000 tests for the disease, providing far faster turnaround times

using the RT-PCR technology than had ever been possible previously. This was of material assistance in enabling the response team to eradicate the disease.

There is now an ongoing program initiated by the Australian Animal Health laboratories (AAHL) at Geelong to facilitate the adoption of RT-PCR technology in all Australian veterinary laboratories operated by State and Territory jurisdictions, backed up by a proficiency program, for a number of exotic diseases. This program will extend the same efficiency to all the other laboratories, with the added benefit that State laboratories do not need to hold any cultures of these organisms to perform the tests.

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SUPPORTING LIVESTOCK INDUSTRIES BY IMPROVING GENETIC TESTING

INTRODUCTION: DAS laboratories at EMAI were the first in Australia to attain NATA accreditation to perform veterinary genetic testing (there is still only one other laboratory with this accreditation). Our laboratories continue to develop cutting-edge tests to support livestock industries by identifying genetic flaws and providing industries with the tools to manage the prevalence of these flaws in the national herds and flocks

This is of particular value in the case of some of the newer breeds to this country, which usually have smaller flocks which, because of their narrow genetic base (ie, relatively few individuals in the foundation flock or herd), may have greater prevalence than in their home countries. This has included a fatal (though rare) flaw in sheep and a number of problems with beef herds. In the case of the sheep, information available to breed societies has made it possible for them to adopt policies to manage this problem. The beef cattle issues are ongoing, and have been exacerbated by the loss of genetic material occasioned by the response to a recent overseas foot and mouth disease outbreak. In the future, it is likely that more tests will be developed to help breeders identify desirable characteristics to support their breeding decisions.



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PIS&R PROJECT UPDATES