



Factsheet: Food in University Life

Food is responsible for the largest share – around 30% – of the environmental impact caused by consumption in Switzerland. This is even more than the impact caused by housing or mobility [1]. The production and supply of foodstuffs places a burden on the environment in the form of greenhouse gas emissions, space requirements and water consumption, for example.

The food consumed at UZH has a larger «footprint» in terms of greenhouse gas emissions than the heating and electricity used at the university [2]. This is true even if we just look at the 7'000-10'000 meals served each day in the university canteens [2]. In addition, there is the food that people prepare for themselves and the numerous refreshments held at UZH.

Climate impact

The environmental impact of different diets (see table) and foodstuffs varies greatly. The consumption of meat and other animal products alone, for instance, results in an average of approximately one ton of CO₂ equivalents per capita per year in Switzerland [3]. (By way of comparison, to limit the average rise in global temperature to 2°C,¹ total greenhouse gas emissions would have to be reduced to

one ton per capita per year by 2050 [4]). Today, livestock farming alone is responsible for around 14.5% of all human-induced greenhouse gas emissions around the globe [5].

Also, heating greenhouses has an impact on the climate. For example, a tomato grown in the south of Spain in May causes only one-tenth of the greenhouse gas emissions of a tomato grown in a gas-heated greenhouse in Switzerland at the same time. Similarly, the type of transportation has a considerable impact. For example, asparagus from Peru produces almost ten times more emissions when imported by air than it does when imported by sea [6].

Land, feed and water consumption

Approximately one-third of the land in the world suitable for agriculture is used to produce feed for livestock [7], whereby only 11% of the calories in the feed are ultimately found in the foodstuff [8].

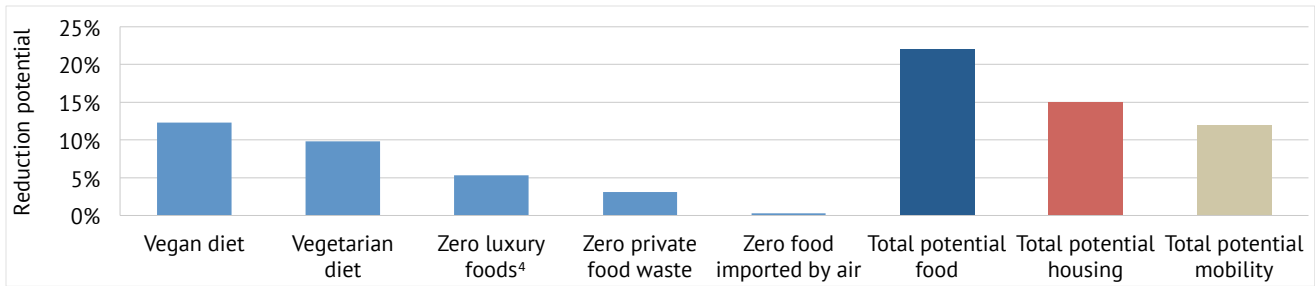
Foodstuffs also differ greatly in terms of water consumption. A kilogram of beef requires 15'400 liters on average, a kilo of chicken 4'300 liters³ and a kilo of vegetables around 300 liters [9]. Also, per kilocalorie resp. per gram protein considerably less water is necessary for vegetables than for beef, namely 1/8 resp. 1/4 of the water. With regard to fat, water requirements are about the same [9]. However, the valuation of the water consumption varies depending on the water supply in the region of production.

Food Waste

The environmental impact can also be reduced by avoiding food waste. Globally, around one-third of all foodstuffs produced currently end up in the garbage [10]. In the European Union, an average of 16% of food for private consumption is thrown away per person per year [11]. The level of food waste in the UZH canteen in Irchel is relatively low, at just 7%, according to a recent Master's thesis [12].

Components (proportionate)	Diet		
	Swiss average 2012 ²	Vegetarian	Vegan
Vegetables & fruits	106	133	191
Meat & fish	549	0	0
Dairy products & eggs	407	415	0
Cereal products	123	123	123
Vegetable proteins	9	79	154
Fats & oils	95	95	74
Beverages	234	234	234
Transportation, distribution, packaging	313	302	349
Total [kg CO₂ eq]	1'837	1'380	1'124

Greenhouse gas emissions for different diets in kilograms of CO₂ equivalents per capita per year (based on [3]).



Potential of different dietary adjustments for reducing the overall environmental impact (=100%) of Swiss households⁵ (based on [1]).

Overview

Using Life-Cycle-Assessment⁶ it is possible to assess the environmental impacts over the whole product life. For example, vegetarian meals served in canteens have on average less than half the environmental impact of meals containing meat [1]⁵. Savings can also be achieved by altering the consumption of coffee, chocolate and alcohol. Based on average levels of consumption in Switzerland, eliminating these luxuries from our diet could reduce the overall environmental impact of an average Swiss household by about five percent (see figure) [1]⁵.

It is also important to take social aspects into account, such as fair pay, good working conditions and the impact on health of pesticides, for instance [13].

Further information

Guideline Sustainable Catering:

www.sustainability.uzh.ch/en/Factsheets-and-Guidelines/Guidelines.html

The Sustainability Team at UZH is happy to advise you on sustainability issues affecting your day-to-day work:

www.sustainability.uzh.ch/en/tips.html

Recommendations

- Consider choosing the vegetarian meal in the canteen.
- Avoid foodstuffs that have been imported by air or grown in heated greenhouses.
- In the canteen, do not take more than you can eat.

Notes

- 1 Then the limit could be respected with a probability of 67% [4].
- 2 Including meat-based, vegetarian and vegan diets.
- 3 Figures vary widely depending on the production system.
- 4 Coffee, chocolate and alcohol.
- 5 According to the methodology of Environmental Impact Points.
- 6 Including the upstream and downstream environmental impact, i.e. production and waste disposal.

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