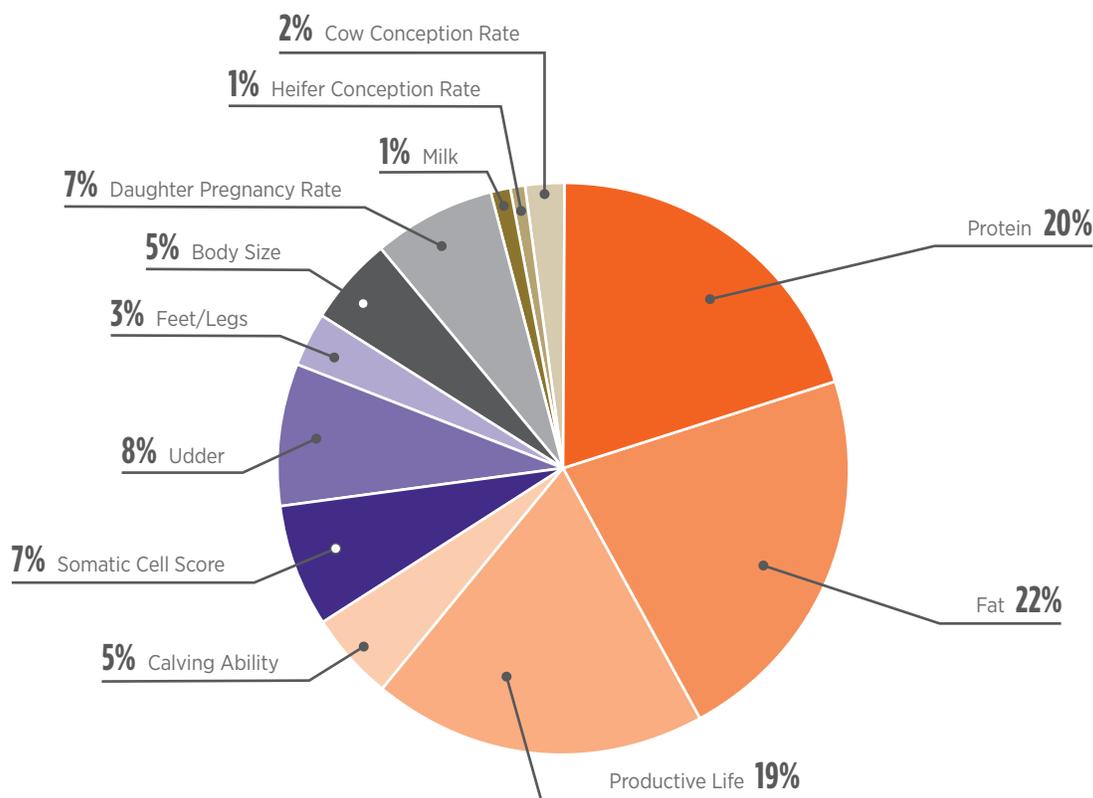# UTILIZING NET MERIT FOR COMMERCIAL HERD SUCCESS

Over the past 40 years the dairy industry has made significant progress improving milk yield. Future opportunities exist to continue to make gains in traits for health, longevity and reproduction.

As commercial dairy operations continue to grow, dairy producers are more intently focused on identifying animals with superior traits for longevity, health and performance. Today more than 70 percent of culling in the U.S. is related to reproduction, mastitis and lameness issues, while only 20 percent exit the herd for low milk production.[1] Putting special focus on traits such as reproduction and overall dairy wellness can lead to greater on-farm profitability by identifying less productive females that can be culled.

Indexes such as Net Merit (NM$) were created in an effort to reverse these negative trends and identify superior animals with the genetic makeup to stay in the herd longer and be more profitable.

NM$ helps to predict the expected lifetime profit of a female compared to the breed base, directly reflecting the income an animal can generate within its lifetime. The NM$ index includes economically relevant traits related to yield, health, longevity and calving ease. The pie chart outlines the economically relevant traits included in the NM$ index and their relative weights within the calculation.[2]

- **2%** Cow Conception Rate
- **1%** Heifer Conception Rate
- **1%** Milk
- **7%** Daughter Pregnancy Rate
- **5%** Body Size
- **3%** Feet/Legs
- **8%** Udder
- **7%** Somatic Cell Score
- **5%** Calving Ability
- **Protein 20%**
- **Fat 22%**
- **Productive Life 19%**

THE VALUE OF NET MERIT FOR COMMERCIAL PRODUCERS

For a commercial operation, selecting females utilizing the NM$ index can help generate increased profits from:

- Greater production of high-quality milk and components.

- Females with fewer health events throughout the lactation, leading to reduced economic losses and treatment costs.

- Earlier breeding across multiple lactations.
  - Problems at calving can impact subsequent reproductive performance. Reduced calving difficulty and lower incidence of stillbirths translates to reproductively healthier females within the milking herd.

Selecting, sorting and breeding animals utilizing NM$ information offers great opportunities for the dairy producer, including:

- Identifying females that can be the most productive for the dairy through greater milk and component yields.

- Selecting genetically superior females that are less susceptible to health issues and have a greater probability of successful breeding.

REAL-WORLD APPLICATION

NM$ directly measures the potential profit contribution an individual animal generates for your dairy operation. In a large commercial dairy population, animals tested with CLARIFIDE® showed a sizable range in NM$ dollars generated over the animal's lifetime. The chart below outlines an example of difference between the lowest and highest animals of $594. Because GPTAs represent only what average genetics an animal passes on to their offspring, one must double this value to represent the breeding value differences in a female's performance compared to herd mates. Therefore this GPTA NM$ would equate to $1,188 ($77 + $517 = 594 x 2) over their lifetime.[3]

CLARIFIDE reports NM$ as a dollar value, and a higher positive number indicates the animal has the genetic potential to produce more profit over her lifetime. NM$ values can be both positive and negative and have corresponding percentile ranks which are benchmarked against active cows evaluated across the dairy industry. Percentile ranks range from zero to 100, with higher percentages being more favorable.

NM$ predictions also have associated reliability values, which quantify the relationship between predicted and actual genetic merit. Reliability values range from zero to 99 and are expressed as percentages. The higher the reliability, the lower the chance the animal's expected genetic merit will differ from her true ability to transmit her genetics to the next generation.

Heifer	Minimum	Maximum	Dollar Difference
Net Merit $	-77	+517	594

PUT THE POWER OF CLARIFIDE TO WORK FOR YOU TODAY!

For more information on CLARIFIDE visit www.zoetis.com or call customer service at 877-233-3362.

1. National Animal Health Monitoring Service. 1997. Dairy '96, USDA. Animal and Plant Health Inspection Service. Veterinary Services, Fort Collins, Colo.

2. Cole JB, VanRaden PM. Net merit as a measure of lifetime profit: 2010 revision. United States Department of Agriculture, Agricultural Research Service. Available at: http://aipl.arsusda.gov/reference/nmcalc.htm#Genetic%20parameters. Accessed July 27, 2010.

3. Zoetis, Data on file, 2015