

Genetic base change

April 2021

Genetic indexes provide us with information on how a particular animal's genetic merit compares to the average animal milking at the time. This average 'base' animal has a PTA (Predicted Transmitting Ability) of zero for every trait. But, each year, as the national herd makes genetic progress, this average also goes up. It is for this reason that we have base changes – in effect an occasional recalculation of the average. If we didn't – because of genetic progress – almost every animal would eventually be better than the 'average' determined many years before.

Up until April 2021 the UK rebased every five years, which meant that the figures would progressively get further removed from the average of the milking herd, and become a little less informative.

From April 2021 onward the base will be rolled forward by one year with each April release. This ensures the base animals used are as current as possible, making bull selection more meaningful, and in-turn will make genetic progress in your herd easier. (This way of re-basing is sometimes also referred to as a 'rolling base')

In April 2021, the genetic base was recalculated for all breeds. That is why PTA is occasionally referred to as PTA2021. However, for simplicity's sake, the suffix 2021 is generally dropped. Whenever there is a base change, there will be a small reduction in PTA values across the board, although the base change itself causes no change in rankings. The important point to remember is to compare like with like. A PTA2021 should never be compared with an earlier or later PTA and, equally, only PTAs from the same proof run (April, August, December) should be compared. Be particularly cautious of printed bull catalogues, which will be out of date within four months of publication.

The genetic base for all breeds is reset to the average genetic merit of cows born over a four year window to mimic the breed average. In 2021, the base was the average of cows born 2013 to 2016, and the changes compared to the previous base are given in the table below.

Breed	Milk	Fat (kg)	Pro (kg)	Fat (%)	Pro (%)	£PLI	SCC	Lifespan	Fertility Index	Lameness Advantage
AYR	26	0.8	0.5	0.00	0.00	6	0	-2	0.2	-0.7
BSW	-5	0.0	0.0	0.00	0.00	0	0	-3	0.2	0.4
FRI	-25	-0.9	-1.5	0.00	0.00	-15	1	10	0.4	1.0
GUE	-20	-1.0	-0.7	0.00	0.00	-12	0	-1	0.6	1.3
HOL	15	1.3	0.9	0.00	0.00	20	0	-2	0.3	-0.2
JER	27	1.0	1.0	-0.01	0.01	15	1	1	0.0	0.1
MON	24	0.6	0.7	0.00	0.00	11	0	-3	0.0	1.2
SHO	25	1.0	1.1	0.00	0.00	16	-1	-5	-0.1	-0.5

Further information

For more information on AHDB Dairy breeding and genetics, visit dairy.ahdb.org.uk/breeding or email breeding.evaluations@ahdb.org.uk

UK genetic evaluations are undertaken and published by AHDB Dairy three times a year: April, August and December.

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