



Practice Abstract #7: Where's the lever in the mass flow of soft wheat?



WASTEWISE
Waste Avoidance Strategies for
Environmental Sustainability

Researchers from the WASTEWISE project have conducted a mass flow analysis of soft wheat in Italy. The reference time was the annual average for the years 2015-2017. It was assumed that the whole soft wheat grain was edible. The mass flow analysis includes the stages primary production, milling, manufacturing bread and bakery wares, sales at retail, and consumption at households and in restaurants and food services. It was assumed that the bran is separated from the flour, resulting in a rate of 0% whole grain flour production. For simplification, not all products and utilizations that can potentially be derived from soft wheat are considered in the analysis. For instance, starch and glucose production were largely ignored. Instead, the focus was on grain, flour, bread and bakery wares, bran, food loss and waste (FLW), donations, feed, seed, and fuel.

"The soft wheat mass flow analysis showed that there is an equally high leverage at manufacturing, retail, restaurant and food service stages."

Of about 2.5 million tons of FLW, 28.1% occurred at the stage of bread and bakery manufacturing also considering surplus bread at this stage. Retail and restaurants and food services had similar shares: 24.7% and 25.6% of the total FLW. A lower quantity, 12.8% of FLW, was allocated to primary production, and 8.8% to households. No losses were accounted for at the milling stage because it was assumed that all bran was used for feeding.

Comparable FLW rates from other studies for the consumption stages were marked with differences potentially being caused by different measurement methods. Other differences can be explained by investigations of different subsectors: industrial bakery wares production vs. small-scale bakeries. Even though the analysis faces uncertainties based on the differences between studies, it suggests that there might be equally high potential leverages for FLW reduction at manufacturing, retail and restaurant and food service stages.

Authors: Manika Rödiger (AGR; manika.roediger@agroscope.admin.ch); Jeanine Ammann (AGR; jeanine.ammann@agroscope.admin.ch); Mattias Eriksson (SLU; mattias.eriksson@slu.se)

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