

# Genomics Update

**World Technical Conference – Ireland 2019**

Charolais Society of Australia Ltd

Colin Rex – General Manager



**Charolais Society of Australia Ltd**



# DNA Regulations

- Transitioned to SNP technology 1<sup>st</sup> January 2012
  - All overseas sires require GGP-HD (was 80K, now 130K)
  - All local sires require 50K
  - All ET Donors require 50K
- Since 1<sup>st</sup> January 2018 all sires are sire verified if possible
- All imported semen sires from 1<sup>st</sup> July 2019 require full parent verification.



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# Single Step Analysis

- Currently in Australia the following breeds have a Single Step Genomic Analysis
  - Angus
  - Wagyu
  - Hereford
  - Brahman

Charolais are hopefully next!



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# Single Step Progress

- Currently have 2,100 SNP profiles including 80 High Density (80K+)
- Averaging new 70 profiles a month
- Neogen are currently profiling a selection of sires at 770K for research.
- Stockpile of 1,200 DNA samples on hand from our BIN research project.



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# Interesting Side

- Homozygous Poll testing >1350 in last three years
- 581 Homozygous Poll identified
- 540  $P_cP_c$
- 40  $P_cP_f$
- 1  $P_fP_f$
- (472 Poll tests 2019, 633 Poll tests 2018)



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# Sire Verification

- Regulation all new sires to be verified to their sire if possible, e.g. SNP profile to test back to.
- 2019 YTD
  - Submitted 343 samples
  - 27 Sire failure (All since resolved) 7.8%
- 2018 Submitted 405 samples
  - 47 Sire failure (Most since resolved) 11.6%
  - 2 Unresolved (Downgraded to A Grade)



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# In The News

Angus herd \$200,000

One bull, Two samples

Society Disclaimer

Paper trail: Irelands Angus Kelleher K34 was offered in the stud's August 2015 sale with incorrect information on its sire.

**CATTLE**

## Irelands Angus case: Disclaimers no cover for sire misrepresentation

PETER SOMERVILLE, The Weekly Times  
April 3, 2019 12:00am  
Subscriber only

STUD breeders can no longer rely on written disclaimers for protection from genotype or database errors after a [landmark court decision](#) last week.

A NSW court ruled Wagga Wagga stud Irelands Angus sold a bull, Irelands Kelleher K34, for \$18,000 to Bongongo Angus in August 2015, only for it to be discovered the bull's sire was not in the stud's August 2015 sale catalogue.

**Court orders Ireland's Angus to pay more than \$200,000 following a mistake in a sale catalogue**



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# Ramifications

- Many herds now sire verifying pre sale
- Some studs holding sires sold to registered herds prior to delivery
- Angus Society now identify all pedigree verification online/catalogues etc

The suffix displayed at the end of each animal's name indicates the DNA parentage verification that has been conducted by Angus Australia.

PV : both parents have been verified by DNA

SV : the sire has been verified by DNA

DV : the dam has been verified by DNA

# : DNA verification has not been conducted

E : DNA verification has identified that the sire and/or dam may possibly be incorrect, but this cannot be confirmed conclusively.



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# The Future

- Implement Single Step Analysis
- Involvement Research Projects
  - Australia – Multi Breed EBV



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