

Net Merit: Investing in Your Dairy Farm's Genetics

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Net Merit (MN\$) is a dairy selection index that incorporates many different traits that have economic value associated with them. After the most recent revision of Net Merit, it was calculated that an increase in genetic progress is worth \$8 million per year to the dairy industry on a national basis, when using NM\$ as the selection index. The traits and the weighting of traits used to calculate NM\$ have changed over time, as shown in the table below. These traits can be broken into fertility traits, yield traits, somatic cell score, and productive life.

Traits included	USDA genetic-economic index (and year introduced)								
	PD\$ (1971)	MFP\$ (1976)	CY\$ (1984)	NM\$ (1994)	NM\$ (2000)	NM\$ (2003)	NM\$ (2006)	NM\$ (2010)	NM\$ (2014)
Milk	52	27	-2	6	5	0	0	0	-1
Fat	48	46	45	25	21	22	23	19	22
Protein	...	27	53	43	36	33	23	16	20
PL	20	14	11	17	22	19
SCS	-6	-9	-9	-9	-10	-7
Udder composite	7	7	6	7	8
Feet/legs composite	4	4	3	4	3
Body size composite	-4	-3	-4	-6	-5
DPR	7	9	11	7
CCR	2
HCR	1
CA\$	6	5	5

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

- **Fertility Traits** include: Heifer Conception Rate (HCR), Cow Conception Rate (CCR), and Daughter Pregnancy Rate (DPR). These traits give an advantage to cows and heifers that require fewer services to conceive and to cows and first calf heifers that conceive more quickly after calving.

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- **Yield Traits** for milk, fat and protein use a base price of \$18.00 per cwt and milk containing 3.5% fat, 3.0% true protein, and 350,000 somatic cells/ml before deducting transportation costs and other discounts. Feed and health costs are also figured into yield traits, as well as milk prices.
- **Somatic Cell Score (SCS)** is calculated using a logarithmic formula and is a direct reflection of mammary gland health. The lower the SCS, the lower the labor costs, less discarded milk, fewer antibiotics used, and lower health costs associated with clinical and subclinical mastitis. A linear relationship exists between lower SCS's and higher milk production and more of an allowance for milk quality premiums.
- **Productive Life (PL)** includes the advantage of extended number of lactations, and is calculated from the costs of replacement heifers and culling costs. The longer cows are productive in the herd, the greater the benefits.

NM\$ is a selection index that all dairy farmers can use to select AI sires that could potentially have a greater economic impact on their herd. The factors that go into calculating the index change over time, because prices and traits we want to put a greater emphasis on change as well. Using AI sires that are genomically tested can help make breeding decisions more reliable and NM\$ is a tool that can be used to help generate more income from your cows.