

Conversion of relative breeding values to absolute units

Breeding values of conformation and functional traits are published on a relative scale. The mean of this scale is 100, the standard deviation is four breeding value points. These relative breeding values raise questions as to how much progress they actually produce in daughters, for example expressed in days or conformation points. The table below shows an overview of all traits presented as a relative breeding value. The table shows what is to be expected of daughters of bulls that have a breeding value of 104 compared to what a daughter of a 100 breeding value bull would score. The effect of 1 breeding value point is a quarter of the values displayed in the table.

| Trait | 4 points breeding value bull, effect on daughters* | |
|------------------------------------|--|--------------------|
| <u>Conformation</u> | | |
| Stature | 1,10 | cm |
| Chest width | 0,31 | points |
| Body depth | 0,32 | points |
| Angularity | 0,34 | points |
| Body condition | 0,35 | points |
| Rump angle | 0,39 | points |
| Rump width | 0,38 | points |
| Rear leg rear view | 0,26 | points |
| Rear leg side view | 0,30 | points |
| Foot angle | 0,26 | points |
| Locomotion | 0,23 | points |
| Fore udder attachment | 0,37 | points |
| Front teat placement | 0,47 | points |
| Teat length | 0,42 | points |
| Udder depth | 0,32 | points |
| Rear udder height | 0,30 | points |
| Udder support | 0,33 | points |
| Rear teat placement | 0,42 | points |
| Frame | 0,77 | points |
| Dairy strength | 0,29 | points |
| Udder | 0,65 | points |
| Feet & legs | 0,41 | points |
| Muscularity | 0,76 | points |
| Overall conformation | 0,31 | points |
| <u>Functional traits</u> | | |
| Milking speed | 0,30 | points |
| Temperament | 0,16 | points |
| Calving interval | -6,7 | days |
| Non return | 2,9 | % NR56 |
| Interval calving - insemination | -4,6 | days |
| Interval first – last insemination | -5,6 | days |
| Conception rate | 2,3 | % pregnancies |
| Direct calving ease: parity 1 | -1,5 | % difficult births |
| Direct calving ease: parity 2+ | -0,8 | % difficult births |
| Maternal calving ease: parity 1 | -1,3 | % difficult births |
| Maternal calving ease: parity 2+ | -0,5 | % difficult births |
| Birth weight | 0,22 | kg |
| Gestation length | 0,48 | days |
| Somatic cell count | -10.000 | cells |
| Udder health | -5,91 | euro (lower costs) |
| Clinical mastitis | -2,0 | % |
| Subclinical mastitis | -3,4 | % |
| Weight | 12 | kg |
| Direct vitality 1 | 3,35 | % |

| | | |
|----------------------------|------|-----------|
| Maternal vitality 1 | 4,76 | % |
| Direct vitality 2+ | 0,68 | % |
| Maternal vitality 2+ | 0,73 | % |
| Claw health | -2,8 | % |
| Sole haemorrhage | -3,1 | % |
| Digital dermatitis | -2,7 | % |
| Interdigital dermatitis | -3,5 | % |
| Sole ulcer | -1,1 | % |
| Interdigital hyperplasia | -0,7 | % |
| White line disease | -0,8 | % |
| Calf survival | 1,12 | % |
| AMS efficiency | 0,09 | kg/minute |
| AMS milking interval | 16,1 | minutes |
| AMS habituation of heifers | 9,1 | minutes |

*Effect on daughters of bulls with breeding value 104, in comparison with bulls with breeding value 100.