

Move to SNP based DNA

In order to be in a position to utilise genomic technologies, Herefords Australia have decided to move DNA testing from microsatellite technology (MIPs) to Single Nucleotide Polymorphisms (SNPs). All new samples received for DNA testing as of 1 July 2016 will be tested using SNP based tests.

SNP based DNA gives Herefords Australia the opportunity to genotype animals that will enable more accurate performance recording, better detection of genetic conditions as well as more accurate linkages through genetic relationships rather than just pedigrees.

Although our regulations only require a DNA profile to be kept on file, new genotyping technologies available should be considered by all members over and above a mandatory DNA profile. Our recommendations are:

Test Type	Recommended Animal Type
High Density (150K) Genotype (GGPHD)	<ul style="list-style-type: none"> • Stud Sires (bulls used in seedstock herds) • AI sires • ET Donor Cows
Low Density (40K) Genotype (GGPLD)	<ul style="list-style-type: none"> • Commercial Sires (bulls used in commercial herds)

Please note that there is no difference in the cost of a DNA profile for PV using SNP as opposed to using MIP.

We have currently arranged a deal with UQ whereby any GGPLD or GGPHD genotype includes testing for the three genetic conditions. This offer is only for a limited time and we encourage members to take advantage of this option as it is very cost effective.

One of the challenges that will arise with moving to this new technology is that for parent verification (PV), both animals need to be tested using the same technology. Therefore, during the changeover period, each request for parent verification will be dealt with on a case by case basis with the following options being the preferred sequence:

1. If the sire has a MIP DNA profile, then the member requiring parent verification is responsible for obtaining a SNP DNA profile for the sire.
2. If it is not possible to obtain a SNP DNA profile for the sire, the calf can be re-tested using MIP DNA for PV.
3. If the sire has no DNA profile on file, and it is not possible to obtain one, the member requesting the PV can do a DNA build using siblings by the same sire.
4. If all of the above are not possible then exemption needs to be requested in writing to the board of Herefords Australia.

Summary of SNP DNA test costings

SNP Test Type	Cost (incl. GST)
SNP Parentage Profile with PV (SEQ1 + PV)	\$30.80
Low Density Genotype (40K) (GGPLD)	\$75
High Density Genotype (150K) (GGPHD)	\$130

(effective 26 July 2016, prices are subject to change)