



December, 2014 – Understanding Three New Indexes

FERTILITY INDEX (FI)

Female fertility plays a key role in the profitability of a dairy. The new Fertility Index (FI) combines values from three measures of reproductive performance to provide one overall fertility score.

Fertility Index = 18% HCR + 18% CCR + 64% DPR

HCR = PTA HCR (Heifer Conception Rate) – measures the ability of virgin heifers to conceive

CCR = PTA CCR (Cow Conception Rate) – measures the ability of lactating cows to conceive

DPR = PTA DPR (Daughter Pregnancy Rate) – measures the cow's ability to begin cycling, show estrus, conceive and maintain pregnancy

FI is calculated for Holsteins only and will replace DPR in the TPI formula. For further information please visit the link below:

http://www.holsteinusa.com/genetic_evaluations/ss_tpi_formula.html

FEED EFFICIENCY INDEX (FE)

The Feed Efficiency (FE) Index takes into account the individual feed costs to produce an extra pound of milk, fat and protein while accounting for differences in maintenance costs, housing costs and calving weights that may be attributed to the size of the cow. Cows that produce high volumes of milk without requiring high volumes of feed are rewarded in this index.

FE = (dollar value of milk produced) – (feed cost of extra milk) – (extra maintenance cost)

Dollar Value of milk produced = (0.0028 x PTA Milk) + (1.8 x PTA Fat) + (2.95 x PTA Protein)

Feed cost of extra milk = (0.0276 x PTA Milk) + (0.64 x PTA Fat) + (0.77 x PTA Protein)

Extra maintenance cost = 7.44 x Body Size Composite

FE is calculated for Holsteins only and will be included in the TPI formula with a 3% weight.

http://virtualdirectory.wwsires.com/dsp/news_releases/2014/New_TPI_2015.pdf

GRAZING MERIT DOLLARS (GM\$)

Management systems and styles significantly impact the type of cow that will be successful within a herd. GM\$, introduced in December 2014, is used to rank animals for grazing herds. Most grazing herds work on a seasonal breeding and calving system, so fertility is of very high importance. This is reflected in the index, with 32% of the value coming from daughter fertility and calving ability (DPR, HCR, CCR, CA\$). The other management traits, including PL (Productive Life) and SCS (Somatic Cell Score), make up 16%, resulting in a total value of 48% from management traits. Production comprises 39% of the value of the GM\$ index, with the focus on pounds of fat (PTAF) and protein (PTAP) produced. The final 15% of the GM\$ index value comes from improved udders (UDC) and feet and legs (FLC) with a negative emphasis on body size (BDC).

For a complete list of traits and values used in the GM\$ formula, please visit the link below:

<http://aipl.arsusda.gov/reference/nmcalc-2014.htm>