



USE NORWEGIAN RED TO INCREASE PRODUCTION AND DECREASE DAYS OPEN

PIONEERING THE WAY FOR FERTILITY AND HEALTH TRAITS

The Nordic countries hold a remarkable place in the history of cattle breeding. They were among the first to pioneer the **development and application of genetic evaluations for fertility and health traits** in their breeding programs. Norway and Sweden were nearly parallel in the development of fertility and health programs, which both countries started using these traits in the 1970s. They were followed by Finland and Denmark, who successfully included health and fertility traits in their breeding programs during the 1980s. Norway and Sweden were the pioneers who **paved the way for advancements in today's world.**

THE IMPACT OF SELECTION INTENSITY

The dedication to selection intensity has allowed Geno, the world's largest supplier of Norwegian Red genetics, to pull away from the competition in the crossbreeding space. You can see the impact selection intensity through this example, looking at Norwegian Red and Viking Red sires.

When comparing the top five Norwegian Red and top five Viking Red bulls for Combined Fat and Protein, increased selection intensity is paying off. **The Norwegian Red sires offer 995 more pounds of PTA Milk, 20 more pounds of CFP, and 8 less days open than the Viking offering.**

Selection intensity is how selective breeders are in deciding how many individuals from the current generation will make offspring for the next generation.

PRODUCTION AND DPR TRAITS OF TOP 5 VIKING RED BULLS COMPARED TO NORWEGIAN RED BULLS

VIKING RED SEXED							
		PTA MILK	PTA FAT	PTA PRO	CFP	SCS	PTA DPR
	VR Value	1538	132	75	207	3.05	1.37
236SR9264	VR Ulvar	2275	112	90	202	2.88	1.53
236SR8510	VR Vehmaa	1845	117	82	198	2.89	2.80
236SR8550	VR Vioma-P	2029	103	91	195	2.88	2.33
528SR9955	VR Arvid	1968	106	86	192	2.86	2.80
	AVERAGE	1931	114	85	199	3	2

NORWEGIAN RED SEXED							
		PTA MILK	PTA FAT	PTA PRO	CFP	SCS	PTA DPR
252NR12297	Muri-P	3946	127	130	257	2.73	2.8
252NR12248	LYNDI-P	3126	129	108	237	2.75	4.2
252NR12222	SKOIEIN	2684	117	104	221	2.73	5
252NR12239	KLEIV-P	3233	117	103	220	2.85	6.7
252NR12265	SMENES-P	3247	108	109	217	2.76	3.8
	AVERAGE	3247	120	111	230	2.76	4.5

NORWEGIAN RED ADVANTAGE	+1316	+6	+26	+32	0	+2
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Data converted from country of origin proof to US RDC proof using Interbull Conversion Equations (December 2023). Both are U.S. Ayrshire Base.



SIGNIFICANCE OF BREED PURITY IN CROSSBREEDING

Norwegian Red sires not only excel in genetic improvements but also offer advantages in breed purity. The purity of a sire is crucial in crossbreeding programs since it affects both consistency and heterosis. Impure sires can introduce genetics from different breeds and lead to unpredictable outcomes.

The effect of purity on consistency and heterosis is explained by the way genetic material is passed from parent to offspring. Each sperm cell carries one gene from the sire's gene pairs. A 100 percent purebred sire ensures both gene options that could be passed on are from the same breed. Conversely, greater sire impurity increases the likelihood of introducing genetics from another breed, leading to unpredictable traits in offspring.

Furthermore, impurity directly affects heterosis. This advantage associated with heterosis correlates with the number of heterozygous or mismatched gene pairs. When mating two purebreds of different breeds, both the sperm and egg carry genes from only their respective breed. This results in maximum heterosis as the DNA combines to create a genome with one allele from each breed at every location. However, when an impure sire with genetics from the dam's breed in his DNA is used, some gene pairs become homozygous or matching, which reduces the level of heterosis in the offspring.

VIKING RED BREED MAKEUP NON-RED DAIRY COW						
		HO	BS	MO	RDC	NON RDC
	VR Value	NA	NA	NA	NA	NA
236SR9264	VR Ulvar	5%	5%	1%	11%	89%
236SR8510	VR Vehmaa	9%	6%	1%	16%	84%
236SR8550	VR Vioma-P	2%	4%	1%	7%	93%
528SR9955	VR Arvid	5%	9%	0%	14%	86%
	AVERAGE	5%	6%	1%	12%	88%

NORWEGIAN BREED MAKEUP NON-RED DAIRY COW						
		HO	BS	MO	RDC	NON RDC
252NR12297	Muri-P	3%	2%	0%	5%	95%
252NR12248	LYNDI-P	3%	0%	0%	3%	97%
252NR12222	SKOIEN	3%	1%	0%	4%	96%
252NR12239	KLEIV-P	4%	0%	0%	4%	96%
252NR12265	SMENES-P	3%	2%	0%	5%	95%
	AVERAGE	-2%	-5%	-1%	-8%	8%

Impurity reduces heterosis, which is the advantage in an animal's phenotypic production has over the predicted production from the parent average.

The Nordic Red cattle breeds have a pioneering history and played a significant role in modern cattle breeding programs. The Norwegian Red breed, in particular, stands out for its genetic advancements through selection intensity and breed purity. It is no secret that these advantages are why Norwegian Red sires have become a preferred choice for crossbreeding programs worldwide.

Use Norwegian Red sires in your crossbreeding program to drive your genetic progress. Contact your local ABS Representative to get started.

NORWEGIAN RED ADVANTAGE 10% more breed purity

Breed data extracted from NAV (Nordisk Avlsvaerdi Vurdering, also known as Nordic Cattle Genetic Evaluation). Data is from December 2023.



Profit from Genetic Progress

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