

# Food Waste in Hungarian School Catering System

<sup>1</sup>Marton Kajtor, <sup>1</sup>András Tóth, <sup>2</sup>Márton Battay, <sup>3</sup>Miklós Süth and <sup>1</sup>András Bittsánszky

<sup>1</sup>*InDeRe Institute for Food System Research and Innovation Ltd., Zodony u. 3, 1203 Budapest, Hungary*

<sup>2</sup>*University of Veterinary Medicine, Department of Exotic Animal and Wildlife Medicine, István u. 2, 1078 Budapest, Hungary*

<sup>3</sup>*University of Veterinary Medicine, Digital Food Chain Education, Research, Development and Innovation Institute, István u. 2, 1078 Budapest, Hungary*

## Abstract

The school catering system is a significant player in the food supply chain since children and young people spend most of their days at an educational institute. Unfortunately, the school food system generates high amounts of food waste indicating that the system is not effective. The served food rarely will be fully consumed resulting in varying amounts of leftovers. Moreover, the amount of unserved food is also significant. Since a huge amount of food is wasted in school catering, the sustainability of this sector is questionable. It is insufficient to calculate the nutritional compositions of school food and serve healthy and local meals because if it is not appealing to the pupils they will reject or consume partly the given meal. This study aimed to obtain relevant data regarding food waste amount and composition in the Hungarian school catering system. Food waste data will be used to understand the operational efficiency of the school catering system and to contribute to the assessment of food waste dynamics. Data were collected from 92 educational institutes where more than 9,000 pupils were served daily. All catering units were surveyed at least once per year. Only lunch was involved in this survey, breakfasts and snacks were not considered. Data were collected in the years 2021-2022. As a survey method we used weight measurement which is a markedly time-consuming and labour-intensive method, but we found it the most reliable. School food waste was separately collected as the first course (which is always a soup) and the second course and if possible it was further divided into protein, carbohydrate and vegetable ingredients. The unserved food and plate waste were analysed according to different ingredients. The amount of served meals was compared to the consumed food quantities. By analysing the served portions and the amount of plate waste, we can estimate the real quantities of the consumed food. In 2021, 5,769 kg of food were prepared for 7,915 consumers, of which 1,872 kg were unserved food and 1,235 kg were returned plate waste. In 2022 the data slightly changed where 6,274 kg were the prepared food (for 9,590 consumers), 1,634 kg was the unserved food and 1,370 kg is the returned plate waste. More detailed analysis of these data will help to better understand the reasons of food waste generation, which is a good starting point for developing a sustainable and more effective school catering

system.

**Keywords:** school meal; food waste; school catering; plate waste

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