

Genetic evaluation CONFORMATION

General

Breeds: Fleckvieh, Brown Swiss, Pinzgauer, Grauvieh, Gelbvieh, Vorderwälder

Holstein: see www.vit.de

since 1998 genetic evaluation for conformation traits

since 2000 together with Germany, since 2019 single-step evaluation

Implementation: LfL Grub

Data

Randomly selected or (area-wise) all first parity cows are linearly described, measured and evaluated. All first parity cows from the herd genotyping projects are also described.

Fleckvieh: Fleckscore (www.fleckscore.com)

Brown Swiss: Brownscore (www.brownscore.com)

Countries: Austria, Germany, Czech Republic (Fleckvieh), Italy (Fleckvieh).

Traits:

- 4 main scores, for Brown Swiss additionally overall score
- up to 25 individual traits
- deficiencies/special features

Model

univariate BLUP animal model (Grauvieh: blockwise multivariate), single-step

Software MiX99

Effects:

- Classifier-year
- Year-Season
- Herd-year (partly herd classes)
- Age at first calving
- Distance to calving
- Distance from milking
- Genetic effect of the cow

Additional correction for heterogeneous variances between classifiers

Genetic parameters

Heritabilities (%) for main scores:

	Fleckvieh, Pinzgauer, Gelbvieh	Brown Swiss	Grauvieh
Frame	44	39	55
Muscling¹	21	14	33
Feet & Legs²	11	14	27
Udder	24	34	43
Overall score		29	

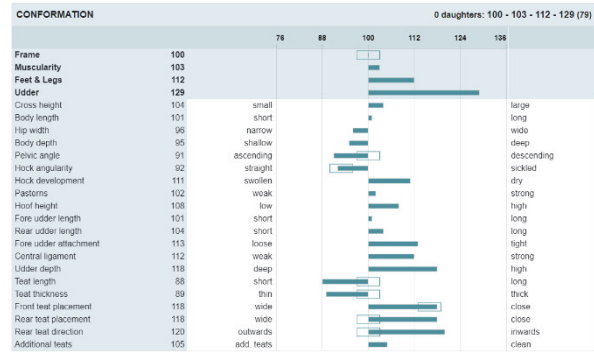
¹ Brown Swiss: Pelvis

² Grauvieh: Shape

Publication

as relative breeding values with mean 100 and deviation 12

partly traits with intermediate optimum usually published as a bar chart (see example from zuchtwert.at), optimum ranges are marked



Relationship between breeding value and phenotype

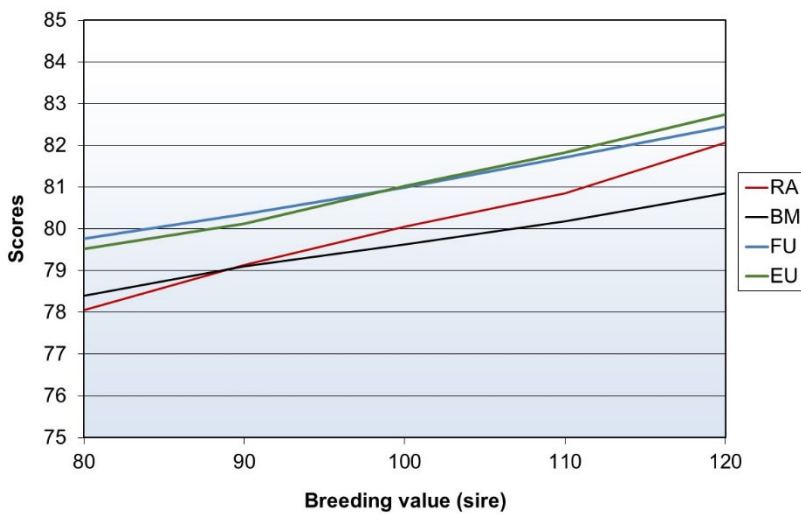


Fig.: Average scores for the main traits frame (RA), muscling (BM), feet & legs (FU) and udder (EU) depending on the respective breeding value of the sire (Fleckvieh, Austria)

Genetic trends

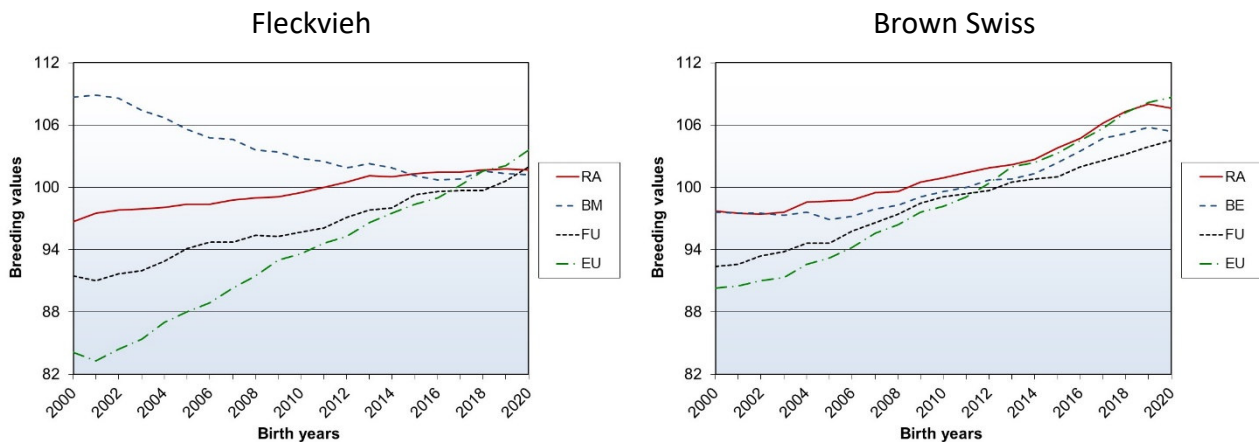


Fig.: Genetic trends for the trait complexes frame (RA), muscling (BM, Fleckvieh), pelvis (BE, Brown Swiss), feet & legs (FU) and udder (EU) for the cows (Austria).