Economic losses due to culled and diseased dairy cows

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Dairy cows differ considerably in their ability to adapt and to avoid the risk of being culled. The management has direct impact on the portion of diseased and culled cows in the herd. It is therefore of high importance to consider the degree of economic losses that occur in the case of diseased or culled cows. The objective of the study was to develop a feasible concept that enables to provide this valuable information to the farm management.

Results:
Data calculations revealed a high variation in productivity and economic losses between and within dairy herds. No scale effects appeared in this analysis. There was no link between herd size and extent of losses due to culled cows. The variation resulted in considerable differences in the economic impact of culled cows in relation to persistent cows (see Fig.2). The new approach helped to assess the contribution of different animal groups (e.g. culled cows) to the operating results. For example, Figure 3 shows the losses per culled cow in relation to lactation numbers.

Material & Methods:
Based on milk recording data of individual cows which were transformed into individual lactation curves within a defined period of 365 days, costs and revenues were distributed to cow individual performance data. Data transformation of culled cows and those that are persistent in the 365-day dimension was conducted separately for each lactation number. The realized milk revenue, sales of breeding animals and other revenues from the dairy business were linked to the milk yield. All expenses of the dairy business except the replacement costs were transformed into daily keeping costs. Data analysis was based on a newly developed tool relying on the herd management software Herde®. To assess the meaningfulness of the results deriving from this approach, the analysis was carried out on 30 commercial dairy farms in Germany.

Results:
The approach uncovered great economic losses due to culled cows. This has not been visible so far to the farm management and thus tends to be underestimated in daily consulting practice. Furthermore, the approach enables a robust assessment of the impact of management changes through an in-house comparison between defined subgroups of animals.