Impact of growth development on age at first calving and on first lactation yield in Holstein dairy cows

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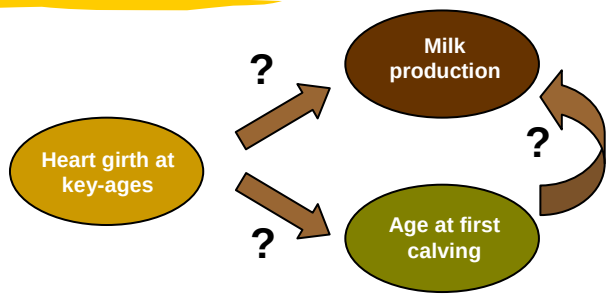
Aim

The heart girth (HG) is an easy tool to evaluate the growth of dairy heifers (Picron et al., EAAP 2009)

but



Material & Methods

- **HG measurements** of 387 Walloon Holstein heifers, every 3 months, during 2 years (2006-2008)
- **Calving date** and **milk production** data obtained from Walloon Association of Breeding.
- HG were related to the French reference (Institut de l'Elevage, 2005) at key-ages and divided in 3 classes:

  [**< opt** = <2.5% of the reference; **> opt** = >2.5% of the reference; **= opt** = optimal value based on the reference]
- The effects of HG classes on the age at first calving and milk production (1st lact.) were analyzed by ANOVA

Results & Discussion

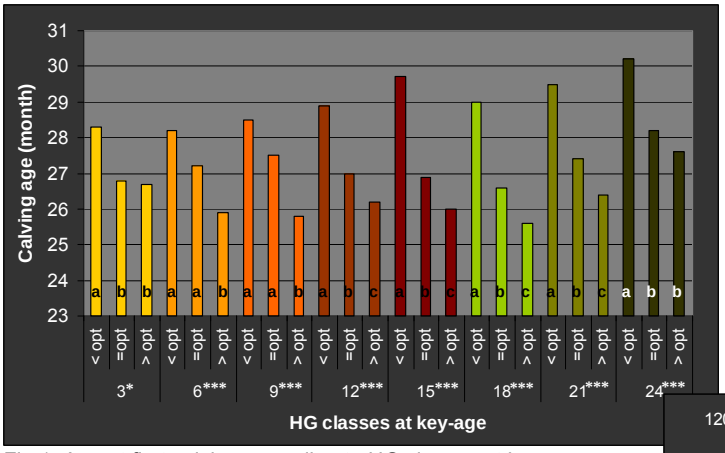


Fig 1. Age at first calving according to HG classes at key-age

- Wathever the key-age, animals with HG > or ≥ to the optimum calved earlier (**Fig. 1**)

- For instance: a lack of conformation at 15 months induced a delay at first calving of almost 3 months

- Wathever the key-age, no significant effect of HG class on milk production was observed (**Fig. 2**)

- The effects of age at first calving on the milk production were not clear, due to few data related to late calving.

- This aspect was investigated in a larger study (Froidmont et al., EAAP 2010, abst. 7158, session 34). The results confirm that **an early calving has no deleterious effect on milk production**.

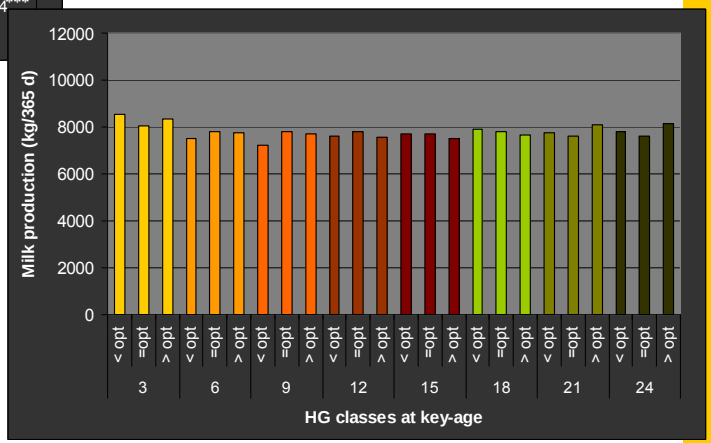


Fig 2. Milk production according to HG classes at key-age

Conclusion

A sustained body development of dairy heifers, estimated by HG measurements, is favorable to an early calving and does not affect the milk production in first lactation

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