



Improving milling efficiency and reducing waste

To make a mill as efficient as possible you need to be able to:



Decrease energy consumption



Increase throughput to maximise the capacity of the mill



Increase shelf life of pellets to protect against feed spoilage and waste



Control moisture through process

Energy use by process

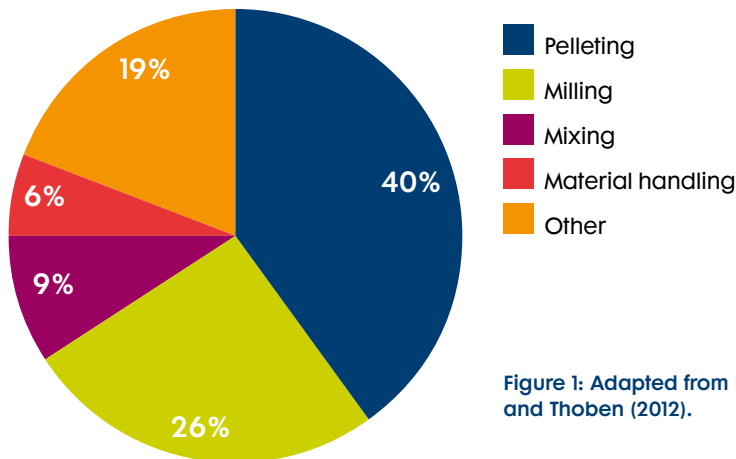


Figure 1: Adapted from Redecker and Thoben (2012).

Pelleting and milling processes account for the biggest energy usage

Hammer mill: Energy usage can be reduced by using multiple smaller upright hammer mills which require less high-energy aspiration.

Conditioner: It is important to manage and optimise the steam added to the feed to make sure it's a high quality dry steam. Low quality wet steam wastes energy and adds unnecessary and hard to monitor moisture into the process.

Pre-compact: Used to achieve higher throughput through the pelletiser, however, by optimising all other equipment in the chain it can be possible to eliminate this high energy process.

Cooling aspirator: Optimise the drying time to achieve lowest energy usage and best moisture retention.

Pelletiser or pelleting press: If material being pressed does not have an optimal moisture and homogenous mixture there will not be enough lubrication to get it through the press. This requires more energy and potentially affects the MT/h capacity you can achieve. To optimise the pelleting process we have developed a synergistic blend of different organic acids and surfactants (Selko Fylax®) which has a positive effect on the pellet press and the energy needed to pellet feed by preventing separation of fluids and reducing their viscosity. It can therefore also improve your pellet quality and moisture retention in finished feed while naturally controlling microbial challenges within feed due to its organic acid blend.

Re-purposing food waste

By-products from the production of beer, bread, biscuits and cheese are traditionally of limited value and destined for burning or waste. However, to promote efficiency in the food to feed chain you can reduce microbial spoilage in by-products in order to protect the dry matter content (energy), and therefore upcycle from a limited value product back into an animal feed material.

In order to reduce microbial spoilage you must control the yeasts, moulds and Enterobacteriaceae naturally present in starch rich by-products and mixtures which eat the dry matter content (energy) that livestock require for it to be feed grade quality.

By dosing by-products with a broad-spectrum mixture of free and buffered organic acids such as Selko Revalet® you can extend the shelf life and protect the nutritional value therefore creating a high quality raw material which can be used in the feed market.



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