
Assessment of the environmental footprint of food and beverages at KaM CU



At Charles University, we set out to determine what share of the university's overall environmental footprint is represented by food services and, in particular, whether these impacts can be systematically measured and monitored over the long term. Until now, there had been no unified approach that would allow the environmental burden of university catering operations to be regularly assessed and compared.

Funding from the Zelené dovednosti na UK (Green Skills at CU) project, supported within the framework of the National Recovery Plan (NPO-UK-MSMT-2114/2024-4), therefore came at the right time and enabled researchers from the Charles University Environment Centre to begin this work. The Troja Canteen was selected as the pilot facility, and a methodology assessing seven areas of environmental impact was tested using its complete purchasing data for 2024: carbon footprint, land and water use, nitrogen and phosphorus inputs, pesticide use, and impacts on biodiversity.

For any further questions, please contact the author of the research, Ing. Eva Kupcová (eva.kupcova@czp.cuni.cz).

4 interesting insights from the research

Food purchases at Troja Canteen generated approximately **293 tonnes of CO₂e** in 2024.

Only **three food categories** accounted for **71% of the carbon footprint**: meat, ready-made and preserved foods, and milk/eggs/dairy products/alternative products.

Beef has a disproportionately high impact; only about **1.45 tonnes of beef were purchased**, but its carbon footprint amounted to **approximately 46 tonnes of CO₂e** (for comparison, 4.4 tonnes of chicken meat generated only around 9.6 tonnes of CO₂e).

The environmental impact per kilogram is not the only important factor; the overall quantity also matters. **Pizza was among the significant items** mainly because the canteen **purchased 4.55 tonnes** of it.

Environmental Footprint Assessment Methodology

The methodology was designed to demonstrate the environmental impact of food and beverages purchased for catering facilities at Charles University. Put simply, it was based on data showing how much of each individual food item was purchased over a given period, usually one year, and linked these items with data on their environmental impacts from the SAFAD database. Based on the quantities purchased, the methodology then calculated impacts in seven areas, such as greenhouse gas emissions, land and water use, nitrogen and phosphorus loading, pesticide use, and biodiversity loss. The results could help identify which types of food had the greatest environmental impact, compare individual catering operations, and monitor changes over time. In this form, the methodology assessed only purchased food and beverages and did not include other factors such as energy consumed during food preparation, water consumption, or the amount of waste generated by catering operations.



Metodika hodnocení
environmentální stopy
potravin a nápojů ve
stravovacích zařízeních
Univerzity Karlovy

Method (only in Czech)

Pilot Testing Report of the Methodology: Troja Canteen in 2024

The report summarizes the pilot testing of the methodology using complete procurement data from the Troja Canteen for 2024. It presents results for seven categories of environmental impacts, identifies the main sources of environmental burden, and provides recommendations for further development and broader implementation of the methodology across Charles University.



Zpráva z pilotního ověření
metodiky hodnocení
environmentální stopy
potravin a nápojů ve
stravovacích zařízeních
Univerzity Karlovy: Menza
Troja v roce 2024

Report (only in Czech)

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