

Case Study: Life Cycle Assessment of Agricultural Plastics



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“As the UK’s leading manufacturer of Polythene Film Products, BPI takes the environmental impact of their manufacturing and recycling activities very seriously. The work conducted by Valpak has therefore been critical to our understanding and management of the production and recovery of silage wrap, with regard to the environment.”

*Andrew Green, Managing Director,
BPI Recycled Products*

Identifying the Problem

British Polythene Industries (BPI) commissioned the expertise of Valpak to undertake a Life Cycle Assessment (LCA) of the manufacture and disposal of LLDPE agricultural silage plastic.

BPI needed to understand the environmental impacts of their film. A key question was if it was better environmentally to recycle the film or landfill it at the end of its life.

Solving the Problem

The study involved the detailed analysis of the complete life of the silage film from raw material manufacture to disposal. In doing this two LCA’s were performed, these included;

- manufacture, collection and recycling of agricultural silage film
- manufacture and disposal of silage film by farmers at landfill sites

The main activities contributing to the environmental impact of the film were identified so that they could be investigated further and the impacts reduced. It was also identified that recycling offered the better carbon footprint; around 30% lower than when the film was disposed of to landfill. The LCA was completed using specialist software SimaPro.

Benefits of the Project

Based on the detailed analysis of the results, Valpak advised BPI of the main areas of the film’s lifecycle that contributed to the impacts. Recommendations were made as to how these impacts could be reduced, which included practical advice such as increasing recycled content and re-assessing their raw material sourcing.

BPI have used the results to inform decision-making around the production and recovery of the film.

About the Client

British Polythene Industries (BPI) are one of the leading manufacturers of polythene products, they supply over 300,000 tonnes each year for a wide variety of everyday applications and their recycling plants reprocess over 64,000 tonnes of UK waste from industrial, commercial, agricultural and domestic sources.



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