

Big data drives dairy genetics



The recent release of Australian Breeding Values (ABVs) and the upcoming joining season will have dairy farmers around the country thinking about the next best sires to use over their herds.

While breeding enthusiasts will delve into great detail and enjoy lengthy discussions with others, many dairy farmers want a simple process to make good breeding decisions.

DataGene caters to all ranges in the spectrum, publishing ABVs for 40 traits including production, type, health as well as the Balanced Performance Index (BPI) which combines in a single figure the key traits that influence a cow's contribution

to the dairy business. The simplest way to choose bulls is to look for the Good Bulls icon; these bulls meet DataGene's minimum criteria for BPI and reliability and are available for purchase.

Both the breeding enthusiast and the pragmatic decision maker can have confidence that Australia's genetic evaluation system delivers the best prediction of an animal's performance under local dairying conditions.

Dr Matt Shaffer, DataGene CEO, said the Australian system was one of the best in the world because it is independent, underpinned by science and backed by big data.

"ABVs are based on Australian data to give the best possible prediction of an animal's performance under Australian conditions. Other breeding values are designed to give the best predictions for performance under their local conditions," he said.

Each ABV run involves evaluating more than 66 million animal/trait combinations and 250 million observations in the Australian database.

"Overseas data enhances the Australian system however it is adjusted to allow for environment and management differences between countries."

The Australian dairy industry has given the responsibility of genetic evaluation to DataGene, an independent, industry-owned organisation that has no commercial interests in selling semen or cattle.

Australia's genetic evaluation system is underpinned by world class science through the DairyBio collaboration. DairyBio is a joint initiative between Agriculture Victoria, Dairy Australia and the Gardiner Dairy Foundation. The team works in purpose-built facilities at the AgriBio Centre for AgriBioscience at LaTrobe University, Melbourne. With industry organisations like DataGene, Holstein Australia, Jersey Australia and NHIA also onsite, it is one of the few integrated genetic facilities in the world, bringing together researchers and industry to create practical tools for dairy farmers.

Multiple Australian studies have determined that higher genetic merit cows (based on BPI) produce more milk solids than their herdmates with lower genetic merit. They also last just as long, if not longer in the herd, debunking the theory that higher genetic merit cows are less fertile and less likely to last. These findings hold across different breeds, dairy regions and feeding systems.

Dairy Australia invests heavily in genetics and these studies confirm the investment pays dividends for farmers. Genetic gain is permanent and compounds year on year, contributing to 30% of productivity gains on Australian dairy farms. It's definitely worth making every breeding decision count," Dr Shaffer said.

The August ABV release Good Bulls Guide are available from www.datagene.com.au

Australia takes seat at global genetics table



Newly appointed Interbull Chair, Dr Matt Shaffer from DataGene, Australia with retiring chair, Reinhard Reents from Germany.

When it comes to international dairy genetic evaluation, Australia now plays a larger role with the election of Dr Matt Shaffer, as Chairman of the Interbull Steering Committee.

Australia has had a strong association with Interbull for more than twenty years. By exchanging evaluation information with Interbull, DataGene is able to provide predictions of genetic merit for overseas sires based on daughter performance in 35 different countries which is most helpful to provide a common ABV platform upon which to compare animals - regardless of country or company.

An Interbull participant for the past 20 years, Australia exchanges evaluation

information allowing predictions of genetic merit for overseas sires based on daughter performance in 35 different countries to be converted to Australian Breeding Values (ABVs) and Indices (BPI, HWI, TPI).

Matt's position means Australia is at the centre of global developments and well placed to stay at the forefront of dairy genetic evaluation. More information about Interbull www.interbull.org/index

DataGene is an initiative of Dairy Australia and the herd improvement industry.

For more information contact:

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