

GENETIC PARAMETERS FOR GROWTH, WOOL AND IN VIVO CARCASS TRAITS IN DOHNE MERINO SHEEP OF URUGUAY

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INTRODUCTION

Dohne Merino (DM) is a synthetic breed that adapts to different agroecological situations. Imported into Uruguay in 2002, this breed stands out for its fast growth, fine wool and potential use both as a pure breed and in crossbreeding. The objective of this work was to estimate national genetic parameters for **Birth weight (BWT)**, **Weaning weight (WWT)**, **Yearling weight (YWT)**, **Scanning weight (SWT)**, **Rib eye area (REA)**, **Fat thickness (FAT)**, **Greasy fleece weight (GFW)**, **Clean fleece weight (CFW)**, **Fibre diameter (FD)** and **Staple length (SL)** of DM to develop a more precise evaluation and therefore a greater potential genetic progress of the breed.

MATERIALS AND METHODS



Data from **4331** animals of **12** progenies from **2** experimental stations were included in the analysis for **ESTIMATING GENETIC PARAMETERS** of

Table 1. Descriptive statistics of ages, growth, wool and in vivo carcass traits.

| TRAIT | N | MEAN | STANDARD DEVIATION | RANGE |
|------------------------|------|------|--------------------|-----------|
| Weaning age (days) | 2891 | 110 | 23.4 | 55-175 |
| Scanning age (days) | 1666 | 335 | 58.7 | 236-442 |
| Yearling age (days) | 2847 | 363 | 30.2 | 300-501 |
| BWT (kg) | 1828 | 5.0 | 1.11 | 2.00-8.70 |
| WWT (kg) | 2988 | 29.0 | 6.32 | 10.0-48.5 |
| SWT (kg) | 1735 | 54.4 | 14.53 | 22.5-95.0 |
| YWT (kg) | 3060 | 52.0 | 14.11 | 22.0-95.0 |
| REA (cm ²) | 1735 | 10.8 | 3.32 | 3.1-22.99 |
| FAT (mm) | 1731 | 2.5 | 1.13 | 0.7-7.5 |
| GFW (kg) | 3060 | 3.04 | 0.894 | 0.97-9.9 |
| CFW (kg) | 2412 | 2.26 | 0.582 | 0.9-6.4 |
| FD (µm) | 2911 | 18.4 | 1.46 | 14.0-23.7 |
| SL (cm) | 2416 | 8.9 | 1.45 | 4.0-14.5 |

RESULTS AND DISCUSSION

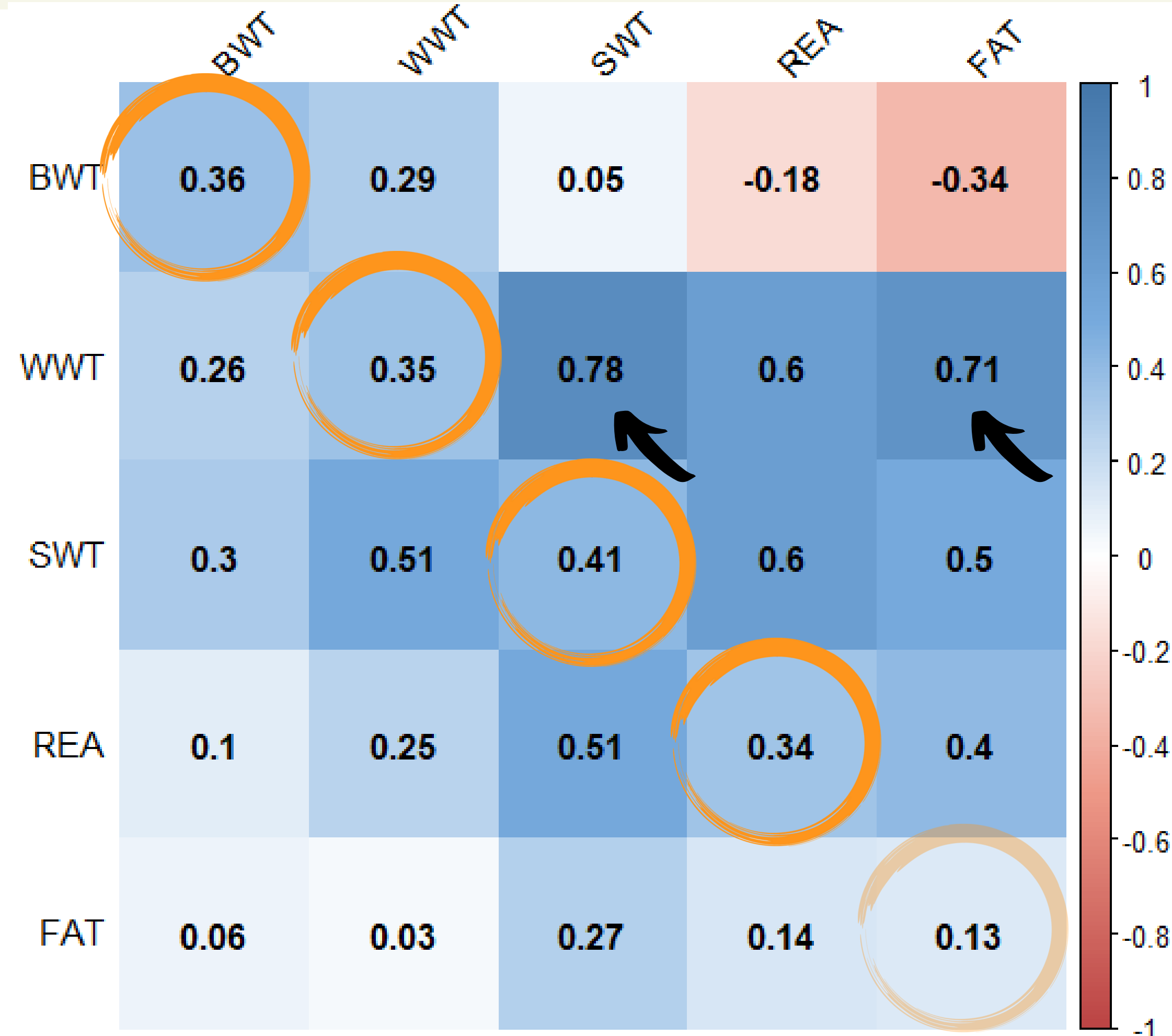


Figure 1 - Heritabilities (diagonal), genetic (above diagonal) and phenotypic correlations (below diagonal) of growth and carcass traits.

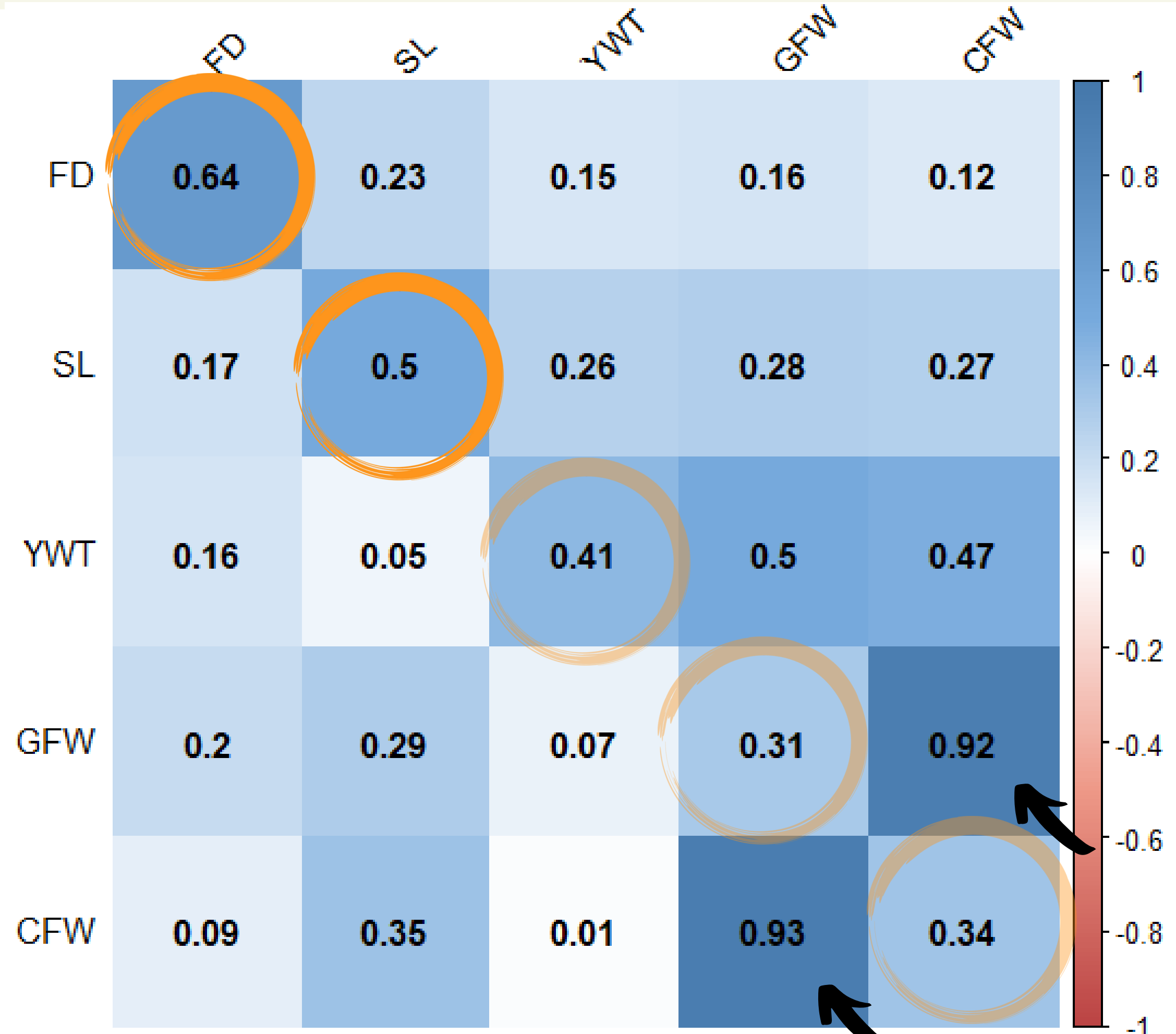


Figure 2 - Heritabilities (diagonal), genetic (above diagonal) and phenotypic correlations (below diagonal) of wool and YWT traits.

Figure 1 presents a moderate magnitude heritability (h^2) for **BWT**, **WWT**, **SWT** and **REA**, while **FAT** presented a low magnitude h^2 . Highly positive genetic correlations between **WWT-SWT** and **WWT-FAT**. Moderate genetic correlations between **WWT-BWT**, **WWT-REA**, **SWT-REA** and **SWT-FAT**, and negative genetic correlations between **BWT-REA** and **BWT-FAT** were found.

In Figure 2, a high h^2 for **FD** and **SL** was observed. This population also presented a moderate magnitude h^2 for **YWT**, **GFW**, and **CFW**, similarly to the reported in literature. There was a very high genetic and phenotypic correlation between **CFW** and **GFW**, positive genetic correlations between **YWT-GFW**, **YWT-CFW**. Genetic correlations among the other wool traits were lower than mentioned above.



CONCLUSION

Data evaluation in different geographic locations is a very important way to obtain assertiveness in research of a particular breed and location.

Our estimation of genetic parameters for growth, wool and carcass traits in DM sheep of Uruguay will help in developing an Uruguayan genetic evaluation of the breed.