

İstanbul, November 26-27 2024

III. INTERNATIONAL

MINERAL WATER CONGRESS

Proceedings and Books of Abstracts


**BİR ÖMÜR
MADEN SUYU**

**III. INTERNATIONAL
MINERAL WATER CONGRESS**

**III. ULUSLARARASI
MADEN SUYU KONGRESİ**

Istanbul, November 26-27 2024

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III. INTERNATIONAL MINERAL WATER CONGRESS

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Traces of Sustainability on Bottled Mineral Water Packaging: Türkiye vs. Sweden

Tuba Yoldaş*, Selcen Şentürk**, Elif Günalan***

Abstract

Globally, the bottled water market is one of the most enormous volume categories in the beverage industry. Massively using these packaged beverages is a concern for environmental sustainability due to the production process and plastic waste (1). In this context, mineral waters that support sustainable health are especially expected to be environmentally friendly. In the European Union (EU) member states, the legal regulations regarding sustainable environment attract attention (2). However, the literature could be more comprehensive in comparing EU and non-EU member states. This study aims to compare the bottled mineral water market in Türkiye and Sweden regarding sustainability-related traces in labels and packaging. For this purpose, the largest supermarket chains were visited in İstanbul, Türkiye (n=5), and Umeå, Sweden (n=3). Bottled mineral waters were determined (n=21 in Türkiye, n=18 in Sweden), and the environmental sustainability-related label information was recorded from the bottles supplied by the manufacturers. The data were analyzed with descriptive statistics via Jamovi software (version 2.6.2). The distributions of sustainability regarding logos, information, and package design in total products (n=39) were PET-1 (10.3% in Türkiye; 17.9% in Sweden), GL-71 (43.6% in Türkiye), recyclable packaging (51.3% in Türkiye; 46.2% in Sweden), green dot (48.7% in Türkiye), deposit mark (46.2% in Sweden), and tethered caps (17.9% in Türkiye; 43.6% in Sweden). Additionally, while a Turkish brand's products were vegan, a brand's drinks in Sweden were produced with renewable energy. This study was only label-based and assessed the mineral waters market in Türkiye and Sweden. A comparison of the assessed sustainable indications revealed several variations. The widespread use of tethered caps and deposit payments in Sweden encourages consumers to recycle plastic garbage and prevent environmental pollution with a planned recycling system. For a sustainable future, similar practices must also be expanded in Türkiye.

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References

Scalamonti, F. Bottled Water Industry: A Quantitative Study Approach. Italian Review of Agricultural Economics (2021)

Tosun, J. and et al. Making Europe Go from Bottles to the Tap: Political and Societal Attempts to Induce Behavioral Change. Wiley Interdisciplinary Reviews: Water (2020).

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