

DEMISTIFYING DATE MARKING: THE PATH TO SUSTAINABLE FOOD CHOICES

Mădălina Ioana PETREA

Alexandru Ioan Cuza University of Iași, 700506, Romania

Abstract

In the contemporary landscape of food production, distribution, and consumption, the act of date marking has emerged as a pivotal yet intricate facet. This study undertakes a nuanced exploration into the domain of date marking, with a specific focus on the dynamics within the European Union (EU) and Romania. The investigation delves into the EU regulations, emphasizing their indispensable role in ensuring food safety and quality, while concurrently fostering sustainable practices. By scrutinizing Romania's adherence to these regulations, we unveil the principles and practices among EU member states, culminating in a harmonized approach to date marking. This alignment sets the groundwork for a more robust and standardized European food market. As we go deeper into the topic, we find there are two main types of date markings: "use by" and "best before." Each of these tells a different story and affects how safe the food is for people and how much food gets thrown away. This study shows that if people understand these dates, they can make smart choices and help make food choices that are good for the environment and, also, good for the economy. By choosing products carefully and finding ways to waste less food, people can make a positive difference in how we handle food and food waste. This study not only explains the details of date marking but also helps readers see the bigger picture and understand the topic in a new way.

Key words: *date marking, sustainability, food waste reduction, responsible consumptions, European Regulations.*

JEL Classification: *Q18, Q58, L51, D18, Q56.*

I. INTRODUCTION

In a world where conscious consumerism is gaining momentum, the journey towards sustainability extends beyond eco-friendly practices and extends into the very heart of our daily lives – the food we consume. Understanding date marking on food products, specifically the distinctions between “best before” and “use by” dates, is crucial for several reasons, encompassing both consumer well-being and broader sustainability considerations. The “use by” date is a critical indicator of the period during which a product is expected to remain safe for consumption. Consuming food beyond this date may pose health risks due to potential bacterial growth or spoilage. Understanding and adhering to these “use by” dates contribute to the prevention of foodborne illnesses. The “best before” date signifies the period during which a product is expected to be at its best quality in terms of taste, texture, and nutritional value. Consumer who prioritized the freshness and quality of their food can use this information to make informed choices about when to consume a product for the best experience. Clear comprehension of date marking helps consumer differentiate between safely related dates “use by” and quality related dates “best before”. This understanding is pivotal in reducing unnecessary discards of food that remains safe for consumption beyond the best before date, thereby contributing to the overall reduction of food waste. Furthermore, consumers armed with the knowledge about date marking can optimize their grocery shopping by selecting products based on their intended usage timelines. this can lead to more efficient use of resources, as individuals are less likely to purchase items that may go unused and be discarded.

Awareness of date marking aligns with sustainability goals by encouraging responsible consumption. By consuming products before the best before date and avoiding unnecessary waste, consumers actively contribute to reducing the environmental impact associated with food production, transportation, and disposal. Educating consumers about date marking empowers them to make informed choices, fostering a sense of control over their food related decisions. This knowledge enables consumers to be active participants in minimizing food waste and promoting sustainability. Therefore, gasping the significance of date marking on food products beyond mirror compliance, it empowers consumers to make choices that safeguard their health, optimize resource use, and contribute to a more sustainable and responsible food consumption culture. It is an essential aspect of fostering an informed approach to food purchasing and consumption.

The main causes of food waste include “excessive and unconscious consumption” (Dilekoğlu & Ateş, 2022). Other causes include “a lack of qualification and preparation for the harvest, inadequate producer knowledge, improper transport and storage conditions, climate changes, improperly installed supply centers, and consumer waste” (Santana, et al., 2021). Additionally, causes of food waste occur at the stages of producing, processing, retailing, and consuming, with reasons such as “high-quality standards, insufficient purchase planning,

buying too much, and cooking too much” (Rohini, Geetha, Vijayalakshmi, Mini, & Pasupathi, 2020). Not understanding date marking on food products is a significant cause of food waste (Patra, Henley, Benefo, Pradhan, & Shirmohammadi, 2022). Consumers often confuse date labels with food safety, leading to unnecessary and excessive discarding of food that may still be safe to consume. Many consumers do not have adequate knowledge of commonly used date label terms, such as “best before” dates, and mistakenly believe that these labels indicate the last date for safe consumption (Shamim, Ahmad, & Alam, 2021). This confusion contributes to household food waste, which is a growing social, economic, and environmental problem. However, consumer education and awareness about food date labels can help reduce food waste (Kavanaugh & Quinlan, 2020). By providing better understanding of date labels and their meanings, consumers can make more informed decisions about the safety and quality of food, leading to a reduction in unnecessary food waste.

II. RESEARCH METHODOLOGY

This research is based on a literature review which aims to comprehensively examine existing scholarly works and publications related to date marking on food products, with a specific focus on demystifying the information for consumers and promoting sustainable food choices. The scope encompasses studies, articles, reports, and guidelines published in academic journals, books, government publications and reputable online databases within the last decade. By consolidating and synthesizing the available knowledge, the review seeks to provide a comprehensive overview of current practices, challenges and opportunities associated with the date marking in the context of sustainable food consumption.

The primary objective of this literature review is to identify and analyze a broad range of literature addressing date marking on food products. This includes studies investigating the effectiveness of current date labelling systems, the impact of date labeling on food waste, and the implication of sustainability in the food industry.

Another key objective is to assess consumer understanding of date markings and their influence on consumer behavior. The review also aims to highlight sustainable practices associated with the date marking in the food industry. This involves examining initiatives, innovations, and recommendations from both academic and industry sources that contribute to reducing food waste and promoting environmentally friendly choices among consumers.

To achieve the outlined objectives, a systematic search strategy was employed. Relevant databases including Scopus and Google Scholar and other academic journal databases were queried using a combination of keywords such as “date marking”, “food labeling”, “consumer behavior” and “sustainable food choices”.

Inclusion criteria involve selecting studies and articles published within the last 10 years, written in English, and focusing on date marking, consumer behavior, and sustainability in the context of food products. Exclusion criteria involve eliminating duplicates, non-peer reviewed sources, and materials not directly relevant to the objectives of this study.

III. DEMYSTIFYING DATE MARKING IN THE EUROPEAN UNION

In the European Union, date marking is governed by a risk-based framework that considers variables like processing, storage conditions, product characteristics, and dangers (Toma, Font, & Thompson, Impact of consumers’ understanding of date labelling on food waste behaviour, 2020). Food business operators oversee determining the products shelf life and choosing the kind of date marking such as “use by” or “best before” (Koutsoumanis, et al., 2020). The process of making decisions entails determining pertinent spoilage and the pathogenic microorganisms, describing the conditions that influence their growth, and evaluating the way in which they behave while being stored (French-Mowat & Burnett, 2012). To choose the right kind of date marking for every food product, food business operators can utilize a decision tree (Dix & Gardain, 2006). Romania addresses the issue of date marking (“best before”, “use by”) through various measures. Food business operators in Romania follow a risk-based approach to determine the type of date marking and shelf-life for each food product, considering factors such as “hazards, product characteristics, and storage conditions” (Koutsoumanis, et al., 2020). Additionally, Romania has implemented tobacco control legislation to combat issues related to smoking, including smuggling, taxation, and advertising bans (Tudoran & Ionescu, 2014).

Label dates should be clear enough to prevent the consumption and disposal of non-hazardous food. According to EU regulations (The European Parliament, 2011), the date following the „best before” or „use-by” date must be displayed on product labels. The „best before” date is the date on which the food retains its specific properties when properly stored and the „use by” date is the date on which the product can be safely consumed.

Despite the efforts of the authorities to disseminate information in the Member States concerned, producers, processors, and traders use the two expressions in different ways and it is possible that identical or very similar products are marked with „best before” dates or are labelled as „use by”, leading to confusion and loss of perfectly edible food, as demonstrated by the examples collected during an audit conducted by the European Court

of Auditors (Curtea de Conturi Europeană, 2016). In addition, the results of the Flash 425 Eurobarometer survey show that consumers are not fully aware of the differences between „best before” and „use-by dates”. Only 47% of respondents gave a correct definition of the „date of minimum durability” and 40% of the „best before” date, indicating significant differences between Member States (Eurobarometer, 2015).

The way companies determine the shelf life of their products was examined in a study called "Date labelling in the Nordic countries" (Møller & Lødrup, 2014). Significant differences in the shelf life of comparable products were observed for all products used in this study. One retailer indicated a shelf life twice as long comparing to another retailer for some of the same products. In an audit carried out by the European Court of Auditors, it identified several examples of products in Romania that were labelled differently (Curtea de Conturi Europeană, 2016). For example, a dairy product such as cheese from Romania was labelled on one product with the „best before date” and on another product with the words „to be consumed preferably by”. It is important to mention this because these practices confuse the consumer, leading to a much greater wastage of products than if consumers properly understood the terms indicated on product packaging.

IV. EMPOWERING CONSUMERS TO MAKE SUSTAINABLE FOOD CHOICES

People's understanding of date marking is influenced by various factors such as socio-demographics, behavioral control, and the clarity of information provided on food labels. These factors have a significant impact on behaviors related to lower food waste, such as using senses instead of labels to determine whether to consume or discard food. Understanding of date labeling is consistently found to be a key influence on behavior, “explaining a significant portion of the variance in food waste behavior” (Toma, Font, & Thompson, Impact of consumers’ understanding of date labelling on food waste behaviour. , 2020). In a study conducted in Australia, it was found that many consumers were well informed about date marking systems and used them when making purchases of perishable and semi-perishable food items (Mirghotbi & Pourvali, 2013). The European Food Safety Authority developed a risk-based approach for food business operators to decide on the type of date marking and shelf-life for food products, considering factors such as “hazards, product characteristics, and storage conditions” (Koutsoumanis, et al., 2020). A study on EU-style date marking found that expiration dates affect consumer valuation of perishable food, and educating consumers about date mark types reduces willingness to pay for potentially unsafe food (D'Amato, Goeschl, Lorè, & Zoli, True to type? EU-style date marking and the valuation of perishable food. , 2023).

Consumer understanding of “best before” and “use by” date marking on products can be improved through education and providing additional information. Studies have shown that consumers often misunderstand the meaning of these date labels, leading to food waste. Providing basic information about the meaning of date labels can significantly increase consumer understanding (Gong, et al., 2022). Additionally, sensory information about the quality and safety of the product, such as color and odor, can help consumers make informed decisions about whether to consume the product (Turvey, et al., 2021). It is also important to clarify that date labels primarily indicate quality or freshness, rather than safety, to prevent unnecessary food waste (Koutsoumanis, et al., 2020). Educational campaigns and effective communication strategies can play a crucial role in improving consumer understanding.

V. CONCLUSIONS

In conclusion, demystifying date marking on food products emerges as a pivotal step towards fostering a more informed, sustainable, and health-conscious approach to food consumption. The exploration of best before and use by date is not merely a matter of compliance but a means to empower consumers, reduce food waste, and contribute to a more environmentally responsible food industry. Through this literature review, we have navigated the complex landscape of date marking, shedding light on its impact. The clear understanding of these date labels is instrumental in safeguarding consumer health, preventing foodborne illnesses, and optimizing the quality of the food we consume. Moreover, the distinction between best before and use by dates serves as a guide for consumers to make judicious choices, aligning their purchases with their intended consumption timelines. This not only aids in minimizing unnecessary discards but also holds economic implications, allowing for more efficient resource utilization. By embracing these insights, consumers actively participate in the reduction of food waste, a significant contributor to environmental strain. Sustainable consumption practices, guided by an understanding of date marking, form a crucial link in the chain of responsible food choices.

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