RMIT Research Summary

"Wallaby – a light weight warm material with some surprising features." – Rajiv Padhye (RMIT)

Everyone knows Tasmania is the home for all things unique and amazing. Well now a Tasmanian company has launched the latest and greatest in urban comfort, Wuggs – uggs boots made from wallaby fur.

Lenah Game Meats processes wallaby (which are super-abundant in Tasmania, there's over 3 million of them) under government licence for human consumption meat and have recently started turning the skins into Wuggs.

> *"We've been experimenting with and developing Wuggs for many years, all along people have been telling us they are extremely comfortable and that they don't sweat in them. So, we decided to get some experts to look at them for us."*
>
> John Kelly, the Proprietor of Lenah.

Lenah contracted the Centre for Materials Innovation and Future Fashion at the Royal Melbourne Institute of Technology to compare the performance of Wuggs against traditional wool ugg boots. The boffins put both through all sorts of tests on their weird and wonderful machinery and found some very surprising results.

The Two Guinea Pigs - Wuggs and Uggs

Wallaby is an extremely light weight material.

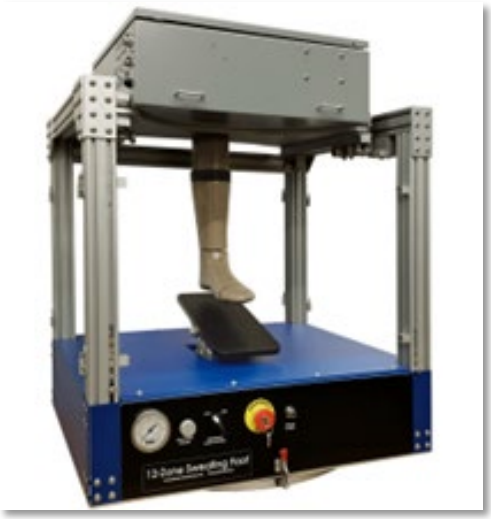
Per unit area wallaby weighs only 65% of the same area of wool leather. This is mainly because wallaby fur skins are much thinner than wool, with an average standard compressed thickness of 3.3 mm compared to 8.5 mm in wool skins.

The RMIT has a Thermal Foot Test System (TFTS), that's it grinning in the photo, this makes it possible to quantify the thermal and ventilation properties of footwear in environmental conditions ranging from -40°C to +50°C

RMIT concluded:

"The wallaby fur has a lower thickness and area density, as compared to merino, they are a much lighter weight material and less dense giving overall comfort to the
body, without the bulk of merino product. These properties provide a low weight alterative, increasing comfort by reducing weight of the footwear. "- RMIT report.

Wallaby fur being squashed to measure its thickness, 'ouch' it says



People should sweat less in Wallaby.

RMIT strapped both Wuggs and Uggs up to this **wonderful machine** and found that Wuggs had lower thermal resistance than traditional Uggs. This may allow heat to transfer around inside the boot better, rather than retaining it all in the lower foot and toes. This may explain why Wugg users have consistently reported they sweat less in Wuggs than in wool uggs.

Simply put it suggests that in an inside heated urban environment, uggs will trap your body heat in the lower part of the boot and generate sweat, where-as Wuggs allows the heat to dissipate within the boot better, leading to less sweat.

A cross section of Wuggs, showing how it may allow heat to dissipate around the boot better than in wool

Wallaby has a surprising and unique structure.

RMIT found wallaby is dramatically less permeable to air than wool, permeability rates in wallaby were 1/5th that of wool.

AIR PERMEABILITY		
	100 Pa	200 Pa
WOOL	0.432	0.866
WALLABY	0.0866	0.130

RMIT commented, "the air permeability of 0.08 seen in the wallaby at 100Pa is extremely low".

It could be expected that wallaby would show similarly low levels of permeability to water and therefore represent a product with ready-made water resistance.

Wallaby is also a low shrink material.

RMIT put both wallaby and wool leather through a standard washing/drying cycle and found that wallaby material shrunk by only 1.5%, compared to nearly 5% in wool.

> "Wallaby showed a much less propensity to skink than wool, it's results in a shrinkage test were less than a third that of wool. The superior dimensional stability of wallaby as compared to merino can be used to combat the shrinkage issues associated with winter garments." RMIT

All this adds up to a material which is much lighter, more flexible, less likely to shrink and more comfortable in an urban environment than wool, with build in water resistance.

As a final advantage, RMIT also commented, "The natural colour of wallaby fur is aesthetically pleasing with its streaks of grey and white. It has the potential of hiding soiling for longer periods compared to light-coloured wool." RMIT

The people at Lenah always knew wallaby fur was light weight and warm, the results from RMIT have shown it's even better than they thought, with extremely low permeability and low shrinkage, it's a sensational material. And now they also have some idea why people claim they don't sweat in Wuggs.

Full RMIT report available on request

Contacts

John Kelly

Proprietor, Lenah Game Meats

0417 585 163

john@lenah.com.au

Professor Rajiv Padhye

Director, Centre for Materials Innovation and Future Fashions

School of Fashion and Textiles

College of Design and Social Context

RMIT University

0417 501 853