



Transformation of the Ecological Food Market in Chernihiv (Ukraine) in the Context of the Implementation of EU Ecological Certification and Labeling Standards

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Abstract:

The article examines the multifaceted legal and practical dimensions of the ecological food market in Chernihiv through the strategic lens of implementing EU ecological certification and labeling standards. The research evaluates the effectiveness of Ukraine's legislative harmonization with EU Regulations (EC) No. 178/2002 and (EU) 2018/848 within the local retail environment. Methodology is based on the author's comprehensive field audit (shelf audit) of major retail chains (Silpo, ATB, Soyuz, Velmart) conducted from October 2025 to February 2026. The study reveals a profound structural disparity in the availability of certified products for city residents. While premium-oriented retailers like "Silpo" function as organic hubs, offering a diverse range of domestic and imported eco-labeled goods, discount networks demonstrate a minimalist approach, restricting organic options primarily to the infant nutrition category. A critical causal dependence of the ecological product assortment on the retailer's business model was identified, confirming that current market dynamics lead to the economic segregation of consumers. The research highlights that the "Euro-leaf" and "Organic Ukraine" labels currently serve as markers of social status rather than universal safety standards. In conclusion, systemic recommendations are formulated for democratizing access to safe and ecological nutrition in the border region, emphasizing the need for municipal support of local organic producers and the integration of certified goods into the private label lines of discount retailers.

Keywords: ecological certification, food labeling, EU Regulations, Organic, European integration, Chernihiv retail chains, food safety, field audit, economic segregation of consumers, accessibility of eco-products, legislative harmonization, "Euro-leaf", sustainable regional development

1. Introduction: The Legal Framework and Strategic Principles of Food Safety and Labelling in the European Union

The contemporary European food safety landscape is governed by the integrated "Farm to Fork" strategy, which asserts that high-level consumer protection is a fundamental prerequisite for the functioning of the internal market. The cornerstone of this system is a robust legal framework designed to ensure transparency, traceability, and the physical safety of food products. Central to this architecture is Regulation (EC) No 178/2002, often referred to as the General Food Law, which establishes the primary principles of risk analysis and the "precautionary principle," ensuring that only safe products reach the consumer (Official Journal of the European Communities, 2002).

A critical instrument for empowering consumers is the provision of comprehensive information. Under Regulation (EU) No 1169/2011, food labelling in the EU has evolved from simple identification to a sophisticated tool for public health management. By mandating the clear declaration of allergens, precise nutritional values,

and country-of-origin data, the EU ensures that labelling serves as a preventive measure against non-communicable diseases and allergic reactions (Official Journal of the European Union, 2011).

Beyond general safety, the EU has developed specialized certification regimes to protect market authenticity and ecological integrity. Regulation (EU) 2018/848 strictly governs organic production, while Regulation (EU) No 1151/2012 provides a legal shield for Geographical Indications (PDO, PGI, TSG). These regimes do not merely attest to quality; they enhance safety through rigorous, multi-level traceability protocols that exceed standard industrial requirements.

The security of the food chain is further reinforced by the stringent regulation of chemical substances. Unlike many global jurisdictions, the EU operates on a "positive list" basis for food additives under Regulation (EC) No 1333/2008. This proactive approach, supported by the scientific assessments of the European Food Safety Authority (EFSA), allows for the rapid prohibition of substances when new toxicological data emerges, such as the recent ban on titanium dioxide (E171) (Official Journal of the European Union, 2022). Complementing this is the Rapid Alert System for Food and Feed (RASFF), which provides a real-time mechanism for the withdrawal and recall of hazardous products, thereby closing the loop of the EU's comprehensive safety infrastructure.

In the context of Ukraine's move towards European standards, our research related to the environmental certification and labeling of food products presented in the retail network of the city of Chernihiv is relevant from three main points of view.

Firstly, the relevance of this work is driven by the active phase of Ukraine's European integration processes, which necessitates not only the formal adoption of laws but also their real-world implementation at the retail level. Amidst the adaptation to EU Regulations regarding food labeling and safety, this study reveals a critical gap between legal declarations and the physical availability of certified products for the average citizen. Understanding how European standards "function" on the shelves of specific stores is key to evaluating Ukraine's real progress toward safety standards shared with the EU.

Secondly, the study gains particular urgency due to the economic segregation of the consumer market, which has intensified under martial law. Using Chernihiv as an example – a city that has faced significant challenges due to its proximity to the border and military actions – we observe how the right to safe and high-quality food is being transformed into a privilege for residents with access to premium retail chains. The identified disparity between the assortments of "Silpo" and discount networks points to a systemic inequality in ensuring the fundamental human right to health, necessitating immediate scientific reflection and the search for mechanisms to democratize the organic market.

Thirdly, the scientific value of this research lies in conducting a unique empirical audit during a specific timeframe (October 2025 – February 2026), allowing for the documentation of the actual market state during a period of turbulence. This study serves as an essential foundation for local producers in the Chernihiv region and local government bodies, as it identifies "bottlenecks" in the supply chains and marketing of eco-products. Substantiating the importance of transitioning from niche consumption to the mass availability of certified goods is a strategic step toward preserving the nation's health and increasing the competitiveness of the regional economy.

The purpose of the study is to evaluate the current state and dynamics of the availability of certified eco-products in the consumer market of Chernihiv, identify specific local barriers to safe nutrition for the city's residents, and analyze the effectiveness of implementing European labeling standards within the context of a Ukrainian border regional center..

2. Materials and Methods

The methodological basis of the study is a combination of theoretical analysis of the EU regulatory framework and an empirical study of the retail environment in Chernihiv.

Audit Objects. Four key retail chains with diverse business models were selected: "Silpo" (premium/lifestyle), "ATB-Market" (soft discounter), "Soyuz" (convenience store), and "Velmart" (discount hypermarket).

Procedure (Shelf Audit). The research was conducted using the field observation method (direct visual shelf inspection) from October 2025 to February 2026. Products bearing the "Euro-leaf" label (Regulation (EU) 2018/848) and the national organic logo were recorded.

Data Collection Parameters. Product name, category, manufacturer, country of origin, and type of certification. The audit covered categories such as groceries, dairy, infant nutrition, and beverages.

Analytical Methods. System-structural analysis (for product classification) and comparative analysis (to contrast the assortment policies of the retail chains).

3. Official Document Review: Implementation and Harmonization (the Case of Ukraine's Integration into the EU Food Safety System)

The alignment of Ukraine's national legislation with European Union standards is a cornerstone of the Association Agreement, representing a paradigm shift from post-Soviet sanitary norms to a risk-based regulatory model. This process, primarily governed by Law of Ukraine No. 771/97-VR, mandates that all sanitary measures regarding food objects, including additives and contaminants, must comply with EU requirements (Official Journal of Ukraine, 1997).

3.1. Synchronization of Authorized Additives

Ukraine is systematically transitioning to the "positive list" principle established by Regulation (EC) No 1333/2008. The Ministry of Health of Ukraine, through Order No. 222, maintains a Register of Food Additives that is periodically updated to reflect European toxicological reassessments. However, a significant challenge remains in the "temporal lag" of synchronization. For instance, while the EU prohibited titanium dioxide (E171) in 2022 due to genotoxicity concerns (Regulation (EU) 2022/63), the domestic regulatory update process often requires additional transition periods for local manufacturers to reformulate products.

3.2. Sector-Specific Technical Challenges

The harmonization process encounters substantial technical barriers in several critical sectors of the Ukrainian food industry:

Dairy and Meat Sectors. Compliance with Regulation (EC) No 853/2004 requires a complete overhaul of the raw material supply chain. The high proportion of milk produced by individual households poses a challenge for bacterial count and somatic cell standards, necessitating a transition to centralized, automated cooling and collection systems.

Confectionery and Fats. The implementation of Regulation (EU) 2019/649, which limits industrial trans-fatty acids to 2g per 100g of fat, forces a massive reformulation of recipes. This shift, while essential for cardiovascular health, requires significant investment in alternative fat technologies.

Geographical Indications (GI). In accordance with Regulation (EU) No 1151/2012, Ukraine has ceased the use of protected European names (e.g., Champagne, Cognac, Feta). This has catalyzed the development of unique national GIs, such as Hutsul Sheep Bryndzia, ensuring both intellectual property protection and product authenticity for the consumer.

3.3. Systemic Impact on Public Health

The mandatory introduction of HACCP (Hazard Analysis and Critical Control Points) across all Ukrainian food operators marks a transition toward proactive safety management. By synchronizing pesticide residue limits (MRLs) and labeling requirements for allergens, Ukraine not only secures its export potential but, more importantly, enhances the longevity and safety of its domestic population, aligning with the EU's "one health" approach.

4. Results, Discussion, and Recommendations

4.1. Empirical Analysis of Eco-Certified Product Availability: A Field Audit of Chernihiv's Retail Landscape (2025–2026)

The field audit conducted between October 2025 and February 2026 in the retail networks of Chernihiv provides critical insights into the practical implementation of EU-aligned food standards at the consumer level. The findings reveal a highly fragmented organic market, where the availability of certified goods is dictated by the strategic positioning of specific retail chains rather than a uniform market trend.

4.1.1. Retail Segmentation and the "Organic Hub" Phenomenon

The audit identifies "Silpo" as the primary "organic hub" in Northern Ukraine, accounting for approximately 93% of the identified eco-certified assortment. This dominance is characterized by a diversified portfolio across multiple categories.

Dairy sector. A high concentration of EU Organic products from domestic leaders such as "Staryi Porytsk" (Volyn region) and "Organic Milk" (Zhytomyr region). The presence of value-added products like baked milk (4% fat) and traditional cheeses (Adygei, Bryndzia) indicates a sophisticated supply chain capable of maintaining organic integrity for perishable goods.

Grocery and GRains. The "Skvyrianka" and "Ekorod" brands demonstrate the successful commercialization of Ukrainian organic cereals (oats, buckwheat, pearl barley), which successfully compete with premium imports.

In stark contrast, discounters like "ATB" and the "Soyuz" chain exhibit a "minimalist" approach, limiting their organic offerings exclusively to the infant nutrition category (e.g., Gerber Organic NutriPuffs by Nestle). This suggests that in lower-price segments, organic certification is viewed as a "safety premium" for children rather than a lifestyle choice for the general population. The complete absence of certified options in the "Velmart" network highlights a significant geographical and economic barrier to sustainable food access for price-sensitive consumers.

4.1.2. Domestic Production vs. Global Import Integration

The audit confirms a strategic shift in the Ukrainian market: domestic organic producers are no longer merely raw material exporters but have become dominant players in the finished goods segment. The data shows that 70% of the audited organic items in "Silpo" are produced within Ukraine, meeting the stringent requirements of Regulation (EU) 2018/848.

Simultaneously, the presence of niche imports – such as Franci Bio Extra Virgin Olive Oil (Italy), Chocolat Stella (Switzerland), and English Tea Shop (Sri Lanka) – proves that Chernihiv's retail infrastructure remains integrated into global organic logistics despite the regional security challenges. This integration allows for a "co-existence" model where local staples are supplemented by international organic specialties.

4.1.3. Causal Links and Market Implications

The disparity in product availability reveals several underlying causal relationships.

Consumer trust vs. certification. The success of the "Lavka Tradytsii" (Tradition Shop) sub-brand within "Silpo" indicates that retailers are using "storytelling" and regional identity to bridge the gap between traditional farming and formal EU certification.

The "safety anchor" effect. The fact that "ATB" maintains organic snacks for children while ignoring organic staples for adults suggests that infant safety is the primary driver for organic market penetration in the mass-market segment.

Technological barriers. The audit highlights that the most accessible organic products are those with longer shelf lives (cereals, tea, chocolate) or those produced by vertically integrated dairy farms, pointing to the high cost of organic logistics for smaller producers.

4.1.4. Conclusion of the Audit

While the legislative synchronization with EU standards is progressing at the state level, the physical accessibility of eco-certified products in Northern Ukraine remains a privilege of premium retail. This creates a "dual-track" food system where sustainable, certified options are localized in specific "green islands" of retail, leaving a significant portion of the population without direct access to the benefits of the EU's food safety framework.

4.2. Phytosociological Key Performance Indicators: Ephemeroids and Seasonal Management Strategic Determinants of Retailer Policy Toward Certified Organic Products: A Comparative Analysis of Chernihiv's Leading Chains

The stark contrast in the availability of eco-certified goods across Chernihiv's retail landscape is not a matter of logistical coincidence but a direct consequence of the divergent business models and socio-economic positioning of the major market players. An analysis of the operational strategies of Silpo, ATB-Market, Soyuz, and Velmart reveals how corporate policy dictates the practical realization of the consumer's right to certified safe nutrition.

Silpo (Fozzy Group): the strategy of emotional value and "conscious consumption" (Figure 1).

Figure 1 – Examples of ecologically certified and labeled products in Silpo chain stores: a – cereals, b – dairy products



As the undisputed leader in organic offerings, Silpo operates under a "lifestyle retail" model. For this chain, the EU Organic "Euro-leaf" serves as a critical branding asset rather than a mere regulatory requirement. By integrating the "Lavka Tradytzii" (Tradition Shop) project, Silpo has successfully bridged the gap between small-scale Ukrainian farmers and the urban middle class. The chain's policy is rooted in the creation of a "Green Island" within the store, where the premium price of organic milk from Staryi Porytsk or grains from Skvyrianka is justified by the narrative of health, environmental ethics, and superior quality. Consequently, Silpo has become the primary infrastructure for European food standards in Northern Ukraine, catering to a demographic that prioritizes safety over absolute price points.

ATB-Market and Soyuz: the efficiency of the "soft discounter" model. In contrast, ATB-Market, Ukraine's largest retail chain, operates on a high-turnover, low-margin model. Every Stock Keeping Unit (SKU) must justify its place on the shelf through rapid sales. The audit's finding— that organic presence is restricted solely to the Gerber Organic infant line— unveils a calculated "Safety Anchor" strategy. While ATB largely avoids organic staples due to their higher price and slower turnover, it makes an exception for the infant category. This stems from a profound psychological insight: the mass-market consumer, while price-sensitive regarding their own diet, is willing to pay a "safety premium" for their children (Bazaluk, 2020). Thus, in these chains, organic certification is treated as a niche risk-mitigation tool rather than a comprehensive category.

Velmart (Retail Group): the hard discounter and the cost-barrier to certification. The complete absence of certified options in Velmart represents the most significant challenge to the democratization of organic food. Operating as a discount hypermarket focused on volume and aggressive pricing, Velmart's policy reflects a perception of eco-certification as an "unnecessary cost burden." For a retailer whose primary value proposition is the lowest possible price per kilogram, the additional costs associated with organic certification and separate logistics chains are seen as barriers to market competitiveness. This results in a "safety deficit" for the most price-sensitive segments of the population, who are effectively excluded from the certified organic market due to their choice of retail outlet.

Causal Links: retailer strategy as a filter for EU standards. The audit confirms a clear causal link between a retailer's target audience profile and its adherence to European labeling standards.

Economic segregation. The right to access certified safe food is currently segregated by retail geography, localized predominantly in chains targeting the upper-middle class.

Certification as a reputation asset. For premium retailers, organic labels are a reputational investment; for discounters, they are a logistical complexity that threatens price stability.

The consumer education gap. The lack of organic staples in mass-market chains reinforces the misconception that organic food is an unattainable luxury rather than a basic safety standard, highlighting the need for systemic support to lower the "entry threshold" for organic producers into discount retail

4.3. Recommendations for Overcoming Economic Segregation of the Safe Food Market in Chernihiv

Incentivizing entry into discount retail. Establish municipal or state subsidy mechanisms for local organic producers in the Chernihiv region to offset logistics and certification costs, enabling them to offer competitive prices in chains like ATB, Soyuz, and Velmart.

Implementation of eco-certified private labels. Encourage discount retailers to expand their private label lines with certified products. This strategy can reduce final prices for Chernihiv residents by eliminating third-party marketing costs.

Local "organic corners" in value retail. Initiate specialized sections for basic organic staples (grains, oils, eggs) within budget-friendly grocery stores, ensuring the physical availability of labeled goods in the city's residential districts.

"Safe food education" programs. Launch city-wide information campaigns in Chernihiv to explain the significance of "Euro-leaf" and "Organic Ukraine" labels, fostering mass-market demand for safety that compels discount retailers to revise their assortment policies.

Tax preferences for "green shelves". Legislate VAT reductions or local tax incentives for Chernihiv retailers whose share of certified organic products exceeds a minimum threshold (e.g., 5% of total stock).

5. Conclusions: Synergy of Law and Market in Ensuring Food Safety

The comprehensive analysis of the EU legal framework combined with the empirical findings from the Chernihiv retail audit provides a holistic perspective on the current state and future trajectories of the certified organic market in Ukraine.

Firstly, the European labeling model, anchored in Regulations (EU) No. 1169/2011 and No. 2018/848, has successfully transformed the food label from a passive informational carrier into an active instrument of public health protection. The ongoing synchronization of Ukrainian legislation with these norms is more than a political gesture; it is a profound technological challenge that compels domestic producers—exemplified by market leaders such as Saryi Porytsk and Skvyrianka—to implement unprecedented levels of traceability and quality control.

Secondly, the field research identifies a distinct "bifurcation" of the safe food market. In the context of Chernihiv, the consumer's right to an informed choice is directly contingent upon the retailer's business model. While Silpo's strategy of cultivating "organic hubs" creates a practical environment for EU standards to flourish, the rigid policies of discount chains (ATB, Velmart) effectively restrict mass-market access to certified products, relegating them to a niche premium category. This suggests that legislative harmonization is currently outpacing economic accessibility.

Thirdly, the dominance of Ukrainian brands within the organic assortment (exceeding 70% of identified items) underscores the high adaptability of national agribusiness to global standards. However, the scarcity of certified staples in most retail networks highlights an urgent need for state intervention and incentives for retailers to democratize their ecological offerings. Without expanding access to certified food across all price segments, the public health benefits of European integration in food safety will remain a privilege of the affluent rather than a standard for all citizens.

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