

# Wool fabric on the mat

Tim Cronshaw

Merino wool is about to face its sternest test in the martial arts ring.

AgResearch scientists are working on a new wool-based fabric for martial arts uniforms to combat the drawbacks of traditional fighting attire.

The uniforms are typically made from double-woven cotton cloth. The heavy and stiff cloth can handle the strain of repeated throwing and grabbing, but it can become soaked with moisture from sweating practitioners of martial arts.

AgResearch project leader Surinder Tandon said the lightweight wool and polyester-knit fabric was more comfortable to wear.

"We are using wool's part of the fabric next to the skin for better moisture release from the body and garment, and because wool regulates body temperature.

"Wool can absorb about 30 per cent of moisture without the user feeling wet, while the traditional judogi can only absorb 10 to 12 per cent moisture."

He said cotton became wet, smelly and uncomfortable, whereas wool offered good breathability, moisture transfer and had anti-odour properties.

Tandon said the garment was a further example of AgResearch working with commercial companies to create innovative wool products.

The Crown research institute's textiles team was approached by start-up Dunedin company Gimono to develop an alternative fabric.

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Surinder Tandon  
AgResearch

In the last three years, scientists have tested options for their tearing strength, shrinkage, stretch and recovery and surface friction when material is being grabbed.

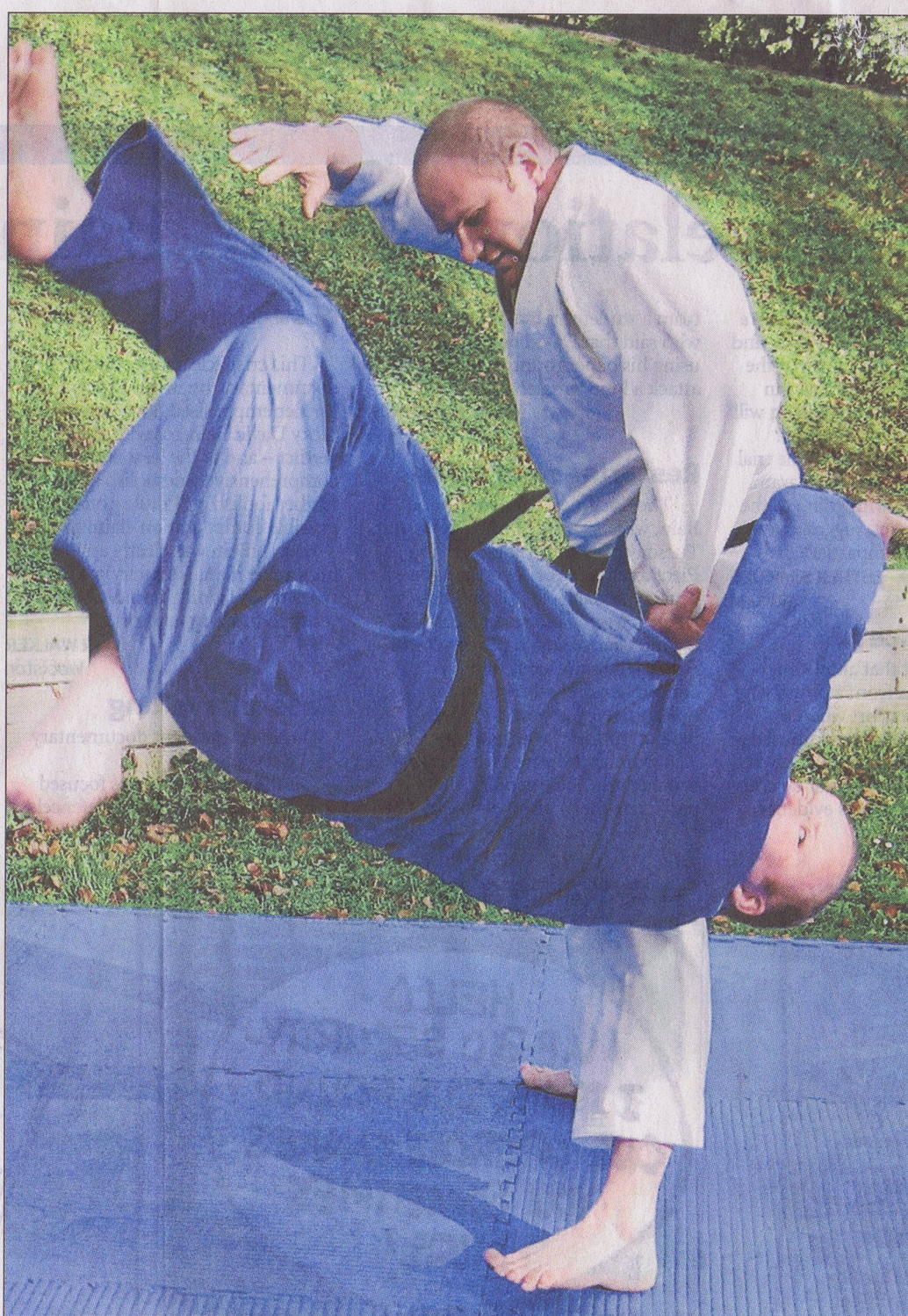
From this was developed a lightweight wool and polyester fabric with a wool face next to the skin.

This face is softer and is breathable for better moisture release, while the outer layer is strong enough to withstand rigorous grabbing.

The new patent-pending fabric is initially aimed at mainstream martial arts training, as strict rules apply for uniforms in competition.

Tandon said that when he was contacted by Gimono, he felt confident that wool would provide a better garment for martial arts disciplines because of earlier research successes.

Previous wool innovations by AgResearch have included lightweight, easy-to-wash merino business shirts and trousers and a stab-resistant vest.



**Wool throw:** Gimono co-founder Grant Scott wears a white uniform made from the new wool-based fabric. His opponent is in traditional cotton garb.