Report of ICAR Working Group on Lactation Calculation Methods

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ICAR Lactation Working Group

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- ➢ **Mauro Fioretti, Italy**

- ➢ **Larry Schaeffer, Canada**

- ➢ **Paul Van Raden, United States**

- ➢ **Filippo Miglior, Canada**
  Chair

Activities

➢ **Collaboration between Germany (VIT) and France (Institut de l'Elevage)**

- **Alternate (am/pm) testing scheme is more and more implemented on the farm level to reduce costs**

- **In France Lactocorder is widely used which provides milk yields from both morning and evening milkings. However, 24-hour daily fat and protein yields have to be estimated either from morning or evening milking**

- **A new approach was developed by extending the current German model to estimate daily yields, in which the other milk yield of a test-day was considered as an additional covariate**

- **The newly developed model was proven to be more suited for estimating daily yields from Lactocorder**

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Activities in this area

➢ **Belgium (University of Liege & Walloon Breeding Association)**

- **Improvement of Best Prediction (BP) method originally developed by Paul VanRaden at AIPL/USDA, to compute 24hr and lactation yields**

- **Labeled as 'Modified Best Prediction' mBP**
  - **The main differences between mBP and BP are the definition of the standard lactation curves and the inclusion of individual genetic value**

- **This method can be run daily herd by herd, and farmers can receive results a few days after milk recording**

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Progress on in-line farm analyzers

➢ **The objective is to obtain data from various farms with AfiLab installed**

- **No data have been obtained yet**

- **In Canada, there are not any AfiLab installed yet**

- **In US, 2 University research herds (with AfiLab) have been contacted (Virginia Tech and Florida)**
  - **Preliminary results from Virginia presented in Toronto at Precision Dairy Farming Conference (2010)**
  - **Preliminary results presented at farm visit during DHIA conference in March 2010**
  - **Some fine-tuning is still in progress**

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Need for an *ad-hoc* research project

➢ **At least 10-15 farms with AfiLab installed for a total of a 1,000 cows**

➢ **At least 1 year of data**

- **From AfiLab**
  - **all milkings (milk, fat, protein and lactose + SCC info)**

- **From DHI**
  - **5 days consecutive DHI samplings (one time in summer and one time in winter)**
  - **Routine test-day milk weights and samples every 4 weeks**

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Objectives

➢ **Assess the accuracy of fat and protein % of AfiLab vs. the DHI sample (at different lactation stages, parities, and production levels)**

➢ **Estimate optimum number of days/milkings to obtain an accurate 24 hr yields of fat and protein**

➢ **Estimate phenotypic day-today variability of fat and protein % within cows**

➢ **Finally, AfiLab provides some approximate indication of SCC , which should be assessed as well**

Summary

➢ **Improved methods have been studied within and outside the WG**

➢ **Little progress on research with on-farm milk analyzers**

- **Strong need for a well outlined research project**