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Presentation Abstract

Presentation: 241 - Predicting the Future Average Production of a Dairy Cow

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Abstract:

Background:

To sustain optimal milk production and consequently a profitable economy dairy farmers are taking the decision of which cows to cull on a daily basis. Thus it is essential to continuously evaluate the cows within the herd to best predict the future production of a cow.

Purpose:

The aim of this project was to develop a novel method for estimating the average future production of a dairy cow.

Methods:

Using data from 610 Danish farms with Holstein cattle over a period of 23 years, we fitted milk yield in energy corrected milk (ECM) and the total somatic cell count (SCC) farm-wise, correlation of these between lactations and survival curves dependent on reproductive status. This information was combined to a single value that gives the predicted future average production per day per cow.

Results + Conclusions:

We demonstrated that our method was 50% better to predict the future production of dairy cows compared to methods only using current value or short term information. We also demonstrated how lactation and SCC curves differ markedly both in level and shape from farm to farm, which gives farm based curves better predictive power than a single standard curve used on all farms.

Relevance:

A cow that is worth 1,000 Euros and only takes a place in the stable for one year is more valuable than a cow that are worth the same value but over a two-year

period. Therefore the estimate of the future value of a cow should use the predicted expected lifetime as denominator.