Genetics parameters of feed efficiency in dairy goats, under commercial conditions

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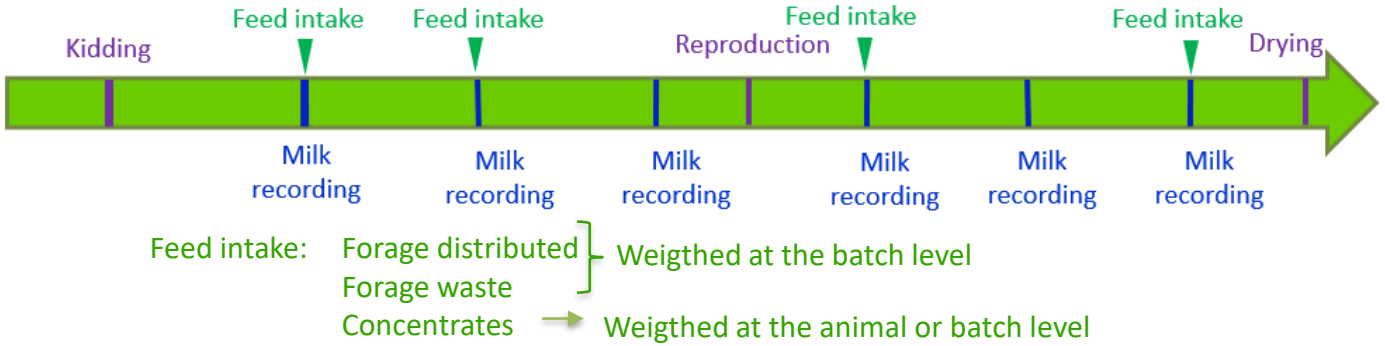
❖ Experimental design:

14 commercial farms + **1 experimental** farm, between **2019 and 2021**.
4 Feed intake records **+ 4 Milk** records during the lactation **+ 1 Chest width**:



- **1,636 primiparous dairy goats** phenotyped (663 Alpine and 973 Saanen)
- **4,827 records** in the data set (1,879 and 2,948 for Alpine and Saanen)

❖ Residual Energy Intake (REI) estimation:

$$EI = \beta_0 + \beta_1 \times MY + \beta_2 \times FC + \beta_3 \times PC + \beta_4 \times CW + REI$$

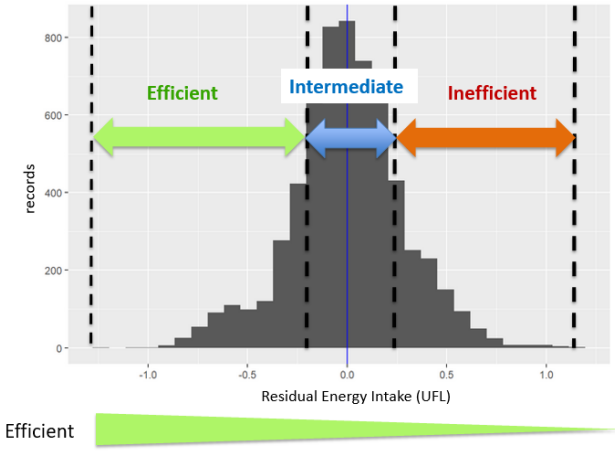
EI: energy intake (UFL),
MY: milk yield
FC: fat content
PC: protein content
CW: chest width

❖ Moderate heritabilities

Breed	Phenotype	h^2
Alpine	REI	**0.18** (0.08)
Saanen	REI	**0.20** (0.07)

- $h^2 < h^2$=0.25 in mixed-breed (Desire *et al.*, 2017)
- $h^2 > h^2$= 0.12 in ewes SMARTER (Machefert *et al.*, 2022)

❖ Goats classification in 3 REI groups for breeders



This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement n°772787

WCGALP, 2022 Rotterdam