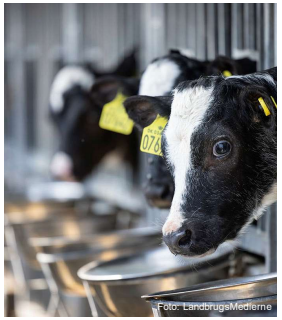
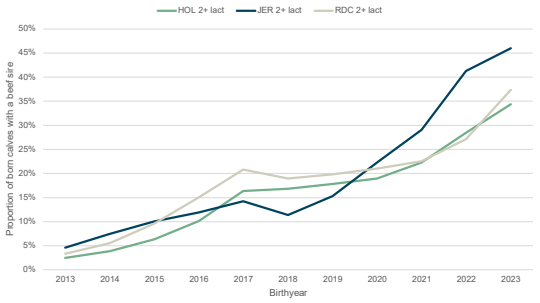
1

Development in the Beef on Dairy segment





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2

Aim of FutureBeefCross project

FutureBeefCross

To produce quality meat, improve production economy and lower climate impact by utilizing genetic potential for meat quality, feed efficiency and methane emission traits

Basis is development of new methods to phenotype 12,0000 Danish Beef on Dairy crossbred calves

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3

Experimental setup

Project started January 2019

5 commercial slaughter calf herds

- 4 feeding pellet diets and 1 feeding TMR
- Capacity to test feed intake on ~4500 calves/year
- Capacity to measure methane on ~3600 calves/year

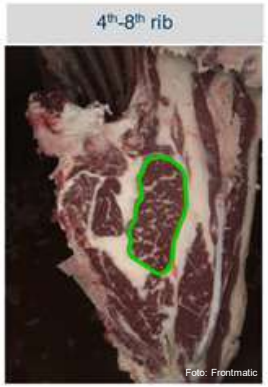
Beef on Dairy crosses on Holstein dams

- Danish Blue
- Charolais
- Angus

4

Marbling score (MS) / Intramuscular fat (IMF)

- Hand-held camera solution at slaughterhouse.
  - Q FOM™ Beef (Frontmatec, Denmark).
- Picture taken off *Rib Eye* between 5th and 6th rib.
- Both MS and chemical IMF can be predicted.
- Ear cut of for genotyping



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5

Feed data

- Age of calves in test (6-8 months).
- Length of test period ~3 weeks.
  - Body weight at start and end.
  - Feed intake pr visit (Allfeed, Allflex).
- Weight and daily feed intake directly modelled and genetic RFI estimated

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6

Methane emission

- Work has just started no results yet.
- 8 sniffers connected to 6 feed boxes each (Guardian ® NG, Edingburg Instruments Ltd).
- Decided to use CH_4/CO_2 ratio as phenotype
  - Ongoing work on alternative phenotype (CH4 production/day)

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7

Perspective

- Include GEBVs for RFI, Methane emission and Marbling score in the combined index for Beef on dairy.
  - Danish Beef on Dairy index already includes:
    - **Production** (e.g. net daily gain, carcass conf., slaughter %)
    - **Direct calving traits** (calving ease and survival)
    - **Young stock survival**
    - **Health traits** (pneumonia, diarrhea, Foot rot)
- A combined index, only relating to traits expressed after calves are sold from the dairy herd, is an integrated part of prize setting of Beef on Dairy calves.
  - Using genetic superior beef bulls → higher sales price of crossbred calves.

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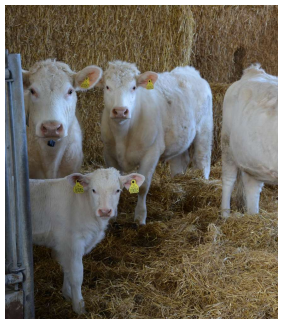
8

Future Beef Cross - Implications for pure beef breeds



- Traits are relevant for pure beef too.
- In time a genomic test will probably be available to get (unofficial) GEBVs for FBC traits.
- Even if data is on BxD crossbred calves, GEBVs are probably best available information for pure beef for these traits.
  - But conditions under which BxD calves and pure breed calves are raised are probably quite different.
- Largest reference population for Danish Blue Cattle

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9

Thanks to:

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gudp

MSD Animal Health

AARHUS UNIVERSITET

DANISH CROWN

FRONTMATEC

VIKINGDANMARK

VIKINGGENETICS

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