



FARMERS' PERCEPTIONS ON PARAMETERS DEFINING SUCKLER COW EFFICIENCY

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Most beef cattle breeding programs focus on traits related to maternal ability and calf performance during lactation and fattening. These traits have been selected because of their economic importance, easy measurement and adequate heritability to allow for genetic improvement via classical breeding programs. However, other traits also play a major role on cow lifetime productivity, such as number of weaned calves, cumulative weaning weight or functional traits, which can be regarded as very important by farmers. Due to their low heritability and long generation intervals, they are seldom included in classical breeding schemes, but may profit from recent advancements in genomic technologies.

In the context of a survey carried out in suckler cattle farms in the Spanish Pyrenean mountains (GenTORE W1), 53 farmers were asked to score the relative importance (1-not important to 5-very important) of several traits associated to cow productive efficiency. These traits were age at first calving, calving ease, fertility, cumulative number of weaned calves, calf weight at birth, at 90 days and at weaning, calf carcass conformation, cow size, cow udder conformation, feet and legs morphology, docility and use of low quality feedstuffs. Farmers were also asked if they actually recorded their phenotypes for these traits, and if they provided the information to any breeder association. Results were analysed according to farm size (< 65 vs. > 65 dams; 49% and 51% of the farms, respectively), type of marketed product (weaned vs. finished calf, 75% and 25%) and predominant cow breed (autochthonous vs. imported, 91% and 9%).

	Importance (1-5)	Recording rate
Calving ease	4.92	30%
Fertility	4.60	32%
Udder Conformation	4.35	4%
Docility	4.31	2%
No. calves weaned in the cow's life	4.25	21%
Feet and leg morphology	4.18	2%
Carcass conformation	4.02	4%
Calf weight at birth	4.00	28%
Age at first calving	3.92	51%
Calf weight at weaning	3.59	9%
Efficient use of low quality resources	3.42	0%
Calf weight at 90 days	3.12	2%
Cow Size	2.92	2%

Figure 1. Importance and recording rates of different traits to define cow productive efficiency.

Despite 85% of the farmers belonged to breeder associations, only 21% of them delivered data for their breeding programmes. In fact, most of the traits being recorded by far less than 50% of the respondents (Figure 1). However, they considered most of them as important or very important to determine cow efficiency, with the highest scores given to calving ease, fertility, docility, cumulative number of weaned calves and udder conformation (Figure 1). Large farms rated cow size and docility higher, while those that had predominantly dams of autochthonous breeds gave higher importance to calving ease than the rest, but there were no differences among farms selling weaned or finished calves.

Traits such as number of weaned calves, cumulative weaning weight or functional traits, also play a major role on cow lifetime productivity.





Finally, the relative importance ascribed by the farmers to these traits was compared to their consideration in the breeding programmes of the breeds involved in the study or others managed under similar conditions, and four categories of traits were identified:

- a) Some traits were both **recorded by the farmers and included in the breeding schemes**, such as calving and calf birth weight.
- b) Other traits were considered as **quite important but phenotypes were not recorded**. These include cow udder, feet and leg conformation and docility, functional traits related to the adaptability of cows to management conditions. Calf carcass conformation, also in this category, is not generally available for farmers selling weanlings to be fattened in other farms.
- c) Some **very important traits were not included in the current schemes breeding schemes**, such as age at first calving, fertility and cumulative number of weaned calves, all of them key to determine lifetime productivity.

d) Finally, some of the traits **included in the breeding programmes were regarded by farmers as less important**, such as calf weight at 90 days and weaning, probably because they were not individually recorded or used to influence selling price.

Except for the first category, the discordances observed in the rest call for actions ensure the engagement of farmers in breeding programmes. First, a participative approach should be considered in the design of these programmes; then easy phenotype recording protocols for the different traits should be developed, and official database mining and on-farm data delivery facilitated.

