Chapter 3.4 The breeding goal

Setting up a breeding program starts with the definition of a breeding goal and is followed by the design of a scheme that is able to deliver genetic progress in line with this goal. A breeding goal with the relevant traits, collection of performance data, analysis of the data for the identification of superior animals, and the use of superior animals to produce the next generation, are the main components of structured breeding programs.

Definitions

A breeding goal is the specification of the traits to be improved including the emphasis given to each trait. It gives the direction in which we want to improve the population.

A Breeding program is a program aiming at defined breeding objectives for the production of a next generation of animals. It is the combination of recording selected traits, the estimation of breeding values, the selection of potential parents and a mating programme for the selected parents including appropriate (artificial) reproduction methods. See scheme at the beginning of this chapter.

A remark: traits with an optimum value

For most of the traits, the objective is a continuous improvement, but for some of the traits the goal is to reach intermediate values. Examples of such traits are egg weight where a market exists for table eggs between 55 and 70 grams. Mature body size is positively related to returns at slaughter but negatively with feed efficiency. The production aim is a high carcass value in combination with low feed cost. Thus in many meat production systems mature body weight of the animals has an optimum.