

Case study

Holstein UK uses Performagene™ to collect 400 samples in parentage analysis of herdbook

About the study

Holstein UK is Europe's largest independent breed society. It offers a range of services to the dairy farming industry targeted at improving the genetics and profitability of the Holstein breed.

One of the services that Holstein UK offers producers is parentage analysis. The organization required a reliable and flexible approach that would allow sample collection at any point during the cattle's lifecycle and could be easily, quickly and reliably administered by anyone without the need for training.

Current collection method

Currently there are three main DNA sample collection methods used for genetic analysis: tail hair, ear tags or blood. Holstein UK currently collects tail hair for its parentage analysis. Although these samples are easily attainable, the disadvantage of tail hair is that it is not scalable in the lab due to the significant amount of sample preparation required in order to access the DNA. As well, the sample may be contaminated or not contain enough bulbs which presents a problem for the lab because they are unable to obtain enough high quality DNA.

Why Performagene?

Holstein UK chose to evaluate Performagene because they were looking to increase the number of samples collected for additional genetic testing, improve efficiencies in the lab and ensure a robust and reliable sample. With the introduction of new genetic tests for performance traits, the collection method must provide adequate DNA quantity and quality. Performagene met all of Holstein UK's outlined requirements.

Results

During the pilot phase of the project, Holstein UK offered a trial and questionnaire to their members to evaluate producer feedback on the new collection method. Out of the survey respondents, 90% said Performagene would be their ideal sample collection method for their parentage/genetic testing. 88% of those surveyed found the product easy-to-use, and 92% of the respondents felt anyone could take nasal samples.



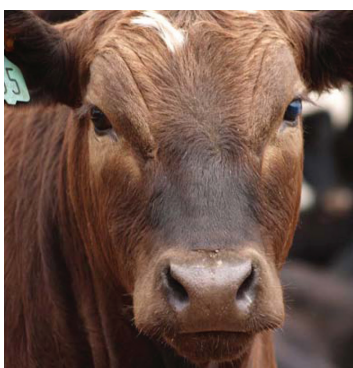
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Holstein UK, members questionnaire



Based on the survey feedback from producers, Holstein UK concluded that Performagene has the advantage over traditional collection methods because it enables sample collection at any point during the cow's life. The method is also quick and easy-to-use.

Holstein UK also worked with their members to collect 290 nasal samples using Performagene to assess sample reliability for use on downstream genetic applications. Using an efficient quick to PCR processing method at the lab, the samples provided a 97.15% call rate on the ABI PRISM Genetic Analyser for microsatellite analysis.



All-in-one system for collection, stabilization and preparation of DNA from livestock nasal samples.



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