



# Choose wool

Wool has a lot to offer compared to man-made fibres. Here you will find the supporting evidence on why you should choose wool.

# Why you should choose wool



## Enduring luxury and health

You can sleep easy with wool, as it can naturally control indoor air humidity maintaining it at a comfortable level all day and night.

Wool clothing is 'breathable', and improves wearer comfort. It looks good and feels good.

Wool fibres are naturally springy, and bounce back into shape when walked on or worn. This means wool products look better for longer.



## Safe for your family

Wool is flame retardant up to 600° C, is self-extinguishing and has low smoke generation.

Wool has naturally high UV protection.

Wool is not known to cause allergies and does not promote bacterial growth.

Wool fibres naturally repel water giving built in stain resistance.

Wool naturally traps human and pet odours which helps eliminate smell in our homes.

Wearing wool improves the health of your skin.



[Find out more about the natural properties of wool from the International Wool Textile Organisation](#)



## Planet friendly

Wool is grown not made. Every year sheep eat pasture and turn it into nutritious meat and a new fleece of wool.

Synthetic fibres, on the other hand, are man-made from crude oil and petrochemicals.

Unlike synthetic fibres, wool readily biodegrades in the environment – in months not centuries



[Find out more about the biodegradable nature of wool from the International Wool Textile Organisation](#)

# The supporting facts



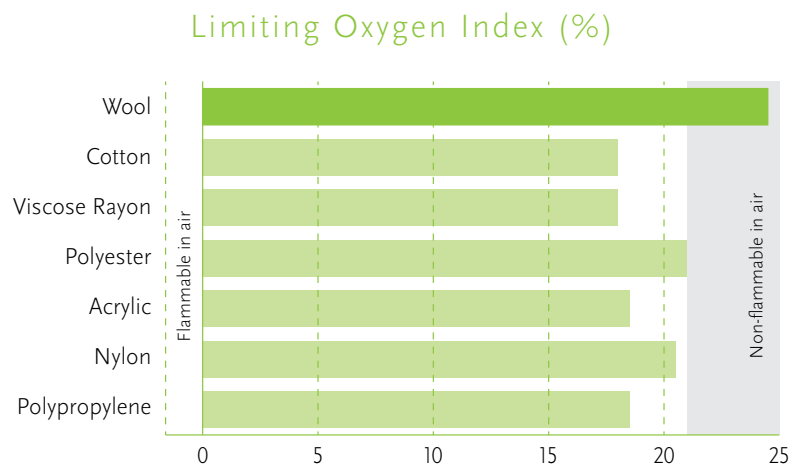
## Fire

Wool is a safe option when considering flammability.

Wool is naturally flame resistant and does not melt, drip or stick to the skin when it burns.

Wool's natural fire resistance comes from its unique composition. Wool requires higher levels of oxygen compared to other fibres to burn.

Wool may burn if subjected to a significantly powerful heat source but is not self-sustaining and will self-extinguish. This means wool produces less smoke and toxic gas than synthetic fibres. The toxic gasses and smoke is often what kills occupants during a house fire.



[Find out more about the flame resistant properties of wool from the New Zealand Merino Company.](#)



## Odour

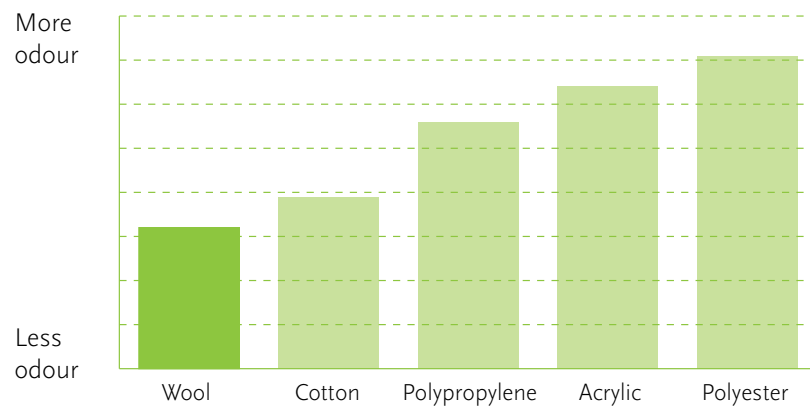
Research has proven that wool manages odour better than any other fibre, be this body odour or pet odour.

Sweat on its own has no odour, but when on the skin it can create a humid environment which is suited to bacterial growth. It is the bacteria's waste that leads to body odour.

Wool's unique ability to readily absorb moisture keeps the skin surface drier and discourages bacterial growth. When bacterial growth does occur, wool actively binds odours within the fibre resulting in a product that remains fresh and odour free far longer than its synthetic counterparts.

Any odours absorbed by wool products can be removed by laundering, or in the case of carpets, cleaned.

### Odour ranking in fibres



[Find out more about wool reducing body odour from Woolmark.](#)



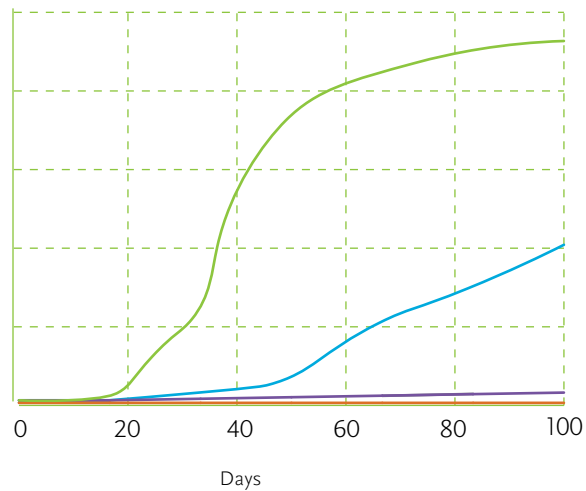
## Biodegradation

Wool is readily biodegradable and does not pollute the planet.

Wool is made of a protein called keratin which micro organisms in soil or water can break down into constituent parts. These parts, sulphur, nitrogen, and trace minerals, can act as an effective fertiliser.

Wool's biodegradation properties are the opposite to synthetic fibres. Synthetics persist in the environment for many years and in the process break down creating microplastics, which eventually find their way into water and food supplies.

### Marine biodegradation of fibres



Key

— Wool	— Nylon and Polypropylene
— Cellulose	— Polyester



[Find out more about wool biodegrading in water from the International Wool Textile Organisation.](#)



## Sleep

Wearing wool in bed can help give you a better night's sleep.

Studies have found that adults wearing wool and sleeping in wool bedding fell asleep significantly quicker than those in polyester or cotton.

This is because wool regulates your body temperature, keeping it in the optimum thermal comfort zone for sleep. The result is that you fall asleep quicker, and have a deeper, longer, higher quality sleep than you would in polyester or cotton garments.



[Find out more about the benefits of sleeping in wool from Woolmark.](#)



## Easy care

Whether it's spilling red wine or muddy boots, wool's structure means it is naturally resistant to staining and soiling.

This is because the outer layer of the wool fibre has a fine layer that repels water and overlapping scales that make wool products easier to clean.



*Above: Wool fibre at microscopic level showing overlapping scales*



*Scan this link to access a published journal.*

*["Soiling Properties of Wool Fabrics: Part I: Effect of Physical Factors."](#)*



## Caring for sheep

New Zealand has on farm practices in place, such as the New Zealand Farm assurance programmes (NZFAP and NZFAP Plus) that give consumers assurance that wool produced in New Zealand is done so with animal health and welfare front of mind.



*Find out more about animal welfare from the [Ministry for Primary Industries](#).*



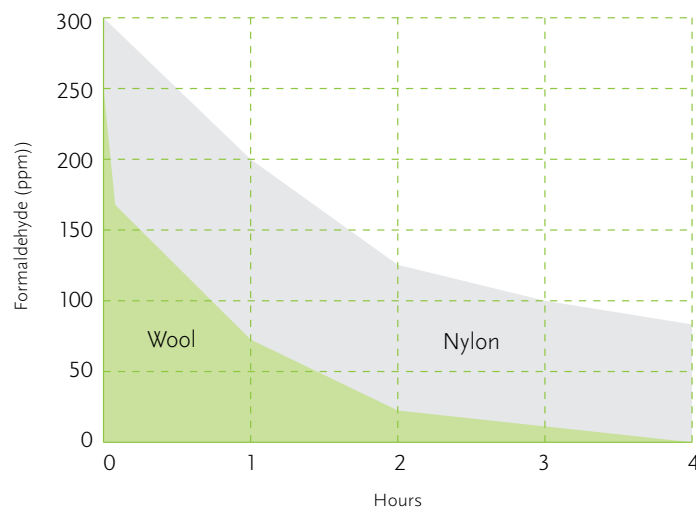
## Indoor air quality

The air we breathe contains various undesirable gases. Wool products will naturally absorb many of these allowing you to breathe easily.

Gases such as formaldehyde and nitrous and sulphur dioxides are often found in the home as emissions from certain household products. Wool binds these products through a natural chemical process within its fibre, purifying the air.

In comparison, synthetic products are much less able to absorb these pollutants.

### Formaldehyde remaining in the atmosphere after 4 hours exposure to carpets



*Access a published journal.*

["Absorption of Volatile Organic Compounds by Different Wool Types."](#)



## Allergens

Science has proven that wearing wool, rather than man made fibres, can help improve skin health.

The prickle and skin irritation that some people experience when wearing coarse wool garments is often considered to be an allergic reaction. This is a misconception and in reality an allergic reaction to wool is extremely rare. The irritation is a result of mechanical stimulation of nerves in the skin, which is easily avoided by wearing fine wool.



*Access a published journal.*

["Debunking the Myth of Wool Allergy: Reviewing the Evidence for Immune and Non-immune Cutaneous Reactions."](#)



[www.agresearch.co.nz](http://www.agresearch.co.nz)

For more information please contact:

Stewart Collie  
Science Team Leader, Bioproduct and Fibre Technology  
[stewart.collie@agresearch.co.nz](mailto:stewart.collie@agresearch.co.nz)