

Mature Weight and Cow Energy Requirement EPD

by Dr. Elizabeth Dressler, ASA Lead Geneticist

Expected progeny differences (EPD) for mature weight (MW) and cow energy requirement (CER) are now available for every animal through the Herdbook.org animal page. These EPD will be updated weekly for every animal through the International Genetic Solutions (IGS) weekly evaluation.

IGS and ASA are committed to the development of genetic tools that aid breeders in making selection decisions on economically and commercially relevant traits. Mature weight and energy requirements have a direct economic impact through cow salvage value and annual feed costs. These EPD provide breeders with tools to better assess cow productivity and efficiency.

MW EPD:

The MW EPD is expressed as the difference in pounds of cow body weight at six years of age and a body condition score (BCS) of 5. A higher MW EPD indicates a genetic tendency for heavier daughters at maturity, while a lower MW EPD indicates a genetic tendency for lighter daughters at maturity. For example:

Bull A = 100 MW EPD
Bull B = 50 MW EPD

You would expect daughters from Bull B to weigh 50 pounds less, on average, at age six and BCS 5 compared to daughters from Bull A.

Mature cow weights can be collected at any age after yearling. Entire cow groups should be weighed on the same day and within 45 days of weaning their calf. Members are encouraged to take a BCS at the same time as mature weight collection. Entire cow groups should be scored on the same day, and by the same person, for contemporary grouping.

Members can submit weights and BCS for cows of any age between two and 12. Records on the same cow across multiple years are also accepted.

CER EPD:

The CER EPD is expressed as the yearly difference in pounds of total digestible nutrients (TDN) required for a cow aged six years. A lower CER EPD indicates a genetic tendency for daughters that require less energy to support production, while a higher CER EPD indicates a genetic tendency for daughters that have higher energy demands. For example:

Bull A = 100 CER EPD
Bull B = 50 CER EPD

You would expect daughters from Bull B to require 50 pounds of TDN less per year at age six, on average, compared to daughters from Bull A.

Birth weight, milk, and mature weight EPD are utilized in prediction equations to estimate cow energy requirements representing the primary cow energy expenditures: gestation, lactation, and maintenance.

How to interpret

The MW and CER EPD are included in the percentile ranking tables found on Herdbook.org. Go to “Data Search,” “% And EPD Avgs,” and choose “Purebred.” Heavier MW EPD are assigned percentile ranks closer to 1%, while lighter MW EPD are assigned percentile ranks closer to 95%. This direction reflects the direct economic relationship between mature cow weight and salvage value, as heavier cows typically return a higher salvage value. However, the direction of the MW EPD percentile tables should not be interpreted as a higher MW EPD being “better.” Optimal mature cow size depends on a producer’s environment, feed resources, and management system. Selection decisions should focus on identifying the mature weight that best fits an individual operation, which may not be at either extreme of the population (1% or 95%).

For these reasons, the CER EPD was developed alongside the MW EPD. Lower CER EPD are assigned percentile ranks closer to 1% representing lower expected annual energy needs, while greater CER EPD are assigned percentile ranks closer to 95% representing greater energy requirements. The CER EPD provides breeders with a tool to manage feed resources and evaluate the energetic efficiency of their cow herd. Used together, the MW and CER EPD allow breeders to balance mature cow size with energetic efficiency when making selection decisions.

As part of their development, these EPD have undergone an extensive validation process. Members with any questions should contact Dr. Elizabeth Dressler, ASA Geneticist, at edressler@simmgene.com. 