Genomic Breeding Values (GBV)

- Using GBV in selection decisions in a breeding program ⇒ Genomic Selection

- Term "Genomic" comes from the fact that information from # positions across the whole genome are considered. The number of positions (markers) is between 150 k - 800 k

(Sequence: 20-30 Mio)

- Benefit - Cattle

1 Month

↳ hair sample
↳ lab → DNA-Markers
↳ Genomic Breeding Value ⇒ $B \approx 55 - 80 \%$

birth --- 2y --- 5y ---- → progeny based breeding value $B_i \approx 60 - 70 \%$

predicted breeding value based on parent average
$\hat{a}_i = \frac{1}{2} (\hat{a}_S + \hat{a}_d)$
$B_i = \frac{1}{4} (B_S + B_d) \approx 25 \%$

traditional with genomic