Title of the presentation

Optimize Breeding and
Replacement Decisions using Milk
Recording Data

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ABSTRACT

Sorted semen has enabled important changes in how producers manage programs for replacement animals while optimizing overall genetic progress. Increased use of sorted dairy semen can achieve more female calves to replace existing cows or to expand the herd without significantly impacting conception rates. A ready supply of replacement heifers provides more options to replace cows that are low producing, have reproductive problems or are not healthy.

Genomic testing accelerates a herd's overall genetic progress when the highest genetic merit cows and heifers are bred with sorted dairy semen. Currently, there are more breeding options than just use of conventional or sorted dairy semen. Typically, the most valuable animals (heifers and higher genetic merit first lactation cows) were bred to sorted dairy semen at first service. Conventional semen usually was used for later services. Because dairy farmers are taking advantage of higher revenues for a dairy/beef calf, there has been an increased use of beef semen in the dairy industry. Utilizing Dairy Records Management Systems (DRMS) breeding data from over 2 million cows, recent results found not only increased use of beef semen but there have been recent changes in the age and timing that dairy cows have been bred to beef semen.

With so many options available including using cows as embryo donors or recipients, how can a producer determine the best breeding option for each animal and thereby maximize returns? Utilizing a prediction model developed by the University of Florida in collaboration with DRMS, decision support software was developed that reduces the guesswork while simplifying the process of making replacement and breeding decisions using individual cow performance data collected through milk recording.

This new decision support software features individual cow genetic information coupled with cow performance data to predict each cow's future performance and economic value. This information can be used to decide whether a cow should be retained, bred or replaced. In addition, the model assigns an economic value to each of the three potential mating sire choices: sorted dairy semen, conventional dairy

semen or beef semen. As inputs change daily, outcomes from the model will change as well, and, replacement and breeding decisions can be made based on the most current data.