

# Abstract Submission Form

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**Preferred presentation**

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Session 1: WG Animal Data Exchange – Decision Support Tools of the Future – Promoting Sustainability Farm Management

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**Title of your paper**

HeiferHub – A decision support tool to forecast sales of beef calves and future heifer replacements

**Insert ABSTRACT text**

Historically, the process of maintaining the preferred milking and replacement herd size was relatively simple. Cows were bred exclusively to dairy semen and typically the number of female calves generated would be adequate to ensure that enough animals would be available to replace those that needed to leave the herd for either voluntary or involuntary reasons. Excess heifer inventories and dairy bull calves would be sold at market prices.

Since the introduction of breeding dairy cows with AI beef bulls and the availability of sexed semen to create more dairy replacements, the decisions surrounding the number of cows to breed to the various types of semen has become more complex. US dairy farmers can sell a dairy x beef cross calf for a significantly higher price than a dairy bull calf. Producers have reported revenues for a single cross bred calf in the range of 200 to 600 dollars while dairy bull calves would typically generate less than 100 dollars. This provides a significant additional source of revenue for dairy producers, especially in times when milk prices are low. To seize on this opportunity, dairy farmers have increased the number of animals bred to AI beef sires, in addition they have lowered the number of animals bred to conventional dairy semen and increased the number of animals bred to dairy sexed semen to ensure enough

replacements are available in the future. The math can be complicated because there are many factors to consider post breeding, for example conception rates, pregnancy losses, stillbirths, heifer losses and the amount of involuntary culling that takes place on the dairy. Combine all these factors and it can drastically impact the final number of replacements available 34 months from when the cows are bred. Dairy farmers typically track conception and pregnancy losses, but information about calf losses, stillbirths, etc. is more complicated to obtain from on farm management software and requires access and summarization of historic records that typically are not retained on farm. Therefore, dairy farmers make their best guess which in some cases has led to an excess or in worst case scenario a shortage of dairy replacements. When a shortage occurs the dairy has to find suitable replacements typically at a higher price and genetically lower quality and assume the risk of disease exposure.

Utilizing the combined breeding, calving, culling and calf data, DRMS build a web based tool called HeiferHub. HeiferHub uses the various input variables necessary to forecast the number of available dairy replacement animals approximately 34 months from breeding. Expected number of dairy replacement animals are compared against the anticipated need of replacements and informs the producer if there is a shortage. In addition, it provides an economic analysis that projects the estimated costs in semen and revenue generated from selling excess female dairy calves, dairy bull calves and dairy x beef cross calves. Users can compare different breeding strategies but also analyze the impact on number of future replacements based on making management improvements. One example of this would be the anticipated extra revenue from selling dairy x beef cross calves if the farm builds a new calf facility and lowers calf losses.

HeiferHub provides a valuable tool that takes the guesswork out of making breeding decisions and makes a complex process much easier to manage.

**Enter keywords**

fourdraine, breeding, forecast, beef, heifer, replacements