







not significantly different from zero (Table 2). The IN results were generally stronger negative, but also often not significantly different to zero. However, SURV was more negatively correlated with wrinkle both at the genetic and maternal permanent environment levels than LSURV.

**Table 2. Phenotypic variance ( $\sigma_p^2$ ), maternal permanent environment (PE), direct heritability (diagonal bold type), genetic correlations (below diagonal), maternal permanent environmental correlation (above diagonal) between wrinkle and lamb survival traits**

	EBWR	LBDWR	LSURV	SURV
Records	80,467	38,348	46,826	11,957
$\sigma_p^2$	0.59±0.00	0.51±0.00	0.11±0.00	0.09±0.00
PE	0.04±0.01	0.00±0.01	0.14±0.01	NE
EBWR	<b>0.32±0.01</b>	NE	-0.14±0.06	NE
LBDWR	NE	<b>0.40±0.01</b>	0.99±0.79	NE
LSURV	-0.05±0.10	-0.24±0.20	<b>0.02±0.01</b>	NE
SURV	-0.17±0.11	-0.28±0.18	NE	<b>0.03±0.01</b>

NE: not estimated or not estimable

## CONCLUSIONS

Merino breeding programs with an emphasis on reducing wrinkle are likely to generate correlated improvements in reproduction both as a trait of the ewe and the lamb. While breeders using BCOV as an indirect selection criterion for flystrike could expect correlated decreases in direct lamb survival despite favourable genetic relationships with some lamb survival indicator traits. However the inconsistency between age expressions of the wrinkle and BCOV traits due to low precision of the genetic correlations does add some uncertainty to these conclusions. The inaccurate parameter estimates are due to some animals not having both records, as dead lambs were not scored for BCOV or wrinkle and we therefore rely on the genetic relationships between animals via the pedigree to estimate these genetic correlations. Accurate parameters and multiple trait index predictions are required to properly quantify the impact of these relationships for Merino breeding programs.

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