

- Animals with best genetic component are identified using statistical models.

- In statistical models:

Unknown genetic components are estimated given known phenotypic observations, known pedigree relationships and known genotypes for marker positions.

• In stochastic relationships, there is always a certain level of uncertainty, furthermore not all influence factors are known.

Hence we need statistical modelling to account for uncertainty and to find the most important influence factors.

• Statistical Model:

▼ Response variable y : Phenotypic observations of trait of interest (Methane, Ketosis)

► Predictor variables: x_1, x_2, \dots, x_k