



CODE •
EFABAR

The commitment
to responsible breeding

Species Specific Template
Code EFABAR
CATTLE



Code EFABAR 2020

Company: _____



CATTLE

1. Impact and structure of breeding in the EU cattle industry

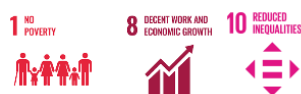
Breeding Companies are in most cases small and medium size enterprises (SME) and often organized as co-operatives. Enormous genetic progress has been obtained in cattle breeding during the last 40 years due to reproduction biotechnologies and selection programs. The use of Artificial Insemination (AI) in the dairy industry speeded up this genetic progress tremendously. The massive use of frozen semen facilitates the transportation of genetic material - and business - across national borders. Often BCs do not only have domestic customers but also international clients with substantial distribution of genetic material to other countries. Differences in breeding objectives are to some degree a way to distinguish companies from each other. The bovine genetic market for the cattle farmers is huge, due to the availability of genetic material of different origin.

Since 2008 genomic breeding values are available for major dairy breeds. This paradigm shift in dairy cattle breeding has improved the rate of genetic improvement. It has lowered the age of used sires and donors, has given health traits an increased progress and has enlarged the number of sires of sons used in individual breeding programs. The introduction of "genomic" breeding programs has led to an increasing focus on female selection compared to "traditional" breeding programs did and resulting in programs for genomic (DNA) testing of large numbers of heifers.

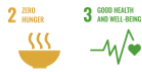
In the cattle breeding sector, the competition between different companies is fierce. In every country and at many farms, semen from different companies may be used for AI. The market is international and the customers need to compare information from several different countries. For this reason, it is important that estimation of international breeding values is as complete as possible and is covering all the important traits. During the last years, a comparison of genetic material from several countries has been made available through INTERBULL's estimates of international breeding values for both "traditional" (based on progeny testing) and "genomic" (based on DNA testing) breeding. In September 2016 INTERBULL estimates breeding values for milk production, conformation, direct longevity, calving traits, workability and udder health. INTERBEEF has started to estimate international comparable breeding values for beef cattle, starting with Adjusted Weaning Weight. In addition, in the EuroGenomics consortium several breeding companies from different European countries (Scandinavia, France, Germany, Spain, Poland, the Netherlands and Flanders) work together in sharing the bull reference populations and thereby increasing reliability of genomic breeding values. They also work together in harmonisation of different traits, so the information collected in the different countries can be used more efficiently, thereby leading to higher reliabilities for those traits end more efficient selection.

In the Rotterdam Declaration, between Food and Agricultural Organization of the United Nations (FAO) and International Dairy Federation, the important role of the global dairy sector is recognized for achieving the Sustainable Development Goals (SDGs).

In FAO's "Global Dairy Sector: Facts"; it is stated that the linkages between the dairy sector, people and the planet are multiple and all-encompassing. Investments that promote a sustainable development of the livestock industry can contribute to achieve several SDGs, including:



No poverty (Goal 1): The dairy sector directly and indirectly supports the livelihoods of 150 million farmers, including the poor ones. It also generates employment opportunities along the value chain, which does not only represent a major pathway out of poverty, but also contributes to full and productive employment and decent work for all (Goal 8) and to reduce inequality (Goal 10).



End hunger and achieve food security (Goal 2) and contribute to healthy lives (Goal 3), because of the importance of milk in the provision of energy, protein and micronutrients and through investments that reduce the negative impact of the dairy industry on public health.



Achieve gender equality (Goal 5), because of the key role that women play in the dairy sector.



Promote sustainable consumption and production patterns (Goal 12), combat climate change (Goal 13), protect and restore terrestrial ecosystems including biodiversity (Goal 15) and sustainable management of water and sanitation (Goal 6) through the adoption of best practices, many of which have been proved effectively in different contexts.



The linkages between the dairy industry, people and the planet are however complex and multifaceted. Collective and concerted action through multi-stakeholder processes and integrated approaches are therefore needed for formulating and implementing sustainable investments and policies, consistently with Goal 17 (Partnerships for the Goals).

2. Introduction

Give a brief description of the governance policy of the Breeding Company (BC)¹ regarding the societal challenges as mentioned in the Code EFABAR General Document. Besides the 6 pillars of the Code EFABAR, take also Food Security into consideration.

¹ Breeding companies include all organisations responsible for breeding and reproduction of farm animals (e.g., primary breeding, herdbook keeping, artificial insemination, embryo technology, hatchery, (grand) parent genetics, data recording).



3. SUSTAINABILITY

A. Food Safety and Public Health

Breeding Element	Has the BC implemented this element in its breeding program, directly or indirectly? Yes/No	If yes, how has the BC implemented this element in its breeding program? If no, does the BC plan to address this element in its breeding program in the next 3 years? If no, why not?
Reduction of antimicrobial usage by selecting more disease resistant and robust animals.	<i>To be filled by the company</i>	<i>To be filled in by the company</i>
Meat quality (related to food safety and public health) (for instance by minimizing the spreading of diseases).		
Milk quality (related to food safety and public health) (e.g. by minimizing the spreading of diseases)		

Management Element	Yes/No	If yes, give a short explanation If no, explain why not?
Has the BC a biosecurity policy on its own premises (to avoid spreading zoonoses) and is it implemented?		
Has the BC an antimicrobial policy on its own premises and is it implemented?		
Has the BC, as part of their biosecurity processes, procedures to reduce the potential risk of contamination from staff and equipment?		

B. Product Quality

Breeding Element	Has the BC implemented this element in its breeding program, directly or indirectly? Yes/No	If yes, how has the BC implemented this element in its breeding program? If no, does the BC plan to address this element in its breeding program in the next 3 years? If no, why not?
Carcass and meat quality (nutritious value) -Dairy cattle -Beef cattle		
Milk quality (fat, protein and lactose) (for instance nutritious value).		
Somatic Cell Count (SCC) (related to product quality)		
Specific products for specific consumers (for instance Beta-casein A2A2).		

C. Genetic Diversity

Breeding Element	Has the BC implemented this element in its breeding program, directly or indirectly? Yes/No	If yes, how has the BC implemented this element in its breeding program? If no, does the BC plan to address this element in its breeding program in the next 3 years? If no, why not?
Genetic diversity within commercial breeds.		
Conservation of genes of commercial breeds (in situ or ex situ).		
Cross breeding (programs)		
Conservation of genes of rare and threatened breeds		
Provision of mating programs for farmers to control inbreeding		

Management Element	Yes/No	If yes, give a short explanation If no, explain why not?
Does the BC have or contribute to a gene bank for commercial breeds?		
Does the BC contribute to the conservation of genes of rare and threatened breeds?		



D. Resource Efficiency

Breeding Element	Has the BC implemented this element in its breeding program, directly or indirectly? Yes/No	If yes, how has the BC implemented this element in its breeding program? If no, does the BC plan to address this element in its breeding program in the next 3 years? If no, why not?
Longevity in general (dairy breeds)		
- Fertility (maternal and paternal)		
Survival of young animals - at birth - at rearing - until slaughter		
Growth rate		
Feed efficiency - general - energy efficiency - protein efficiency		
Water efficiency		

Management Element	Yes/No	If yes, give a short explanation If no, explain why not?
Has the BC a resource efficiency policy on its own premises and is it implemented?		
Has the BC procedures for processing of or reuse of residual products?		

E. Environment

Breeding Element	Has the BC implemented this element in its breeding program, directly or indirectly? Yes/No	If yes, how has the BC implemented this element in its breeding program? If no, does the BC plan to address this element in its breeding program in the next 3 years? If no, why not?
Reduction N and P emission (consider the reusability of these elements in the manure)		
Reduction Green House Gas (esp. CH ₄) emission		
Reduction NH ₃ emission		
Adaptation to climate change		

Management Element	Yes/No	If yes, give a short explanation If no, explain why not?
Has the BC an environment policy on its own premises and is it implemented?		
Has the BC has a policy to reduce carbon footprint?		

F. Animal Health and Welfare

Breeding Element	Has the BC implemented this element in its breeding program, directly or indirectly? Yes/No	If yes, how has the BC implemented this element in its breeding program? If no, does the BC plan to address this element in its breeding program in the next 3 years? If no, why not?
Mastitis and other udder health issues		
Metabolic diseases (e.g. ketosis, etc.)		
Fertility disturbance (e.g. metritis, retained placenta, cysts, etc.)		
Calving ease		
Feet and leg conformation		
Udder conformation (related to animal welfare)		
Claw health (related to health and welfare)		
Disease resistance against specific diseases		
Polledness (related to animal welfare)		
Monogenic traits/defects		

Management Element	Yes/No	If yes, give a short explanation If no, explain why not?
Has the BC a biosecurity policy on its own premises (to avoid diseases and the spreading of diseases to other premises) and is it implemented?		
Has the BC a welfare policy on its own premises making a reference to the Five Freedoms and is the welfare policy implemented?		
Has the BC procedures to minimise stress when handling individuals?		
Has the BC a policy on how to handle its animals prior to and		



during transport and is it implemented?		
Has the BC a policy in place to periodically train and update its animal care takers on how to manage and handle the animals and is it implemented?		

4. TECHNOLOGIES

A. Breeding Technologies

Element	Is the BC using these breeding technologies in its breeding practices? Yes/No	If yes, give a short explanation. If no, explain why not? Any examples?
Genomics		
Progeny Testing		
Gene-editing		
Transgenesis		
Cisgenesis		
Metabolomics, proteomics, transcriptomics		

B. Reproduction Technologies

Element	Is the BC using these reproduction technologies in its reproduction practices? Yes/No	If yes, give a short explanation. If no, why not? Any examples?
Artificial Insemination		
Sexing of semen		
Embryo production by superovulation stimulation followed by flushing/		
Embryo production by superovulation stimulation followed by ovum pick-up/		
Embryo transfer (ET) (attention for welfare)		
Cloning (ENCT and SNCT)		

C. Monitoring technologies

Element	Is the BC exploring new technologies? Yes/No	If yes, give a short explanation. If no, why not? Any examples?
Exploring new monitoring technologies to improve welfare and robustness		

D. Innovation and public perception

Element	Is the BC investing in innovation? Yes/No	If yes, give a short explanation. If no, why not? Any examples?
Does the BC invest in research and development, and/or collaborate with research institutes on traits important to the breeding program?		
Does the BC take a proactive approach to adopting new techniques and technologies?		
Does the BC take action to engage with society?		



5. Certification

We herewith declare that the content of this template expresses the breeding and reproduction policy of the company

Place:

Date:

Name and signature:

European Forum of Farm Animal Breeders (EFFAB)

We herewith state that this template complies with the CODE EFABAR Version 2020

Place: Brussels

Period of validity:

Ana Granados Chapatte, EFFAB, Director