

Dairy cattle breeding

- ⇒ **The increase in the genetic merit** of the national herd accelerated since the introduction of genomic AI sires in 2009.
- ⇒ **Fertility sub-index** of the replacement heifers born in 2012 surpassed that of replacement heifers born in 1990.

Economic values used in the EBI

The Economic Breeding Index (EBI) is single figure profit indexes aimed at helping farmers identify the most profitable bulls and cows for breeding dairy herd replacements. It comprises of information on seven sub-indexes related to profitable milk production. These are;

1. Milk production;
2. Fertility;
3. Calving performance;
4. Beef Carcass;
5. Cow Maintenance;
6. Cow Management;
7. Health.

A summary of the sub-indexes, including traits and relative weightings for traits in the EBI are given in the following table. The economic values in the index are based on data collected from Irish Dairy Farms and the Dairy Industry. These values were last updated in December 2012.

Economic values and % emphasis of the various traits in the EBI formula

Sub-index	Traits included in sub-index	Economic value	% emphasis	Overall % emphasis
Production	Milk (kg)	-€0.09	10.6%	33%
	Fat (kg)	€1.04	3.4%	
	Protein (kg)	€6.64	18.9%	
Fertility	Calving Interval (days)	-€12.43	24.0%	35%
	Survival (%)	€12.01	10.9%	
Calving	Direct CD (%)	-€3.52	2.8%	9%
	Maternal CD (%)	-€1.73	1.3%	
	Gestation Length (days)	-€7.49	4.1%	
	Calf Mortality (%)	-€2.58	1.0%	
Beef	Cull Cow Weight (kg)	€0.15	0.7%	9%
	Carcass Weight (kg)	€1.38	5.1%	
	Carcass Conformation (score)	€10.32	1.7%	
	Carcass Fat (score)	-€11.71	1.1%	
Maintenance	Cull Cow Weight (kg)	-€1.65	7.2%	7%
Management	Milking Time (minutes)	-€0.25	2.1%	4%
	Milking Temperament (score)	€33.69	1.9%	
Health	Lameness (score)	-€54.26	0.6%	3%
	SCC (cells/ml)	-€43.49	1.8%	
	Mastitis (score)	-€77.10	0.8%	

Trends in EBI of replacement heifers born since 1990

