

Feeding **colostrum** based on birth weight improves dairy calves' passive immunization

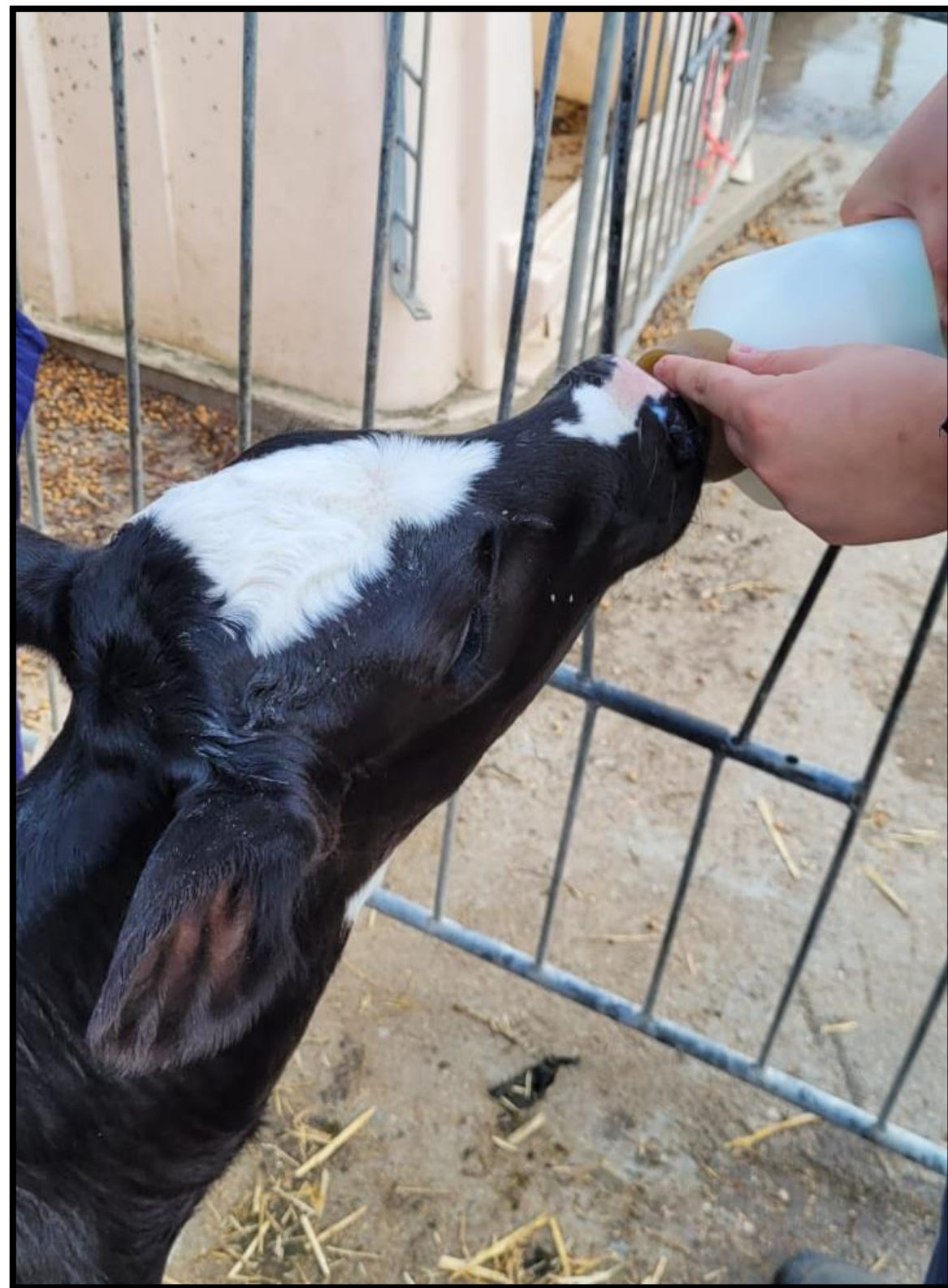
Silva F.G.^{1,2*}, Silva, S.¹, Conceição, C.², Ramalho, J.², Caetano, P.², Martins, L.², Pereira, A.M.F.² and Cerqueira, J.O.L.^{1,3}

¹ Veterinary and Animal Research Centre (CECAV) and Associate Laboratory for Animal and Veterinary Sciences (AL4Animals), UTAD, Vila Real, Portugal

² Mediterranean Institute for Agriculture Environment and Development (MED) and Global Change & Sustainability Institute (CHANGE), University of Évora, Portugal.

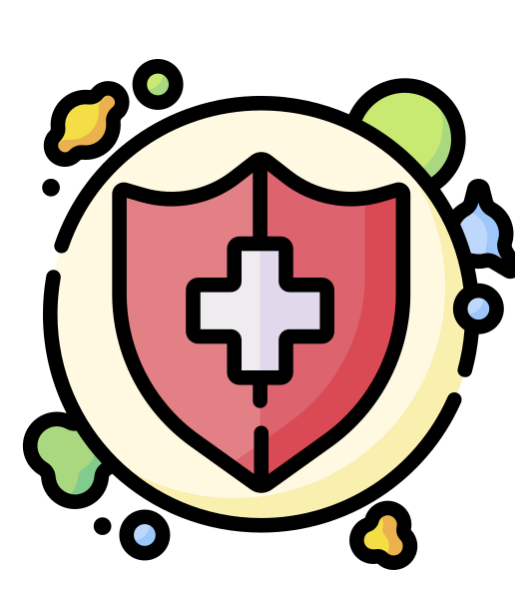
³ Agrarian School of Viana do Castelo Polytechnic Institute, Ponte de Lima, Portugal

* fsilva@uevora.pt



Colostrum is a highly valuable feed

Antibodies



Nutrients

- An adequate amount of **good quality colostrum** after birth secures a healthy start for the newborn calf
- Bigger calves need **more nutrients and antibodies**

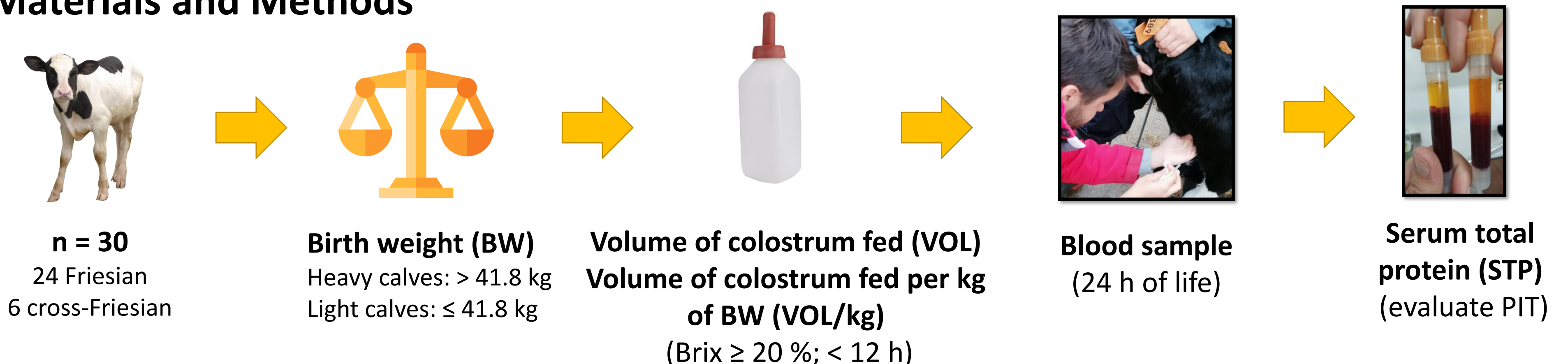
In dairy farms:

- Good quality colostrum can be **limited**
- **Standard volume** of colostrum (3-4 L) is usually given, regardless of the calf's weight

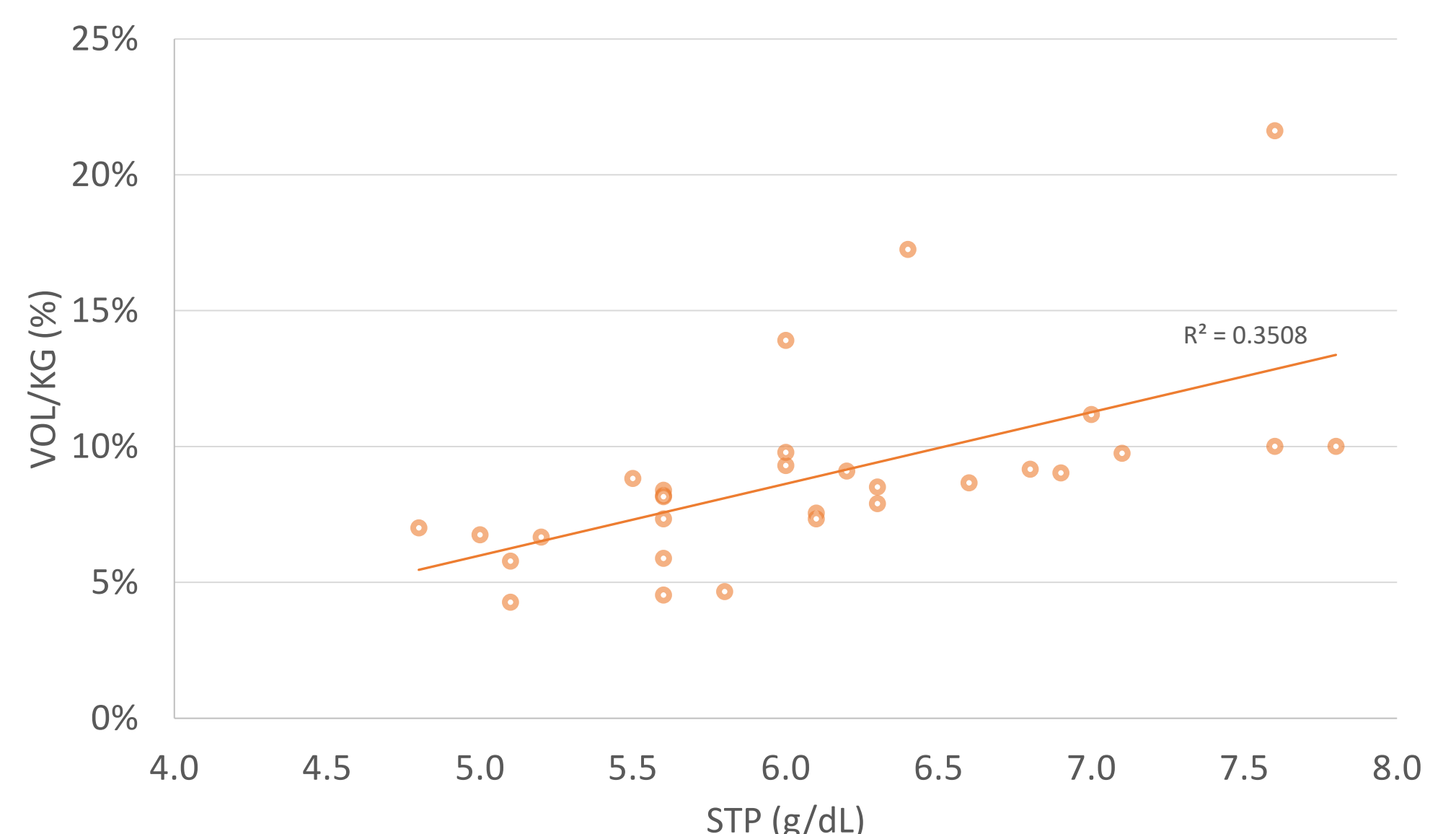
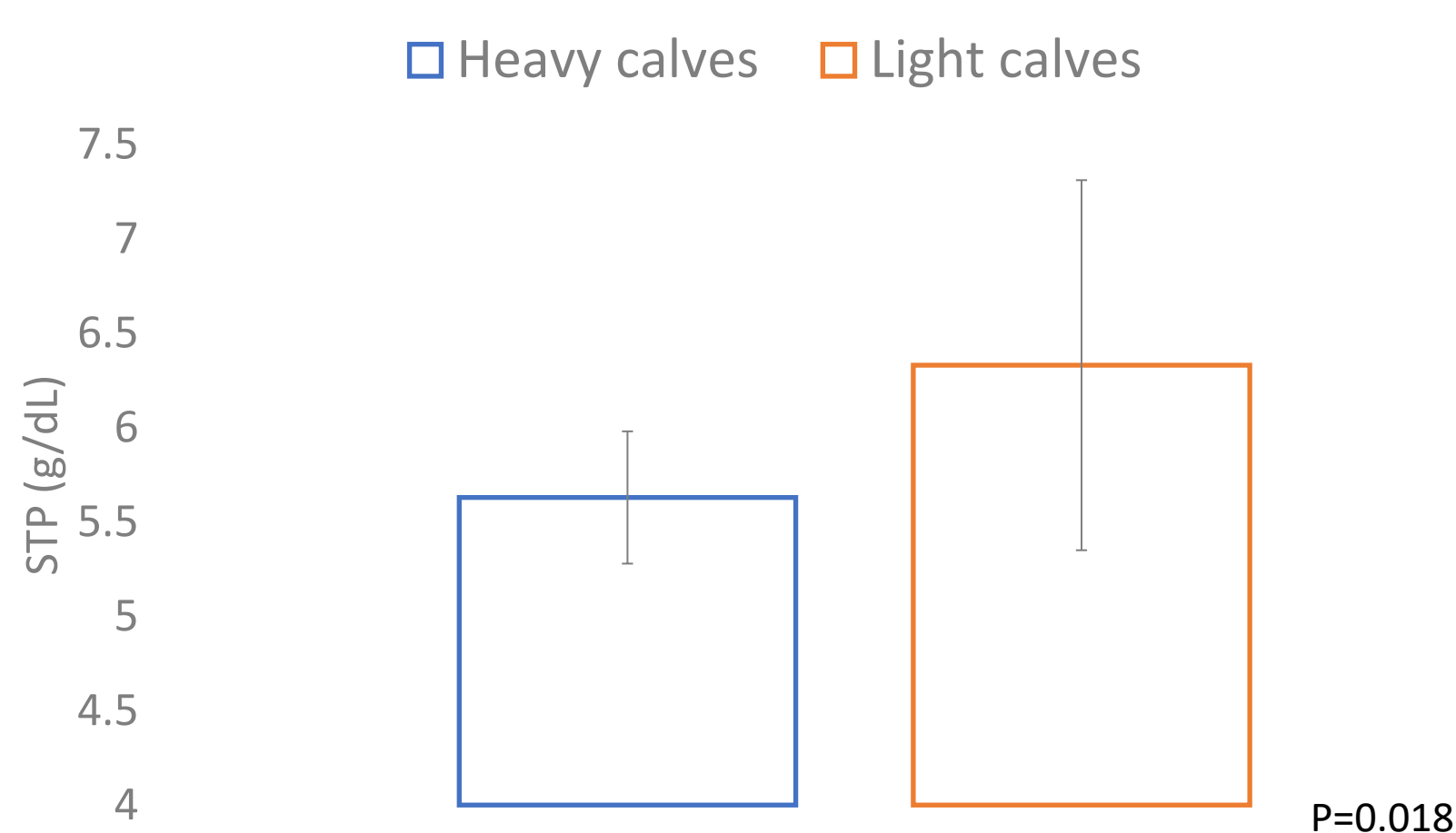
Research Question

Does feeding colostrum based on the calf's weight improve passive immunization (PIT) ?

Materials and Methods



Results



- ✓ **STP** was **positively correlated** with **VOL** ($r=0.7$) and **VOL/Kg** ($r=0.75$);
- ✓ **VOL/kg < 8%** increased 7 times the likelihood of **occurring failure of PIT** (STP < 5.8 g/dL)

Conclusion

Heavier calves should consume more colostrum than lighter calves and not a management-based standardized volume.

Acknowledgment: This work was supported by the projects UIDB/00772/2020, UIDB/05183/2020 and LA/P/0059/2020 funded by the Portuguese Foundation for Science and Technology (FCT). F.G.S. also acknowledges support from the research grant BD/150834/2021