Influence of the age and the season of the first calving on milk performances of dairy cows

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Aim

To limit the breeding costs, an early first calving (24 months old) is recommended in intensive dairy herds

What are **the effects of this practical on milk production in first and second lactations ?**

Material & Methods

- **Initial database (n = 65592)** for Holstein dairy cows, borned between 2000 and 2007 participating to the milk control in Wallonia
- **Selection of relevant data** : a first calving age between 18 and 42 months old; a first lactation > 2500 L with a length between 45 and 704 days → **Final dataset n = 62969**
- **6 classes** of first calving age : 18-22, 22-26, 26-30, 30-34, 34-38 and 38-42 months old (classes 1 to 6, resp.)
- **Statistical analyses** : GLM procedure, 2 effects (age class and season at first calving) + interaction

Results & Discussion

- The average age at first calving for classes 1 to 6 reached 20.9, 24.6, 27.9, 31.8, 35.7 and 39.5 months, resp.

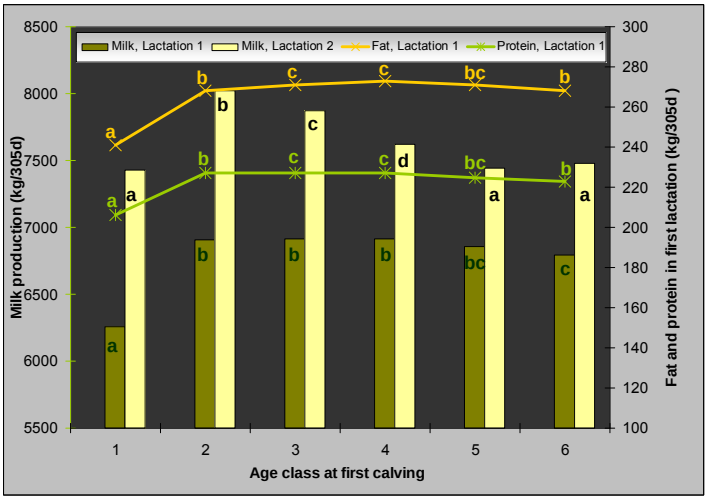

Fig 1. Milk performances according to age class at first calving

- In lactation 1 (n = 62969), milk production was maximized for classes 2 to 5 and lower for classes 1 and 6
- Productions of milk fat and milk protein were largely lower for class 1
- In lactation 2 (n = 34237), milk production was higher for animals belonging to class 2. This could be explained by a 'producer' effect: the most performing being also those having the best calving strategy
- The average lengths of lactations were very similar between classes (Δmax = 7 days)

- In lactations 1 and 2, milk production was higher for autumn calving and lower for spring calving. This is probably related to different feeding strategies (outdoor *vs* indoor) at the beginning of the lactation. Milk fat and protein production followed the same tendency
- The average lengths of lactation were very similar between calving season ((Δmax = 4 days)

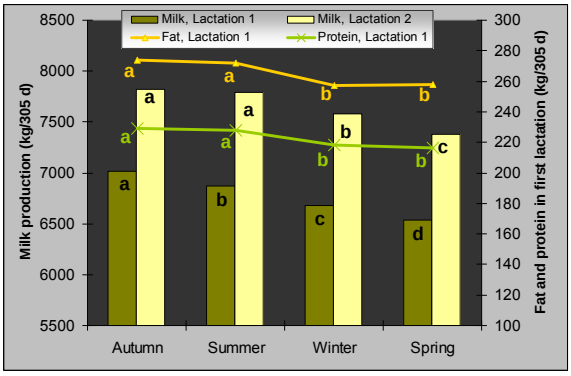

Fig 2. Milk performances according to season of first calving

Conclusion

The overall results suggest that an early calving in autumn is advised to dairy producers

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