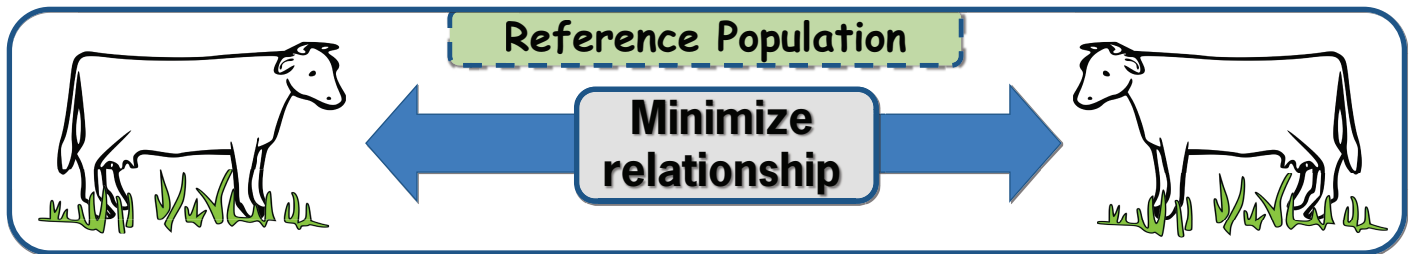


Design of the reference population affects the reliability of genomic selection

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Conclusion

Optimal design of the reference population:



Objective

Investigate effects on reliability of direct genomic values (DGV) of:

- 1) relationships **within** the reference population
- 2) relationships **between** selection candidate and the reference population

Simulated data

- 🐄 Dairy cattle structure
- 🐄 Reference populations (n=4):
 - 🐄 Highly, moderately, lowly and randomly related
 - 🐄 Small (n=2,000)
 - 🐄 Cows only
- 🐄 Selection candidates (n=1,000)
- 🐄 $h^2=0.3$

Reliabilities

- 🐄 Predicted based on selection index theory



Results

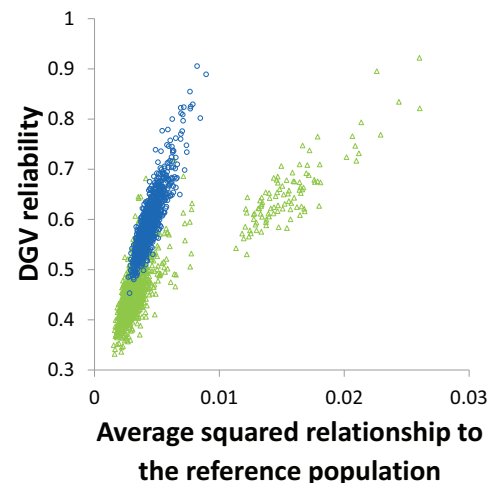


Figure 1. Individual reliabilities of selection candidates at different levels of average squared relationship to the reference population for highly (Δ) and randomly (\circ) related reference populations.



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