



SCIENCE AND
EDUCATION **FOR**
SUSTAINABLE
LIFE

Performance of purebred and crossbred dairy cows in Swedish herds

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Introduction

Crossbreeding has increased in Sweden

Improve low heritability traits

Fertility 10% and production 3%
expected heterosis



”ProCross”



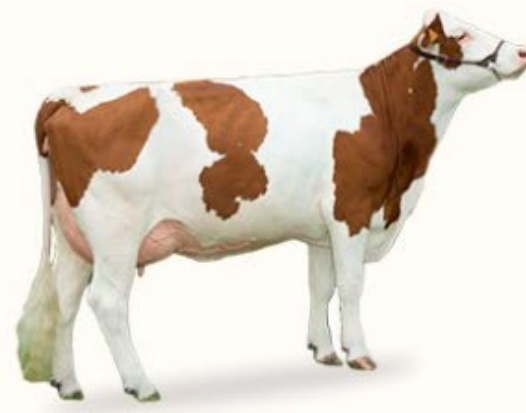
VikingHolstein

- Production
- Fat & Protein
- Medium size



VikingRed

- Calving ease
- Longevity
- Health



Coopex Montbeliarde

- Strength
- Fertility
- Adaptability

”GoldenCross”



VikingHolstein

- Milk volume
- Medium size
- Excellent udders



VikingRed

- Health
- Calving traits
- Longevity



VikingJersey

- Solids
- Fertility
- Hoof health

Aim

To compare two-way and three-way crosses between Holstein, Swedish Red, Jersey, and Montbéliarde...

... with purebred Holstein, Swedish Red or Jersey

... for fertility, calving, production and survival traits



Material and Method

Data provided by Växa from their cattle database

2.1 mill. observations from around 7400 herds

Calved between 2005 and 2020

Data separated into lactation 1 and lactation 2

Analyzed with a mixed linear model:

$$y = \mu + \textit{breed group} + \textit{herd} + \textit{year-season} + \textit{herd-year} + e$$



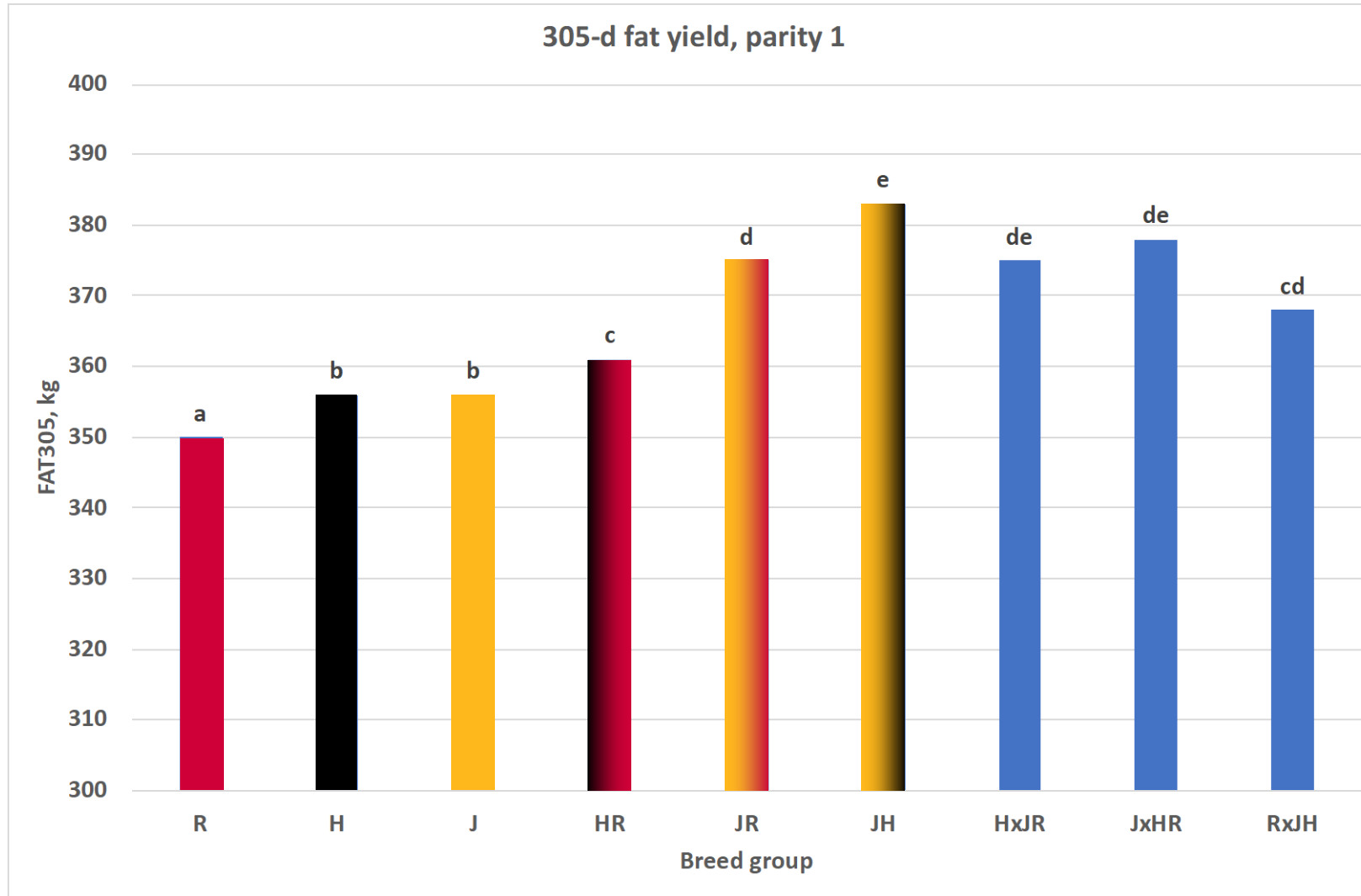
Material and Method

Jersey crosses	Abbreviation	Montbéliarde crosses	Abbreviation
Jersey x Swedish Red	JR	Montbéliarde x Swedish Red	MR
Jersey x Holstein	JH	Montbéliarde x Holstein	MH
Holstein x (Jersey x Swedish Red)	HxJR	Holstein x (Montbéliarde x Swedish Red)	HxMR
Jersey x (Holstein x Swedish Red)	JxHR	Montbéliarde x (Holstein x Swedish Red)	MxHR
Swedish Red x (Jersey x Holstein)	RxJH	Swedish Red x (Montbéliarde x Holstein)	RxMH

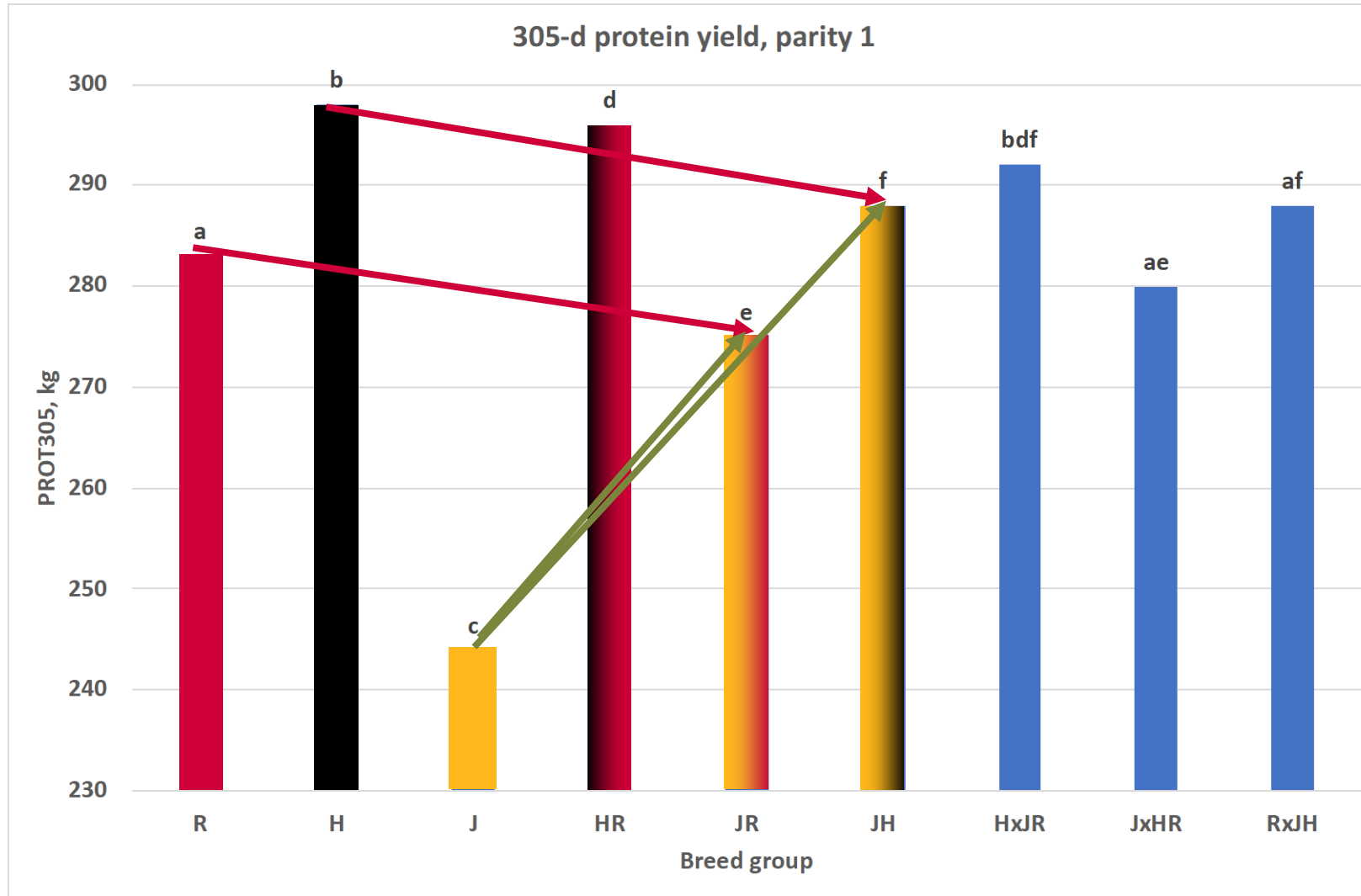
Jersey



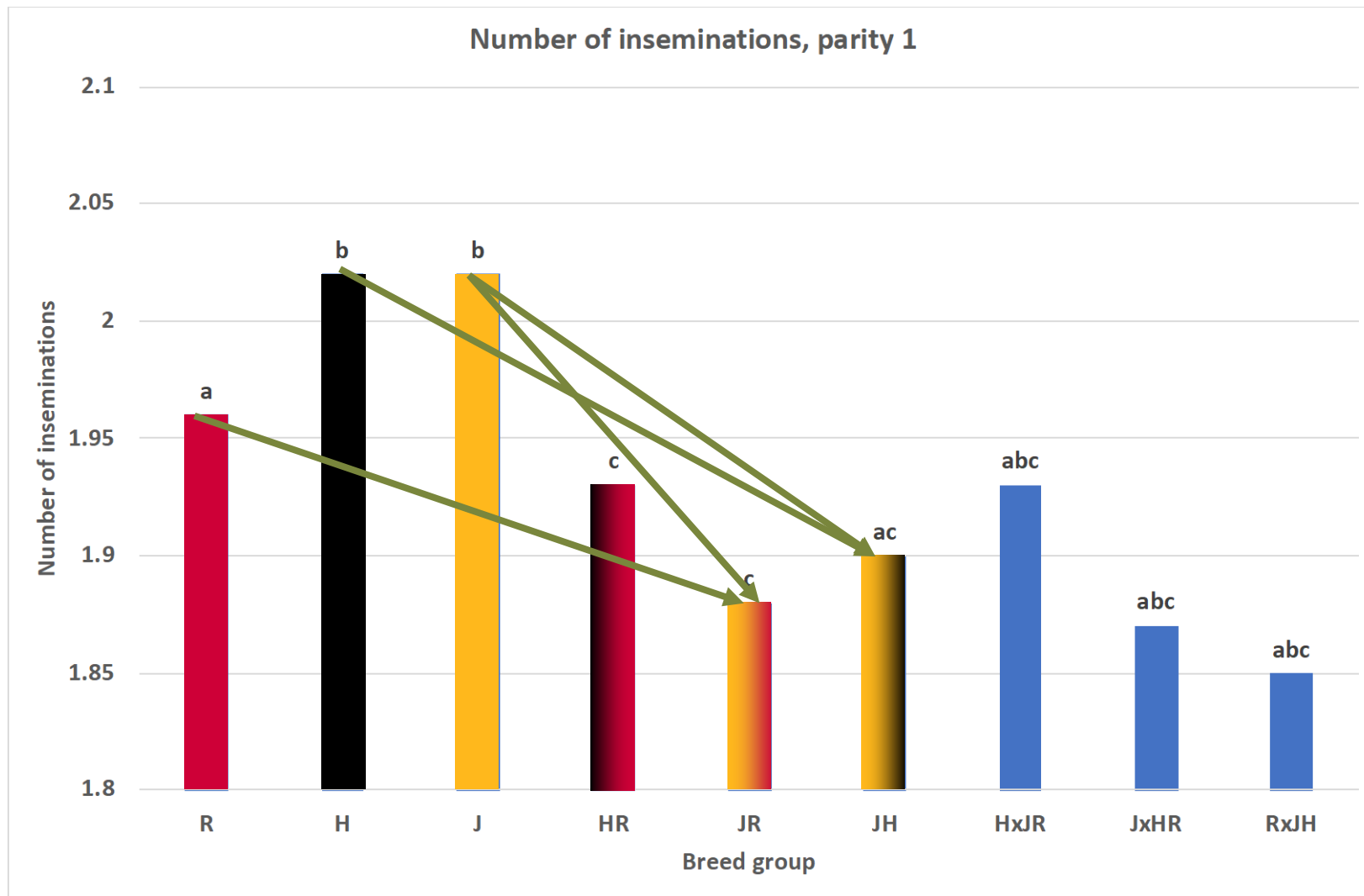
Fat yield



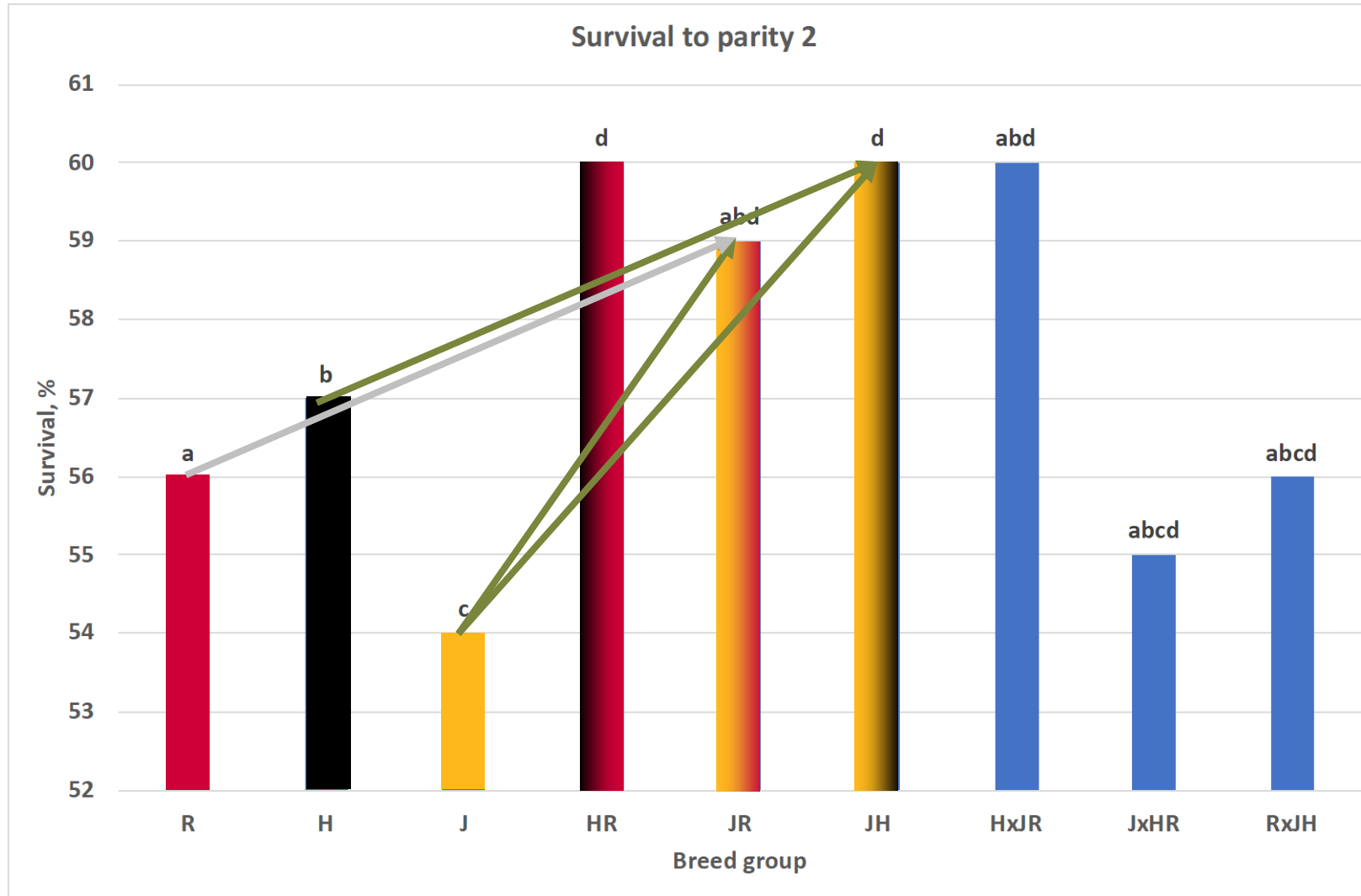
Protein yield



Number of inseminations



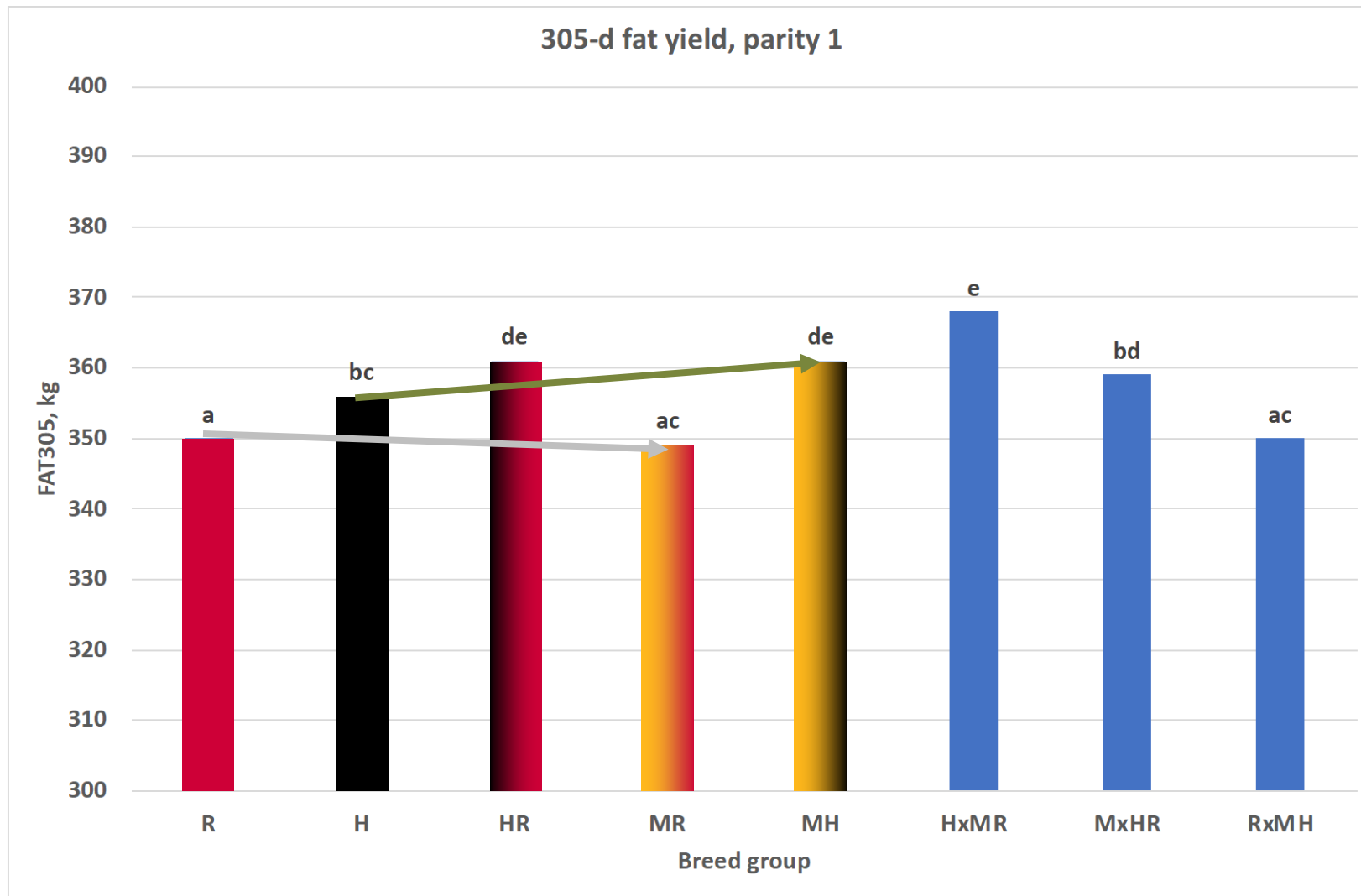
Survival



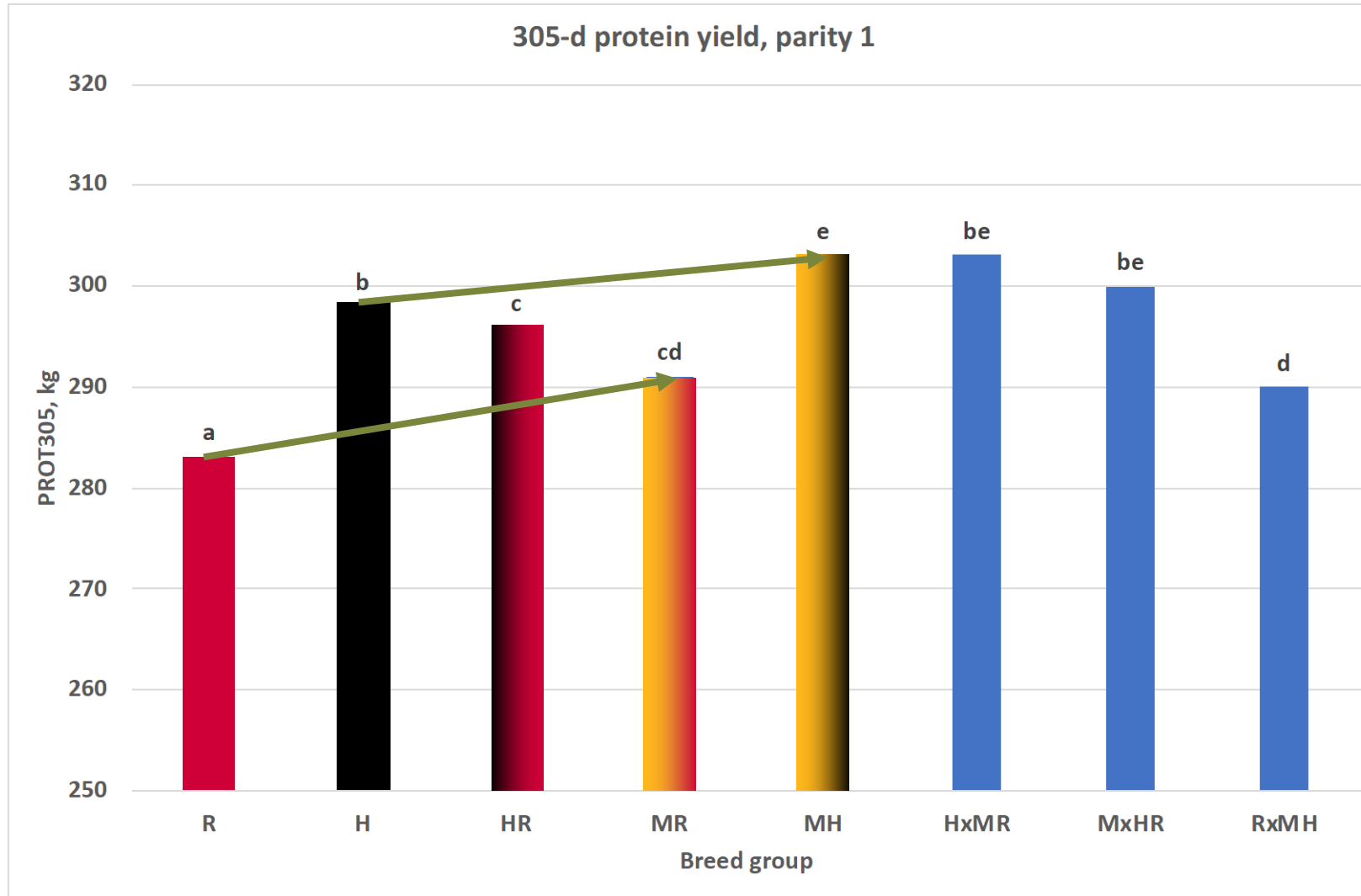
Montbéliarde



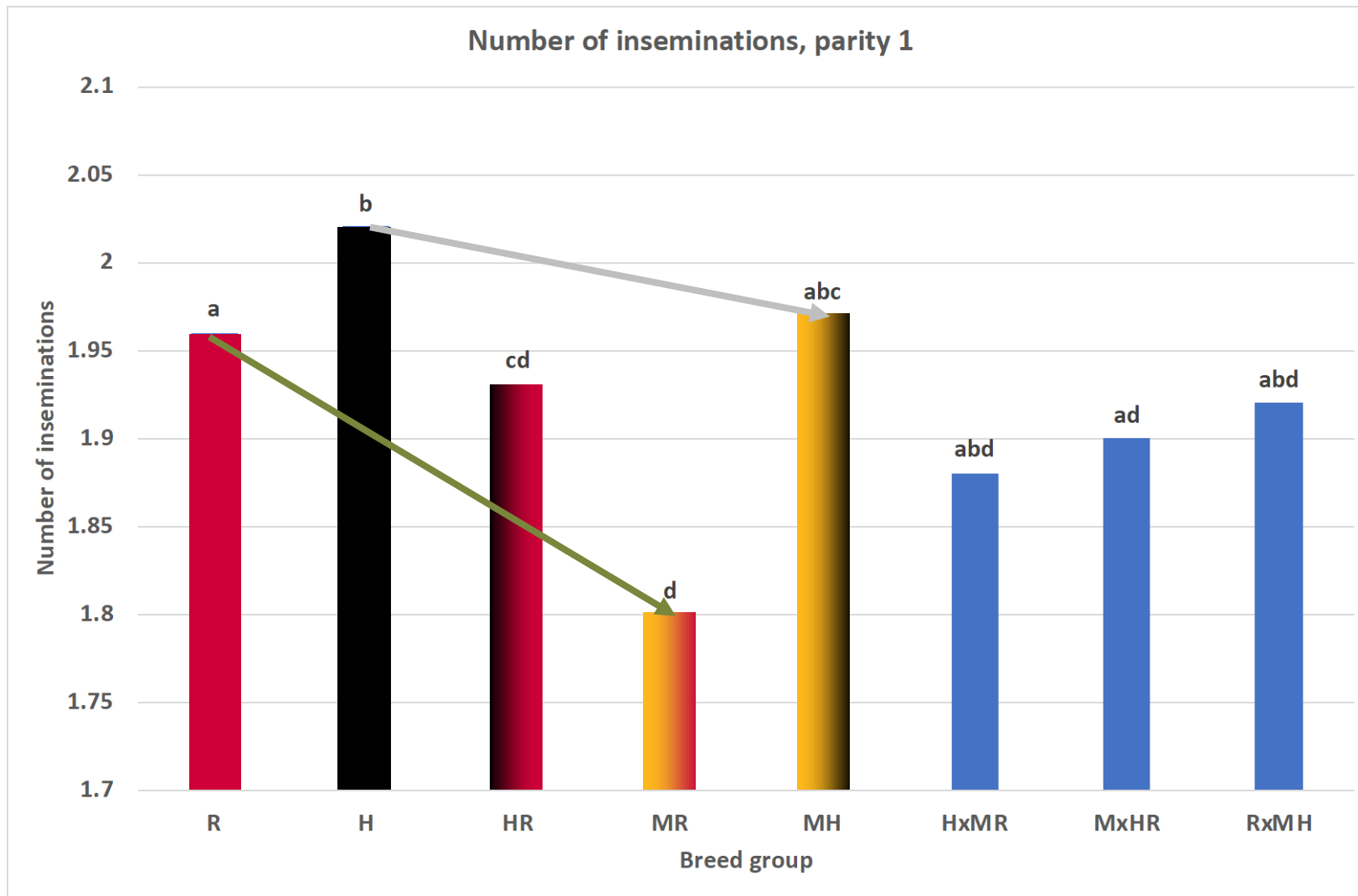
Fat yield

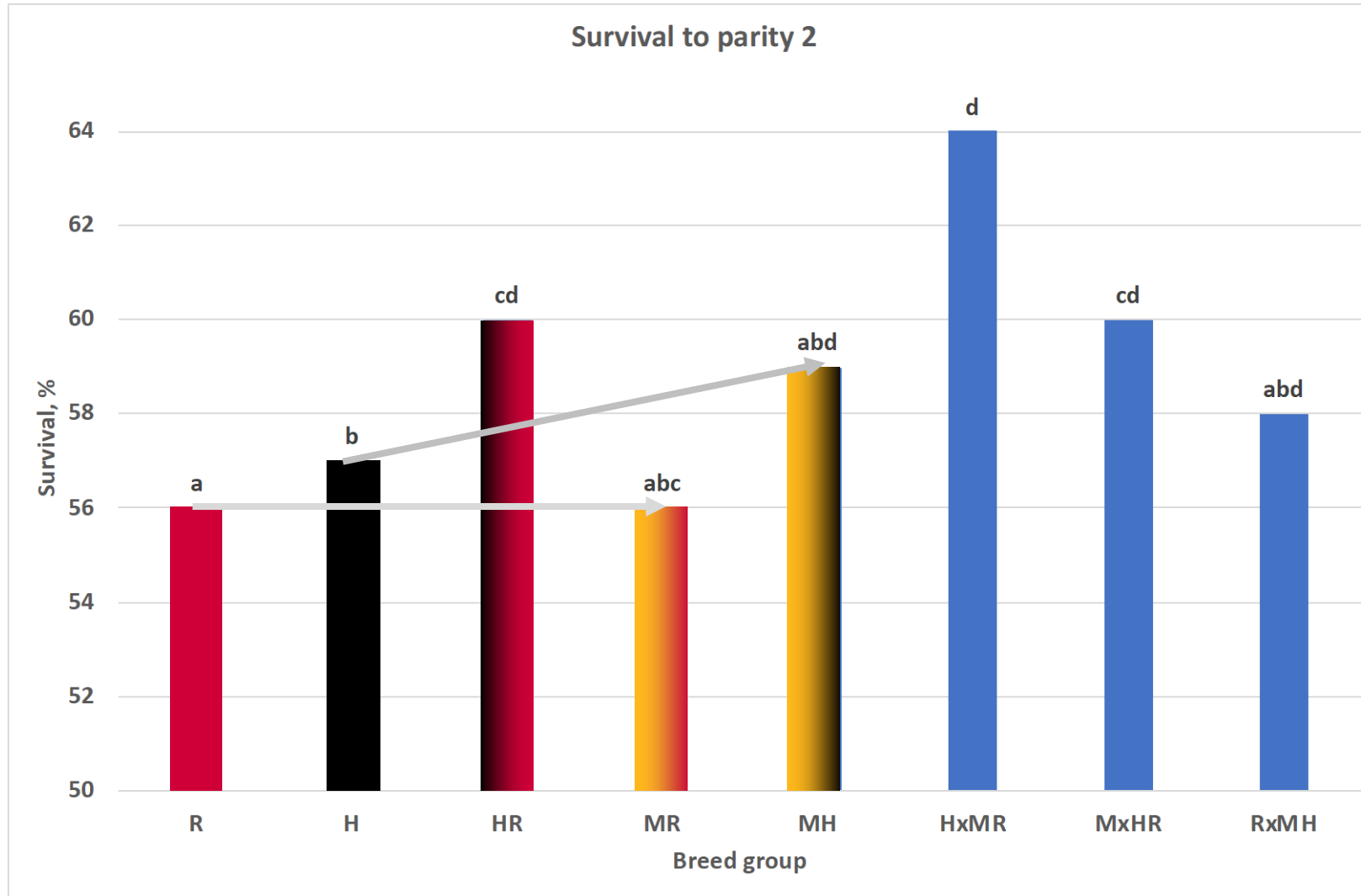


Protein yield



Number of inseminations





Conclusions

The Jersey F_1 -cross performed better or similarly (ns) to Jersey for all traits.

Jersey cross and Montbéliarde F_1 -crosses had better (or similar) fertility than Holstein and Swedish Red.

Montbéliarde x Holstein had better (or similar) production than Holstein.



ORIGINAL RESEARCH article

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Provisionally accepted



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🔔 The final, formatted version of the article will be published soon.

Notify me 🔔



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