Calf price impacts dairy farm profit too

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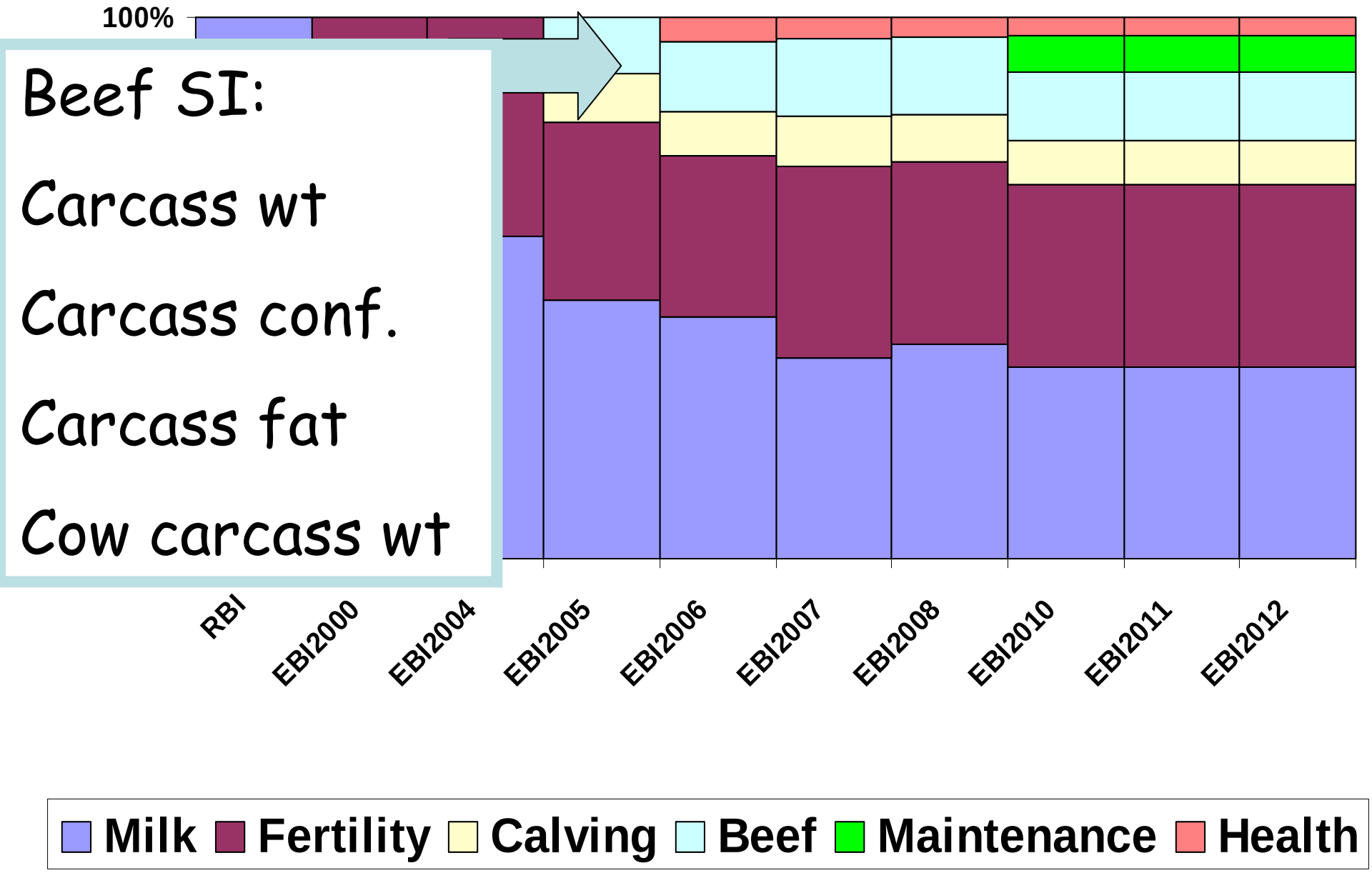
Linkage in cattle populations

- Large interrelationship between beef and dairy industry
  - ➢40% of dairy cows mated to beef sires
  - ➢35% of animals slaughtered in Ireland originate from the dairy herd
- Quota scenario → many dairy farmers retained beef cross animals on farm
- Abolishment of quotas → all surplus animals sold as soon as possible

Dairy Breeding Objective

- The national dairy breeding objective for Ireland → Economic Breeding Index (EBI)
- Introduced in 2000
- Evolving → reflect overall farm profitability
- 5 sub-indexes

EBI

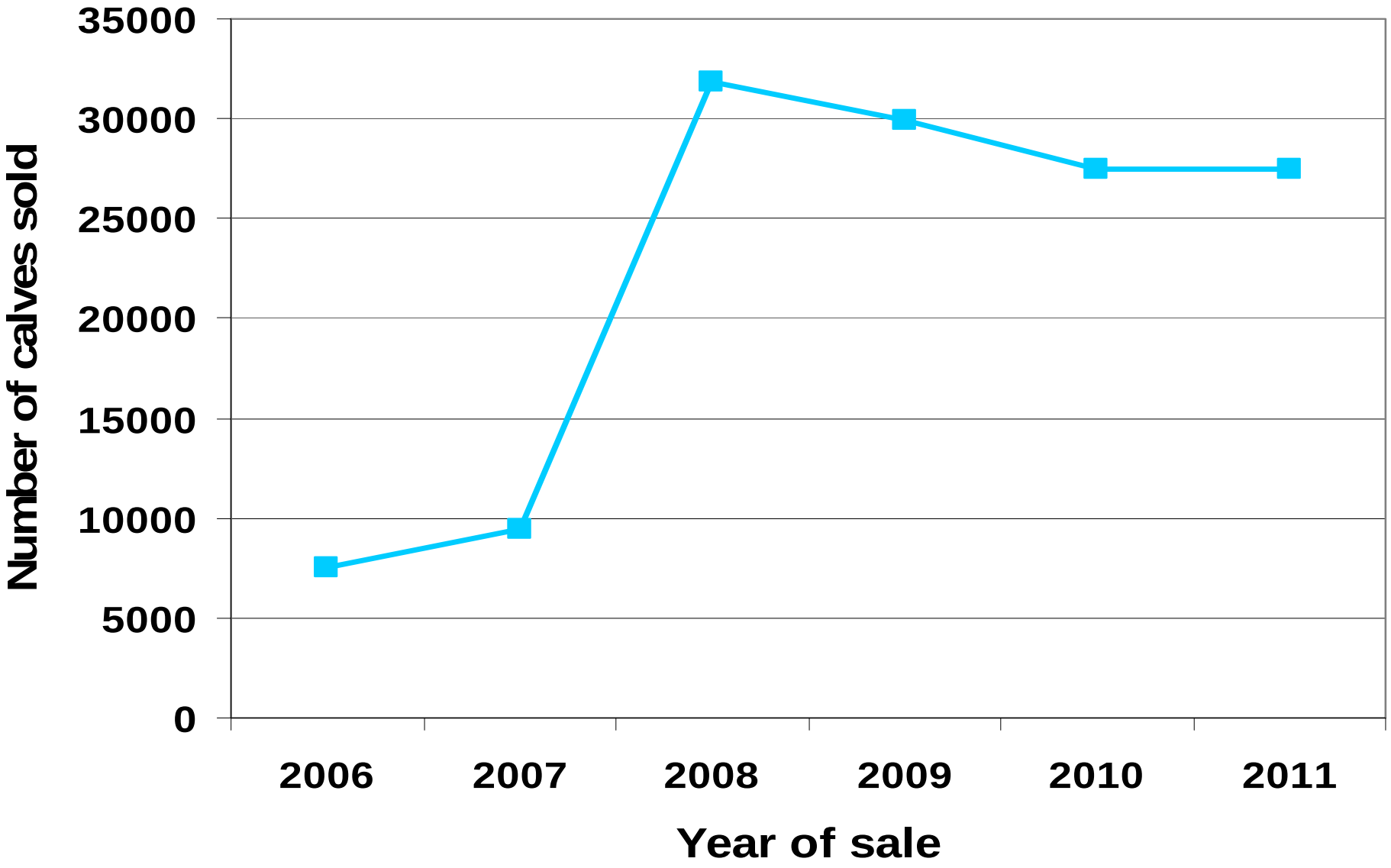

100%
Beef SI:
Carcass wt
Carcass conf.
Carcass fat
Cow carcass wt
RBI
EBI2000
EBI2004
EBI2005
EBI2006
EBI2007
EBI2008
EBI2010
EBI2011
EBI2012
Milk
Fertility
Calving
Beef
Maintenance
Health

New Beef trait -Calf Price?

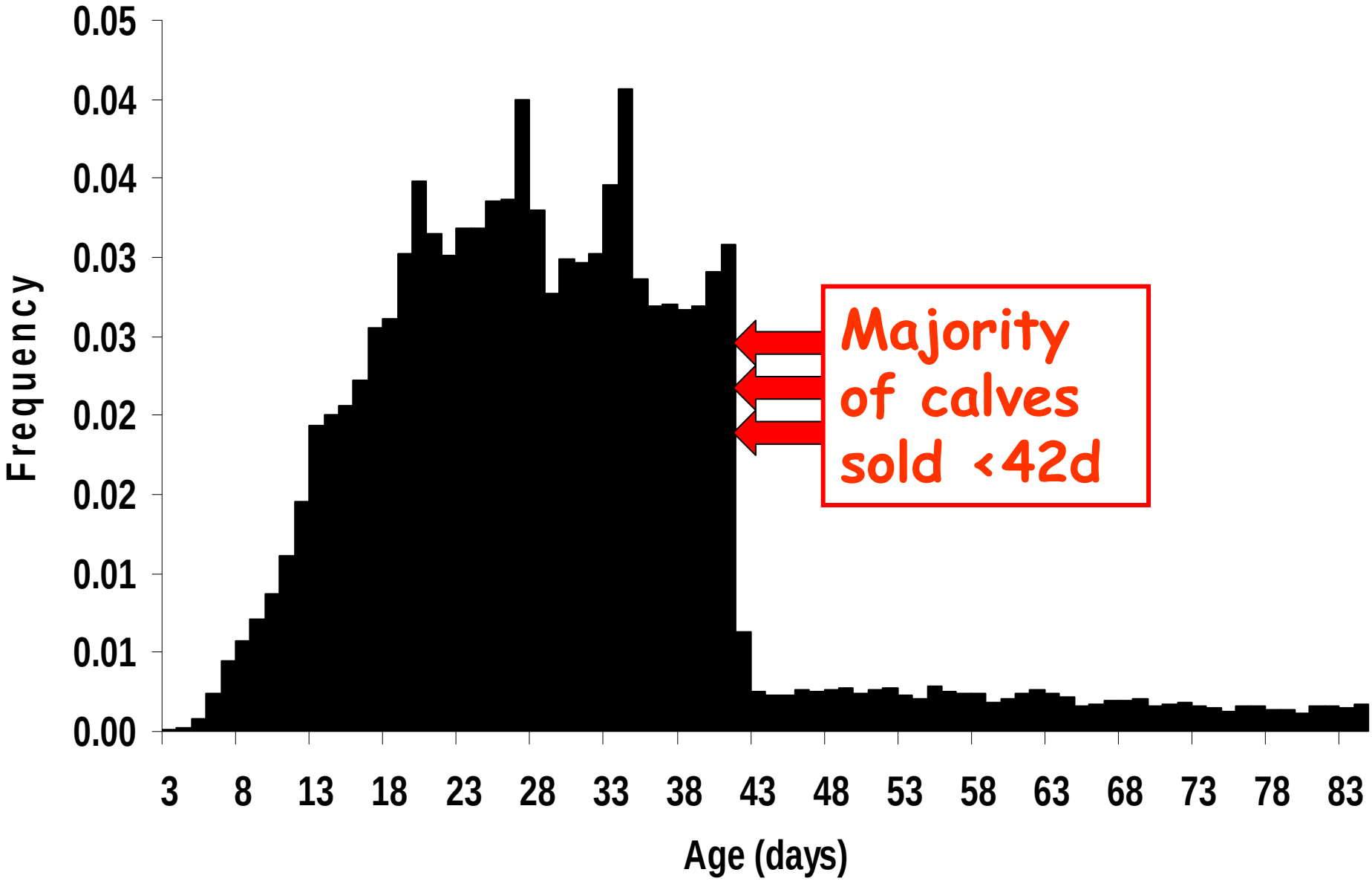
- Prerequisite for inclusion of new trait in index:

1. **Economically, environmentally or socially important** ✓
   - 20% of dairy farm income is from sale of calves and cull cows
2. **Easily measurable or be genetically correlated with a measurable trait**
   - Mart data routinely collected by ICBF
3. **Exhibit genetic variation**

Calf price records



Age at Sale - Calves



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3. **Exhibit genetic variation** ✓
   - Previous studies shown ample genetic variation
     - h^2=0.34; σ_g=25.7

Objectives

1. To examine the usefulness of including calf price in the EBI
2. To quantify the impact on genetic gain when calf price replaced progeny carcass traits
   - Carcass weight, conformation and fat score

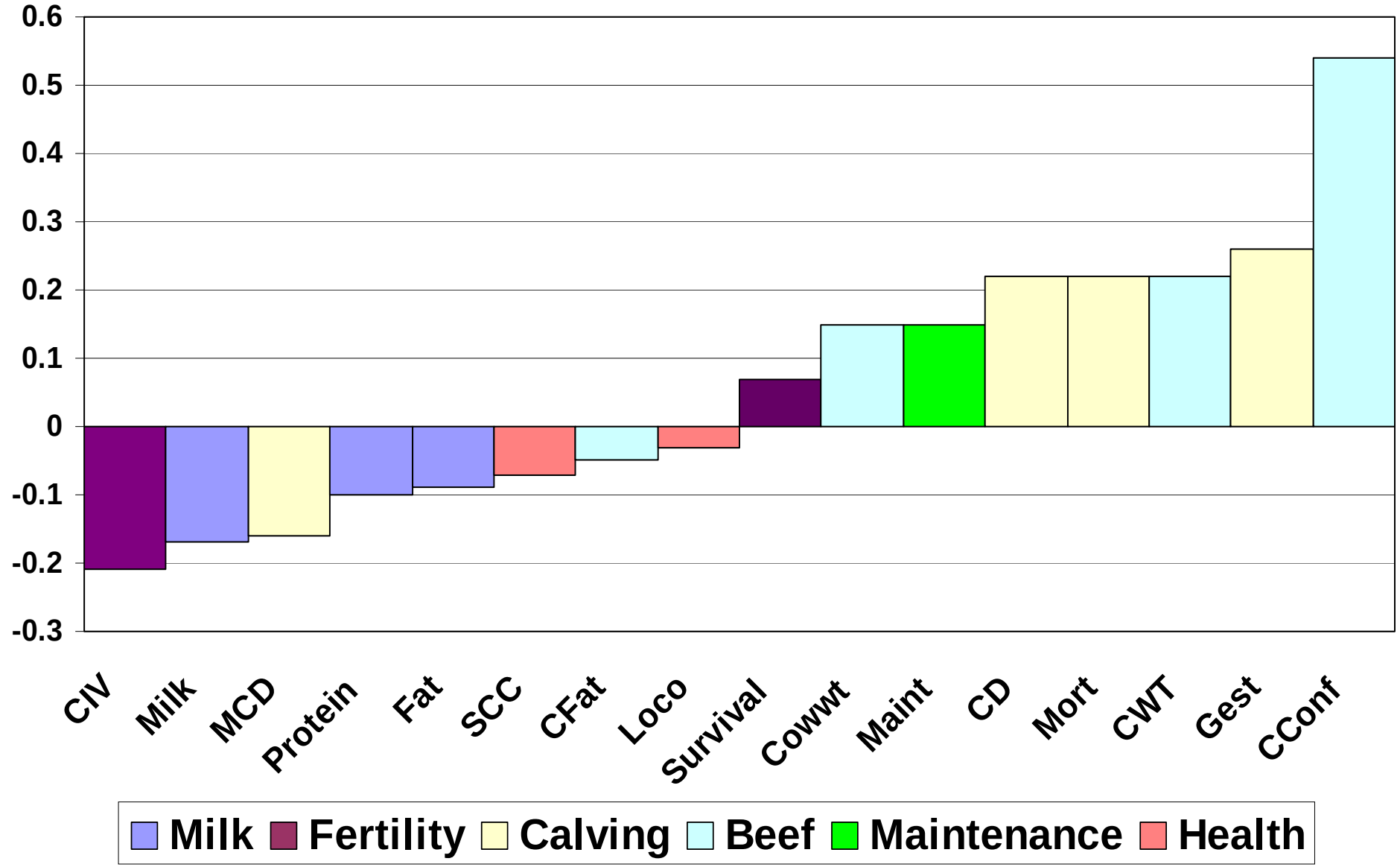
Materials and methods

- Selection indexes were developed for:
  1. All current goal traits in the EBI
  2. Calf price replaced progeny carcass traits
- Previously reported genetic parameters and correlations were used
- Economic values were calculated using the Moorepark dairy systems model
- Relative emphasis calculated for 5 sub-indexes

Results

Genetic correlations

Between calf price & goal traits



Response to selection

- Current EBI:
  - increasing calf price by €0.54 per annum
- Including calf price:
  - Increases calf price by a further €1.04 per annum to €1.58
  - Little impact on current goal traits but did reduce genetic gain on production traits:
    - Milk: -7.08 kg
    - Fat: -0.18 kg
    - Protein: -0.19 kg
- Genetic gain in overall profit likely to be reduced

Relative emphasis (%)

- Little change in the overall emphasis on all traits
- Reduced emphasis on the beef sub-index

Sub-index	Current EBI	With calf price
Milk	41	44
Fertility	30	32
Calving	8	8
Beef	15	9
Maintenance	3	3
Health	4	5

Conclusions

- Beef component of the dairy herd is an important factor in the EBI
- The inclusion of calf price in the EBI:
  - will not alter the response to selection for current goal traits dramatically
  - will more accurately reflect on-farm profitability