



# Sustainable breeding for dairy cattle

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## Scenarios

- description of a future, a possible course of events or actions.
- powerful tool to support decision-making and planning
- means to enhance dialogue with stakeholders.

Developed as part of EU project “Sustainable Farm Animal Breeding And Reproduction” ([www.sefabar.org](http://www.sefabar.org)):  
 Joint activity of Research organisations and European cattle breeding organisations



## Starting points

Dairy cattle breeding is internationally oriented:

- exchange of genetic material between countries
- similarities in market and production environment

Main driving forces:

- Consumer acceptance
- Production efficiency
- Animal welfare
- Biodiversity

Main restrictions:

- Rate of inbreeding 1%/generation
- No use of transgenics

## Two extreme scenarios for 2020:

### 1. Market in two segments

#### Production system

- Small number of large-scale farms for bulk production, large number of smaller farms for niche markets and products
- Extensive farming, cows mostly outside
- Farms differentiate production, have additional activities

#### Reasons for the situation

- Consumers pay (non-)market value of products
- Important role of cows in maintaining landscape

#### Breeding goals

- Robust, balanced cow, able to perform well in range of (semi-organic) farming systems
- Good (udder) health, strong legs
- Cows have a long productive life span

#### Breeding methods

- Progeny testing in commercial herds; use of AI; reproductive techniques on elite cows; trait recording through milk recording

### 2. Large scale farming

- Market dominated by large scale dairy producers that operate where space available
- Zero grazing: cows inside in controlled environment (diseases, environmental issues)
- Specialized dairy farms, increased use robot milking

- Consumers not willing to pay for extra-value products
- Meet the environmental regulations

- Robust cow with good production and fertility
- Basic health level to keep production costs low
- Cows have a long productive life span

## Conclusions

- Main challenges for breeding in the two scenarios are to increase non-production traits (fertility and longevity).
- Need to develop better methods for selection on health traits and additional traits such as calving ease
- Scenarios have been very helpful in discussion with stake holders.
- Tool to increase transparency