



# Bioharvesting of wool

A new approach to replace traditional shearing by creating a weak point in the wool fibre allowing for mechanical harvesting

## Benefits

- No skilled shearers required to harvest wool
- Provides woolgrower with flexible wool harvesting times
- Sheep have short wool coverage post harvest protecting their skin
- No cuts to the animals
- No seconds cuts to the wool that is harvested, so less short fibre created, lowering the risk of wool being discounted at sale.

## Background

A shortage of skilled shearers is presenting a real threat to the multi-billion dollar Australian wool industry. Traditional shearing of sheep has not changed greatly in more than 200 years and is now one of the most inefficient and expensive harvesting processes in agriculture.

Anecdotal evidence suggests woolgrowers are leaving the industry because they cannot get shearers, and the cost of shearing is making wool production unviable for some.

## Technology overview

An alternative to traditional shearing has been developed at the University of Adelaide with funding from Australian Wool Innovation Ltd. It targets a key biochemical event involved in fibre hardening in the wool follicle, which creates a weakened zone of wool simultaneously in all fibres across the sheep. The weakened wool can then be broken with very little force, some weeks after the treatment. Remarkably, despite the low strength, the wool is retained on the animal under normal grazing conditions during the period of growth.

The weakening is induced through a pharmaceutical that can be delivered by the woolgrower to interrupt the normal growth phases of the fibre. This allows the wool grower to time delivery to suit the required length of wool fibre and not be reliant on the availability of skilled labour for shearing.

The pharmaceutical does not completely break the fibre, rather it leads to wool with very low tensile strength and slightly lower fibre diameter over a very short length (<1.0mm). This allows the wool to be collected in shed through a mechanical process and not lost in the field.

## IP status

The invention is the subject of a Provisional Patent application and subject to confidentiality requirements.

## Opportunity

We are seeking a commercial partner to assist us to get the injectable biochemical agent developed and commercialised.

## Inventors

- Emeritus Professor Philip Hynd
- Dr Sarah Weaver

## Commercial contact

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## In partnership with:



**awi** Australian Wool  
Innovation Limited

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