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## Scientific Study Paves the Way for Better Reporting of Wool's Environmental Performance

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### ***Protein-based allocation method recommended for LCAs of wool where wool is produced alongside meat or milk***

BRUSSELS, 9 April 2015 - A recently published scientific study paves the way for better reporting of wool's environmental performance, proposing a new set of methods for use in life cycle assessments of wool where wool is produced alongside meat or milk.

Known as dual or co-production systems, many sheep farms produce both meat and wool. Existing life cycle assessments (LCAs), the study found, produce widely different results depending on the method used in dividing the environmental impact between these two products. But as interest in the environmental impacts of livestock increases, accurate and consistent results for both sheep meat and wool production are needed. It is particularly important that global benchmarking systems for wool are based on technically sound and transparent methodology.

The solution lies, the researchers say, in using a method that allocates environmental impact on the basis of the protein requirements for wool and meat production. As both meat and wool are protein-based products, and wool production is largely determined by protein requirements, this is a logical basis for allocation.

The method also has the benefit of generating results for environmental indicators such as greenhouse gas emissions and use of water resources, which are causally tied to production of wool and meat.

The findings are reported in the International Journal of Life Cycle Assessment, the leading journal for LCA methods. Published online in January, the study is available for download from the IWTO website: <http://www.iwto.org/uploaded/Sustainability/LCA.pdf>. Examining seven different methods for handling co-products from case study sheep farms in Australia, New Zealand and the United Kingdom, this is the first study to examine in detail the effects of different methods for assessing environmental impacts across diverse sheep farming systems.

"LCA is a technique, a tool, that attempts to tell in technical terms the environmental story of wool," explained Dr Paul Swan, General Manager Research at Australian Wool Innovation and Chair of the International Wool Textile Organisation's Sustainable Practices Working Group, which brought together the world's leading LCA experts to conduct this research.

"As a tool, LCA has its limitations. A lot of the time these limitations relate to assumptions that are being used and their lack of consistency. Many of the assumptions that are currently used for basic LCA are very unhelpful for wool. This research exposes some of the weaknesses in the system."

LCAs are frequently used in rating systems designed to assist consumers in making product choices, such as the Higgs Index developed by the Sustainable Apparel Coalition and MADE-BY's Environmental Benchmark. A less than accurate LCA, or one where the methodology attributes a disproportionate amount of the environmental burden to either wool or meat, will not inform decision makers or consumers of the true impact of their decisions. Applying the right methods for assessing environmental impact is therefore highly important.

The study also investigated an alternative approach to handling the impacts of wool and meat. Known as 'system expansion', this approach considers the value of co-products based on possible substitutes a farmer might make in production, for example in response to supply and demand.

The result of applying system expansion to the case studies revealed much lower impacts to the wool product, highlighting the importance of studying the whole system and taking changes in all products into account.

"Based on these findings, we could expect to see very different environmental impacts attributable to wool if we study a change in wool production compared to simply looking at historical averages," said the study's lead author Stephen Wiedemann.

"Future research in this industry will need to take into account these complex interactions to ensure research findings are suited to their application."

Funded by the Australian Government and Australian wool growers through Australian Wool Innovation, the study marks a substantial contribution to the body of scientific literature on LCA. Only two previously published studies have specifically investigated the LCA of wool in the on-farm phase, where the largest contributions to key environmental impacts are made.

"We should see this study influence the international standards applied to benchmarking, such as the guidelines developed by the FAO LEAP programme," Dr Swan further noted.

"Over time this will result in more consistent reporting of the positive environmental performance of wool, and provide assurance to the retailers, brands and marketers that are involved or have an interest in wool that they have the most accurate data set, and thus the most accurate understanding of the true environmental footprint of wool."

The wool industry will continue to invest in further research to redress gaps in data on wool processing, use and post-use phases.

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## About IWTO

The International Wool Textile Organisation (IWTO) has been the recognized global authority for standards in the wool textile industry since 1930. With a membership comprised of 60% of total wool production world-wide, encompassing the wool pipeline "from sheep to shop", IWTO represents the interests of the wool textile trade at the global level. By facilitating industry strategy and ensuring standards in manufacturing and sustainability, IWTO fosters connection between members and all stakeholders through mutual support of opportunities for wool. [www.iwto.org](http://www.iwto.org)



## About IWTO's LCA Technical Advisory Group

The Wool LCA Technical Advisory Group (TAG) was formed by IWTO's Sustainable Practices Working Group (SPWG) to improve the quality of information available on the environmental performance of wool fibre and wool products globally. The LCA TAG represents IWTO in many technical forums, including the FAO Livestock Environmental Assessment and Performance Partnership (LEAP), the European Union Product Environmental Footprint Reference Group, and the Sustainable Apparel Coalition.

## About AWI

Established in 2001, Australian Wool Innovation is a not-for-profit company owned by more than 25,000 Australian wool levy payers who have registered as AWI shareholders.

The company invests in R&D, marketing and promotion to enhance the profitability, international competitiveness and sustainability of the Australian wool industry and to increase the demand and market access for Australian wool. [www.wool.com](http://www.wool.com)



## For More Information

A product as diverse as wool has a complex interaction with the environment. For a better understanding of how wool affects the environment, [visit the IWTO website](#) and view one of our [explanatory videos](#), download the [Understanding Wool LCA Fact Sheet](#), or gain fresh insights into wool's environmental story with the case studies in the [Green Wool Facts](#) brochure.



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