

Abstract Submission Form

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| Preferred presentation | Oral |
| Preferred session | Session 3a / 3b: MRSD-SC - Factors Affecting the Accuracy of the Recording Day |
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| Title of your paper | The carry-over contamination of milk recording samples; learning from the past to improve sample quality in the future. |

Insert ABSTRACT text

The carry-over contamination of milk recording samples; learning from the past to improve sample quality in the future.

Contamination of a milk recording sample caused by mixing one animals milk with another is as old as milk sampling has taken place in buckets, jars, meters and now AMS. Whilst the challenge remains the same, the milk sample can now be used for multiple purposes – with differing levels of accuracy needed, and major consequences if the sample is not a fair representation of the animals performance.

ICAR's role is to provide toolkits for Milk Recording Organisations (MRO's) to help improve the quality of samples coming off farm. ICAR's Measuring, Recording and Sampling Devices (MRSD) Sub Committee has been asked to review this area, build consensus working with the ICAR family to provide a set of guidelines, templates, working practices and suggested error rates by type of test result.

Milk samples are used for testing different components and it is known that they affect the carry-over and credibility of the services that use them. Carry-over is the mixing of milk from one cow with another cow during sample collection, which can cause contamination and dilution of the results. Credibility is the accuracy and reliability of the results for the farmer and the industry.

We have focused on six major components: protein, butterfat, SCC (somatic cell count), Johne's (a

bacterial infection), BVD (a viral infection), and PAG (a pregnancy indicator). For each component, it was studied which service is affected by it, the risk of carry-over, and the worst possible negative outcome (if the cow dies).

Protein and butterfat are used for core milk recording, which measures the yield and quality of milk. They have low and medium carry-over risk, respectively, and low negative outcome regarding the cow. SCC is used for cell count services, which monitor the health and mastitis status of the cows. It has medium carry-over risk and medium negative outcome if the cow dies. Johne's and BVD are used for disease testing services, which detect and prevent the spread of infections. They have medium (to high) carry-over risk and high negative outcome if the cow dies. PAG is used for pregnancy services, which confirm and monitor the reproductive status of the cows. It has high carry-over risk and high negative outcome for effective breeding programs.

The only way to spot a potential carry-over issue is not necessarily in the milking parlor whilst sampling is carried out. There are other factors that can influence the carry-over potential of a recording device, such as the design, operation, maintenance, and cleaning of the equipment, the mixing and subsampling of the milk, the identification and order of the cows, and the training and motivation of the staff. Therefore, it is important to follow the best practices and guidelines provided by ICAR and the milk recording organizations to minimize the carry-over contamination and ensure the credibility of the results.

The increasing role of AMS has led the MRSD SC to ask what should be looked for at the ICAR test centres, which is part of another abstract.

Outcomes

The plan is to present the problem at the ICAR meeting in Bled, in May 2024, garner support from the ICAR family and then build a questionnaire which will allow a unified set of guidelines to be built, along with standard investigation reports that can be used on farm to gather information and be used as a training tool.

Enter keywords

milk recording; carry over; milk sampling; AMS