



The Future Sheep

Effects on skin and leather

Year 1 breeds

- Romney (controls)
- White Dorper x Romney
- Red Damara x Romney
- White Damara x Romney
- Shire x Romney
- Wiltshire x Romney

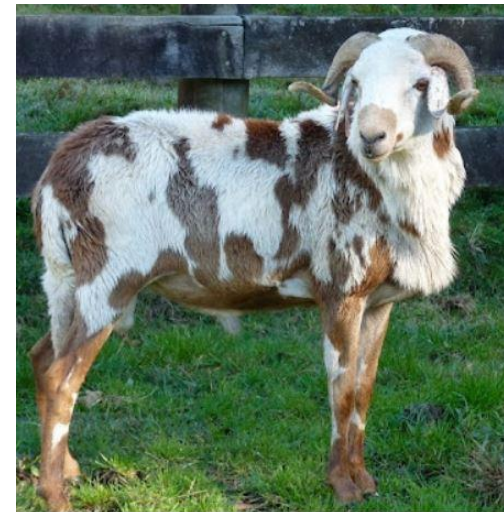
Romney



White Dorper



Wiltshire



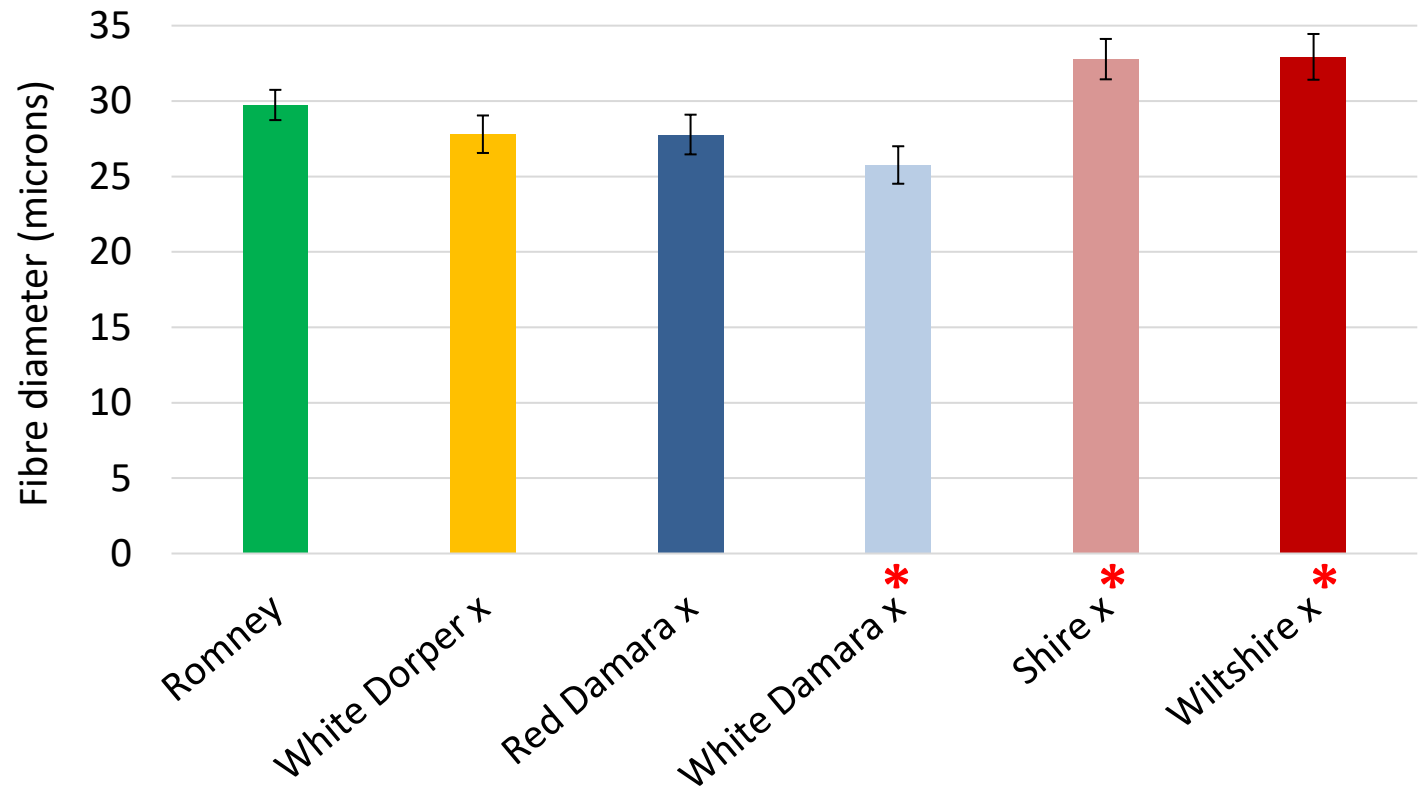
Damara

Wool

- Relevant because
 - while the breeding-up is ongoing, lambs are not fully shedding
 - Even when “pure-bred” status has been achieved, lambs may be slaughtered before full shedding has occurred
 - Ideally, any wool should not detrimentally affect the staple wool produced at a fellmongery

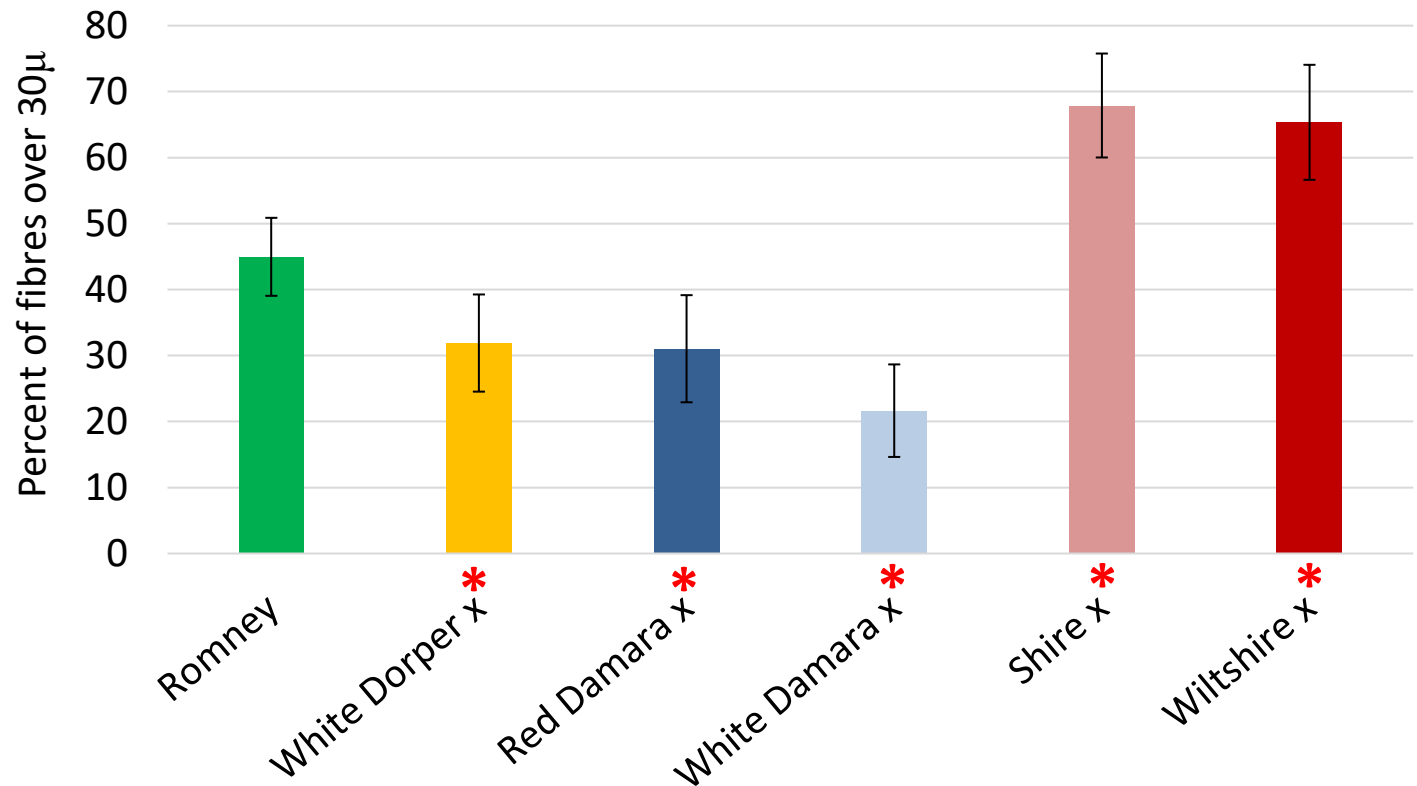


Fibre diameter



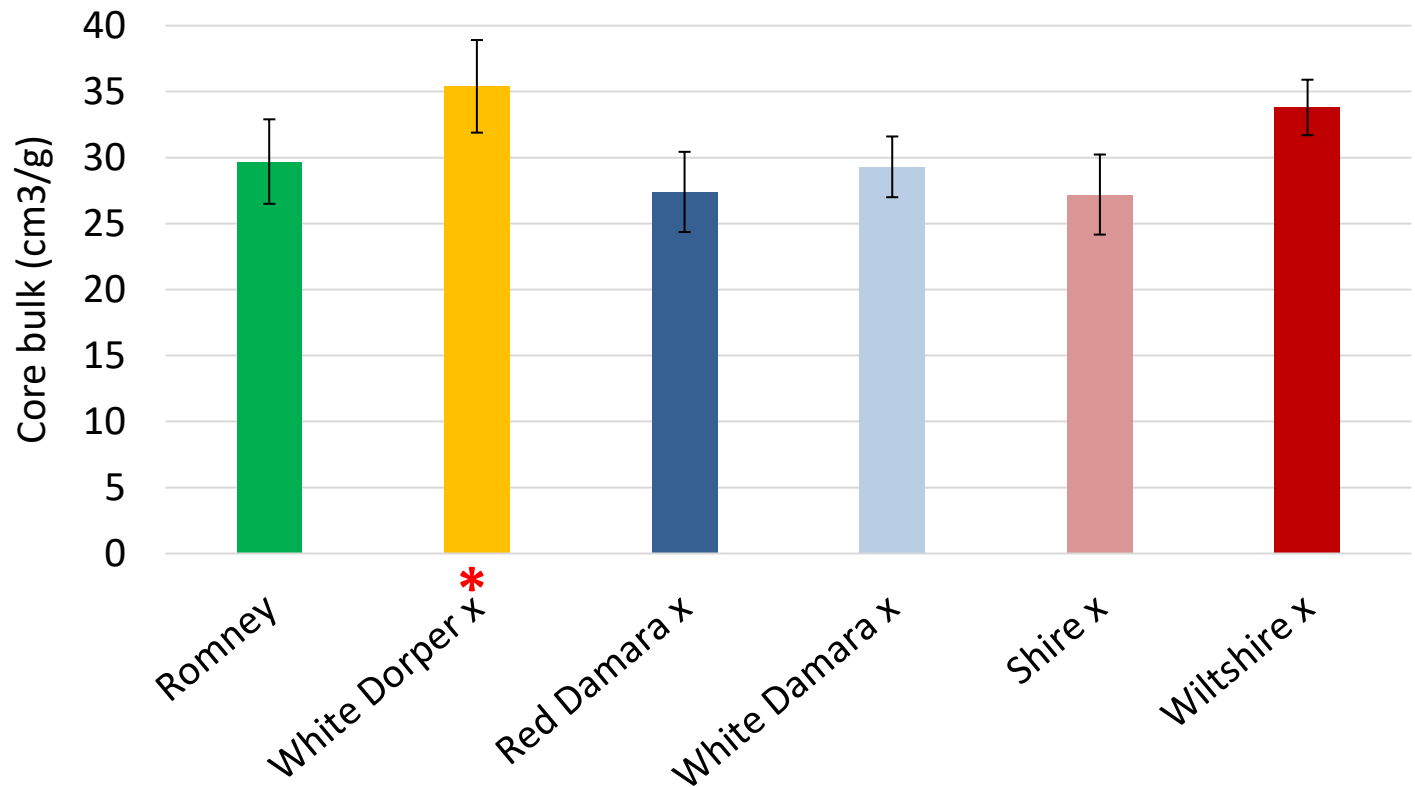
* Significantly different

Percent greater than 30 microns



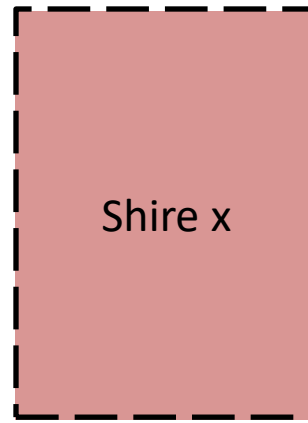
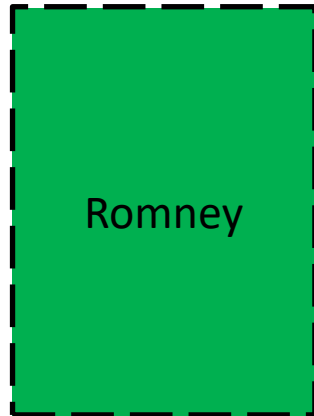
* Significantly different

Wool bulk



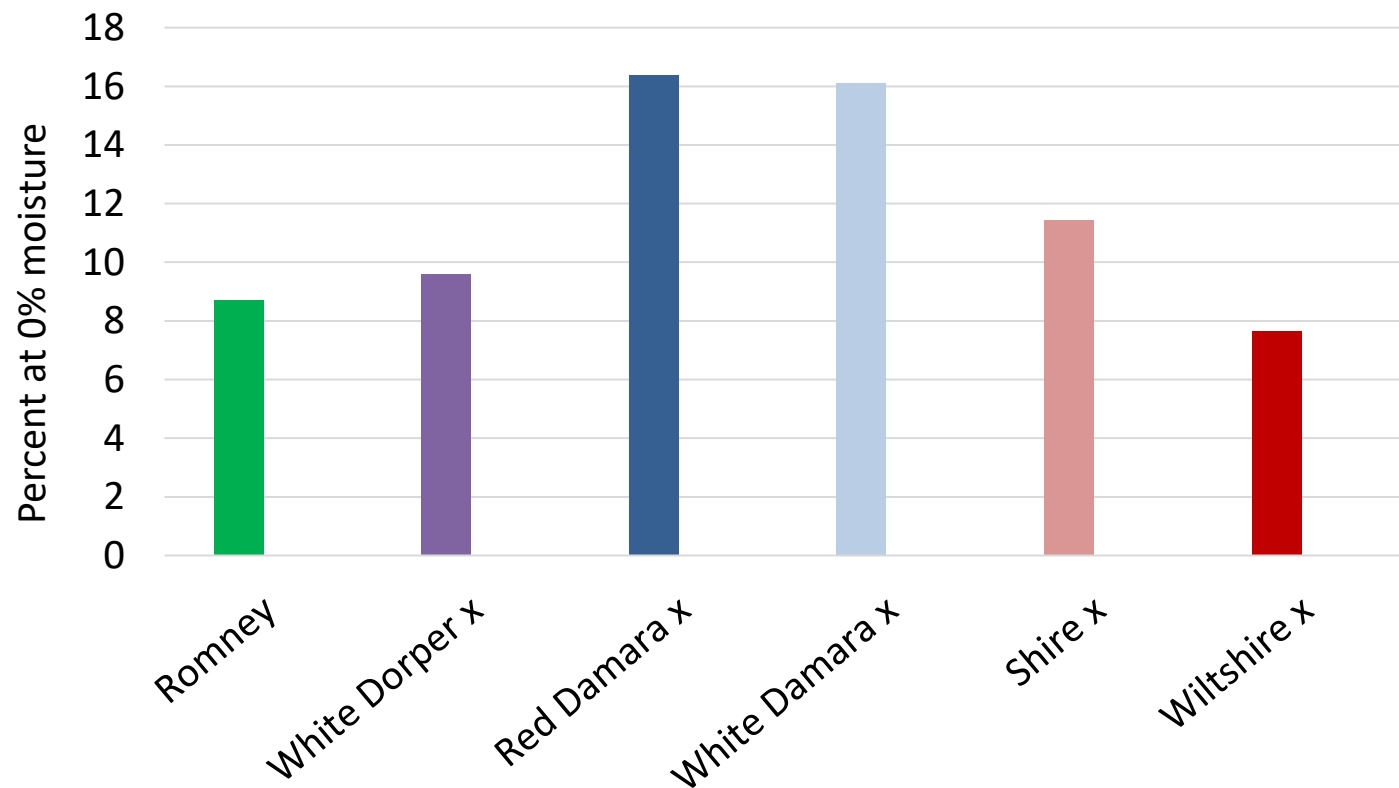
* Significantly different

Shape (length/width)

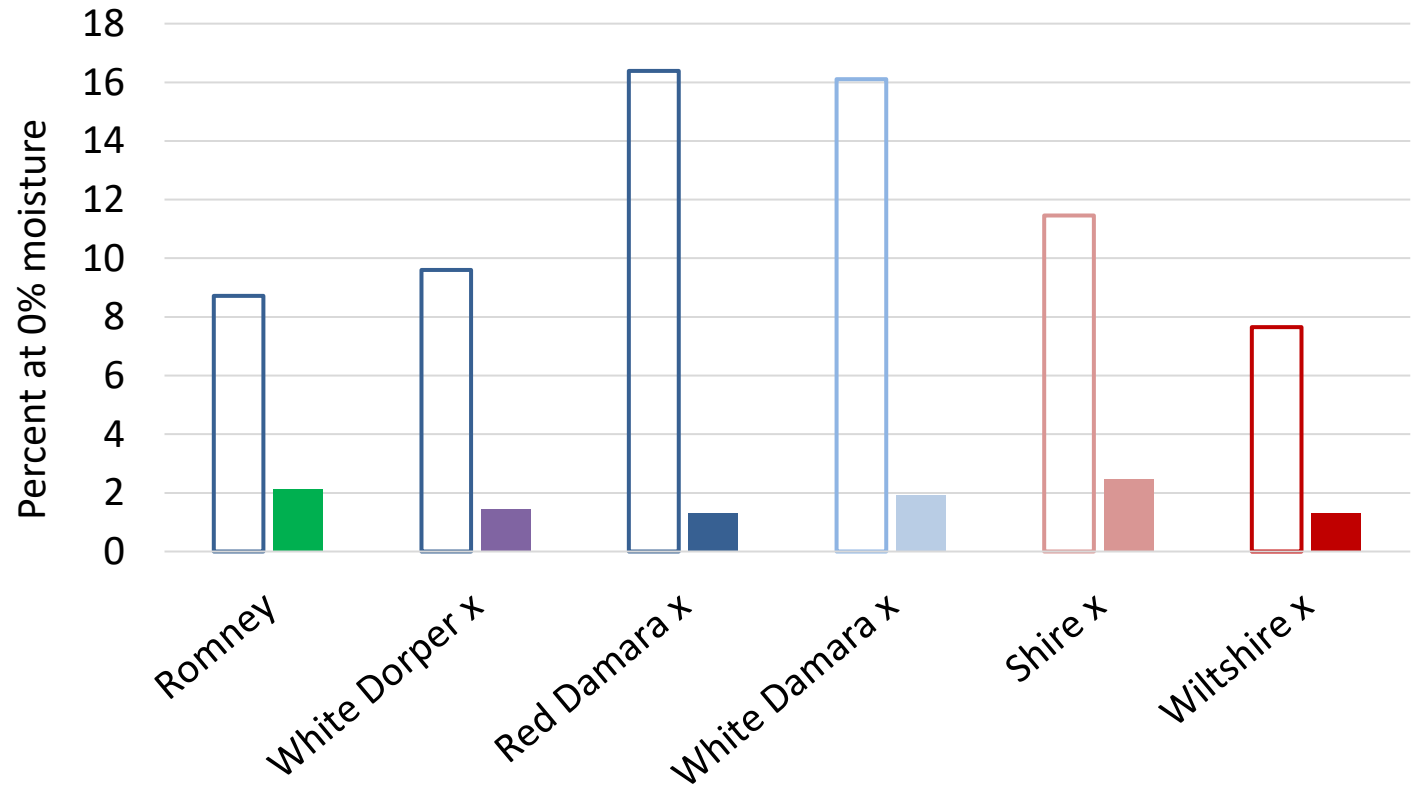


Significantly longer
than Romney

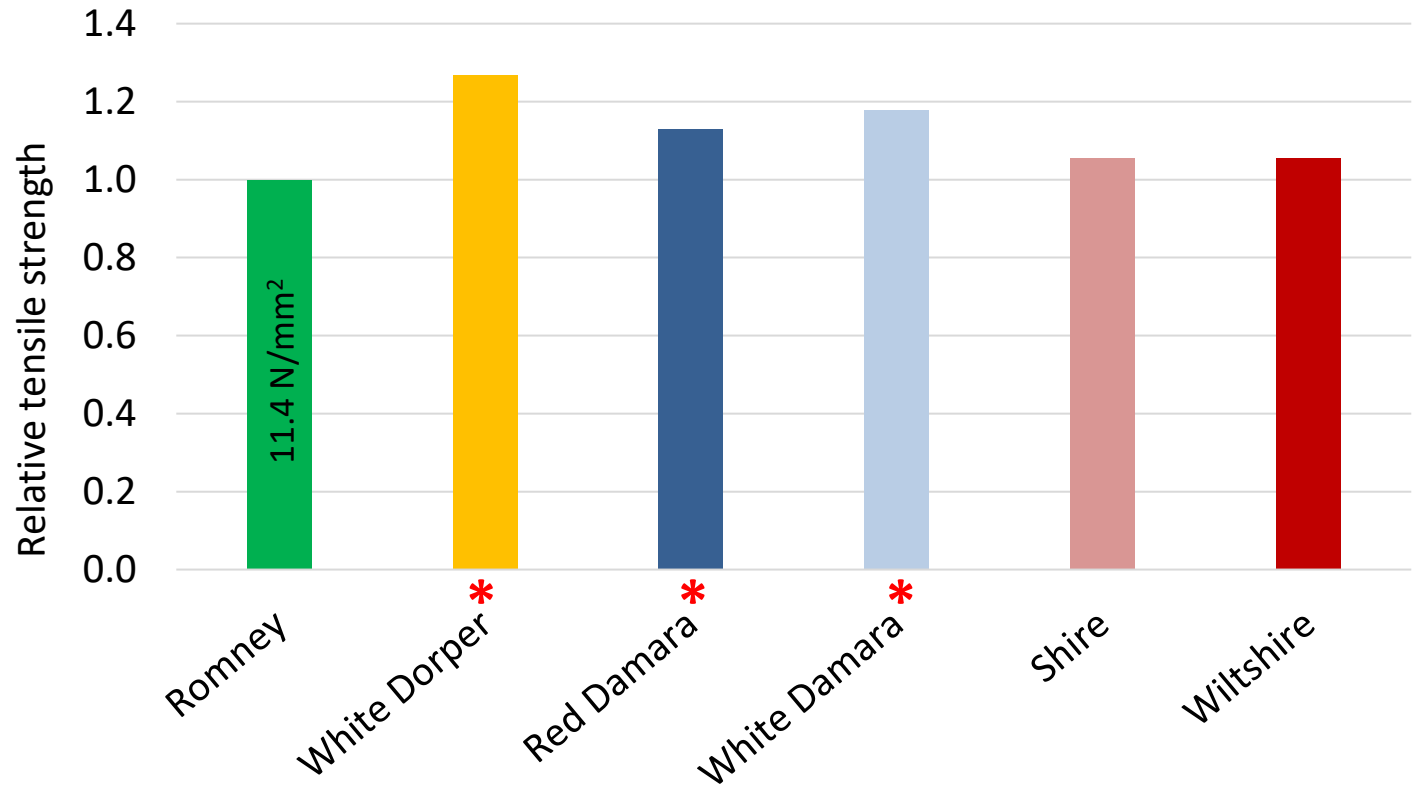
Fat measurements – pickled pelt



Fat measurements – wet blue

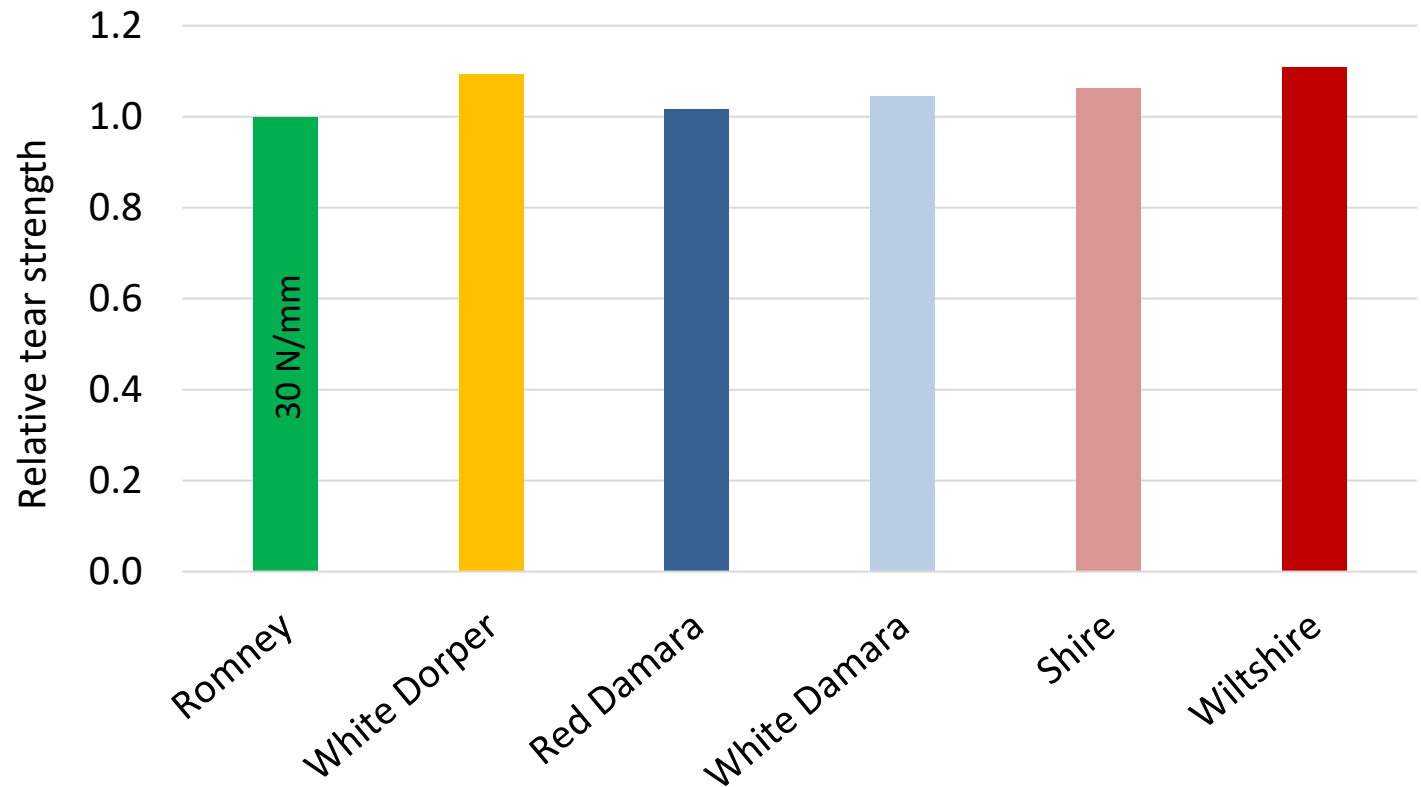


Tensile strength (relative)



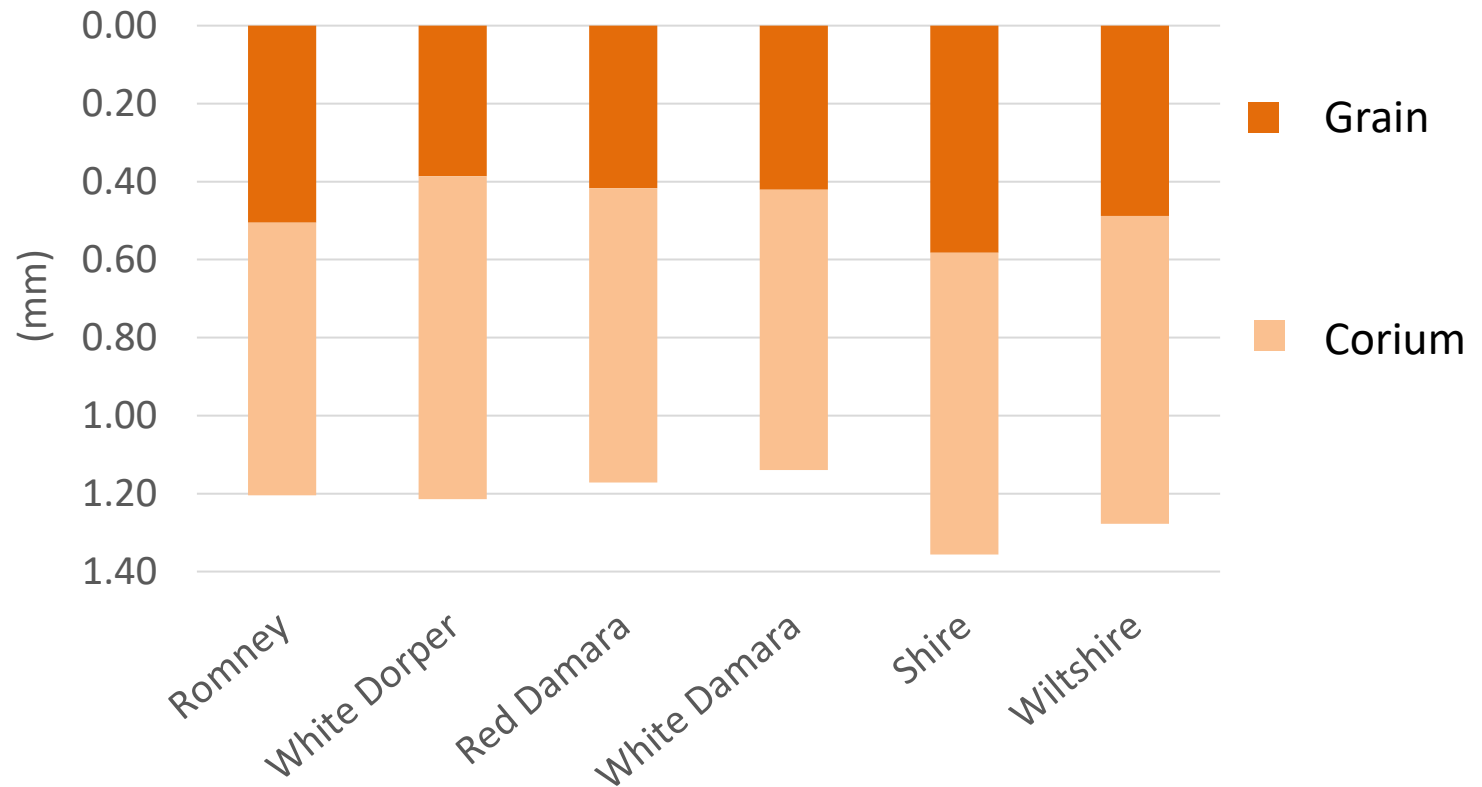
* Significantly stronger

Tear strength (relative)

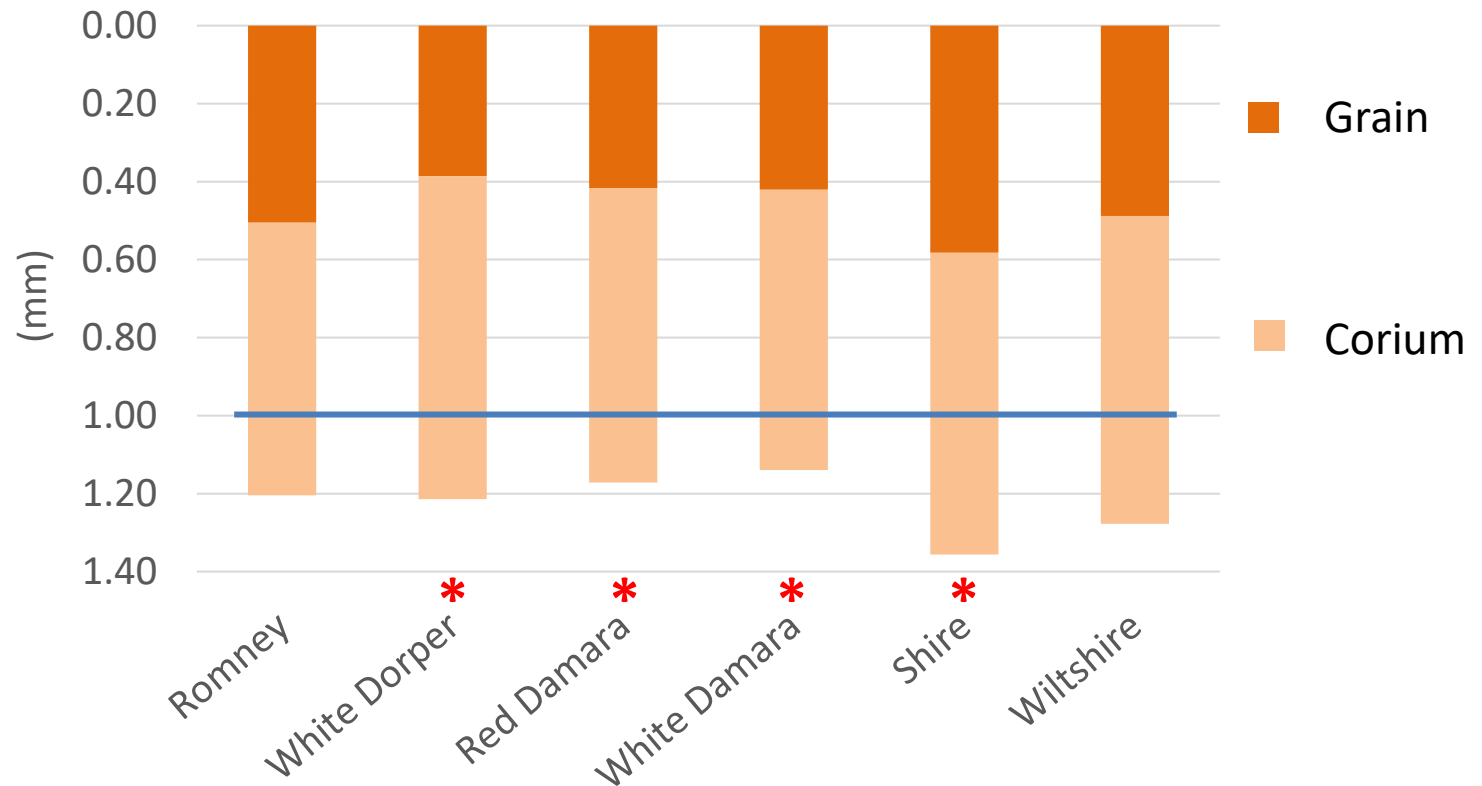


No significant differences

Thickness of crust leather



Thickness of crust leather



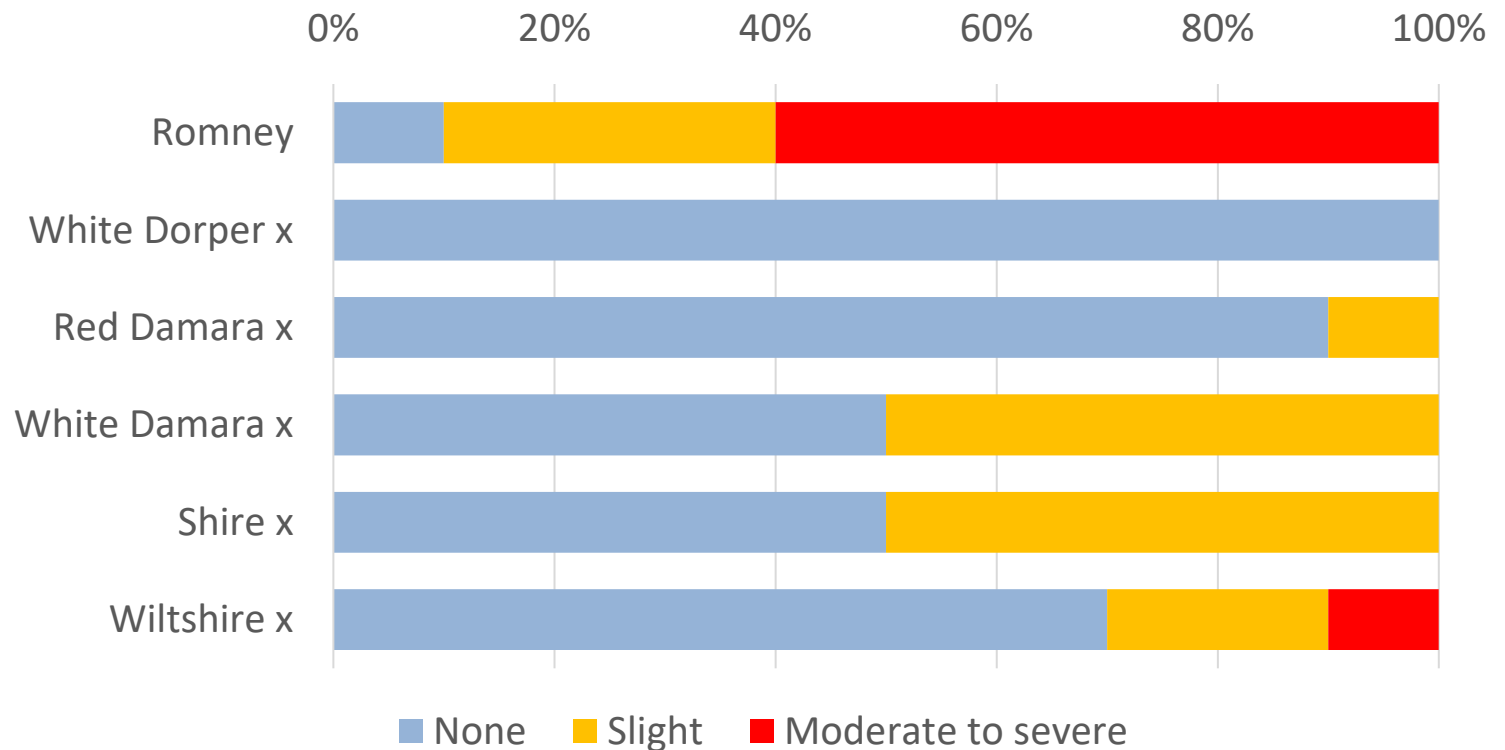
* Significantly different

Looseness of leather

- Looseness is the tendency of the layers of the skin to delaminate so that the skin wrinkles under tension



Looseness of leather



All of the crossbreds were significantly better than the Romneys

Pinhole on leather

- Small pits in the leather caused by merging of follicles
- Is a cosmetic fault
- Downgrades the pelts to either “pinhole” or “thirds” grade depending on severity



Pinhole grading of crusts

	Number of skins in each grade		
	Run	Pinhole	Rib
Romney	10	0	0
White Dorper x	10	0	0
Red Damara x	10	0	0
White Damara x	10	0	0
Shire x	9	1	0
Wiltshire x*	5	4	1

* Wiltshire cross skins were significantly worse than the control Romneys

Summary

- If it had a “D” in the name, we liked it!



Breeds for this year's work

- Romney (controls)
- White Damara x Romney
- Red Damara x Romney
- Ultrawhite x Romney
- MeatMaster x Romney
- Australian White x Romney
- Dorper x Romney
- Shire x Romney
- Wiltshire x Romney
- Texel x Romney
- Footprint x Romney
- Dorper (purebred)

We would like to acknowledge the assistance of:

- Pamu for making the skins available
- Focus Genetics and AgResearch
- Penny Dodge and Amara Nanayakkara (LASRA) for assistance with processing and measurements
- MBIE for funding this research