

A WEBSITE DOCUMENTING AUSTRALIAN SHEEP GENETICS RESEARCH FLOCKSA.A. SWAN^{AE}, N.M. FOGARTY^{BE}, J.H.J. VAN DER WERF^{CE}, B. NORRIS^{DE} and S. DOMINIK^{AE}^A CSIRO Livestock Industries, FD McMaster Laboratory, Armidale, NSW 2350^B NSW Agriculture, Orange Agricultural Institute, Orange, NSW 2800^C Dept of Animal Science, University of New England, Armidale, NSW 2350^D CSIRO Livestock Industries, Queensland Bioscience Precinct, St Lucia, Qld 4067^E Australian Sheep Industries CRC, FD McMaster Laboratory, Armidale, NSW 2350

Genetics research in the Australian sheep industry is an area of activity which has been pursued for more than 50 years. Over that time, CSIRO, state departments of agriculture, and universities have initiated many experimental flocks. In these experimental flocks, phenotypic data and biological samples have been collected. These measurements and samples represent a huge number of individual animals from relevant industry breed genotypes, managed in a variety of environments. In establishing its genetics research program, the Australian Sheep Industries CRC recognised the value of these historical data and samples, as a starting point to investigate the genetic relationships between wool, meat, reproduction, disease and feed efficiency traits.

Table 1. Organisations contributing to the genetics research flock web site at its inception.

Organisation	Flocks	Organisation	Flocks
CSIRO	5	Queensland DPI	1
DPI Victoria	2	SARDI	5
Dept Agriculture WA	4	University of Melbourne	2
NSW Agriculture	7	University of NSW	1

The first step in making efficient use of these historical data and samples was to conduct a survey to collect information on the flocks. To date, the survey has focussed on more recent flocks for which the data and samples are readily available. The numbers of responses (i.e. flocks) by organisation are shown in Table 1. The complete survey data have been made available in a searchable form on the CRC's web site (<http://www.sheep.crc.org.au>). Users are able to search flocks based on breed, trait or trait group combinations, and availability of DNA samples. For example, it is possible to conduct a search of fine wool Merino flocks where fibre diameter and feed efficiency data were measured, and DNA samples are available.

The web site will be used within the CRC quantitative genetics program to identify data where measurements are available on trait combinations for which there are few or no reliable estimates of genetic parameters, for example, between carcass measurements and wool quality. The intention is to highlight where existing data sets could be combined for use in "meta" analyses to improve the precision of the resulting estimates. In addition, null results from queries are also useful, in that they provide information on the need to collect new measurements. There is also the ability to search for flocks where DNA has already been collected or to provide information of interest to the newly initiated CRC Tissue Resource Bank and Database. The formation of the tissue bank and database is an associated CRC activity, which aims to consolidate and catalogue sheep tissues and DNA from resource and commercial flocks with extensive pedigrees and trait measurements for sheep molecular and functional genomics research. The tissue bank is currently located at CSIRO Livestock Industries Brisbane. Submission information and collection procedures can be accessed at the CRC web site.

The resource flock survey web site is publicly accessible, and is a useful tool for scientists and students in identifying research projects. It must be recognised that although the flocks documented on the web site were established as genetics experiments, they are also useful to researchers of other disciplines. Detailed knowledge of the genetic background of animals is valuable in many situations. While it would be desirable to provide access to animal records from experiments directly, this is not currently possible. Access to data, biological samples, or animals, and the pursuit of any collaborative research, must be negotiated directly with the organisation identified for the flock of interest. The inclusion of other suitable flocks is encouraged and can be done by contacting the authors and completing the survey form, which is available for download from the Sheep CRC web site.

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