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# **Official controls on the distance sale of dairy products in the territory of the Modena Local Competent Authority: an analysis of websites**

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## Abstract

The internet and digital technologies pose new specific challenges to competent authorities, whose activity fields are limited to their own jurisdictions. Consequently, these authorities must operate a system of controls adapted to online sites and e-sales, and official control must be strengthened.

To address these challenges and protect consumers from misleading practices that can lead to the consumption of unsafe food, it is necessary to adapt official controls to new distance-selling techniques. The food inspection scheme as conceived in the European legal system cannot be easily applied to online food sales.

To this purpose, the competent authorities need to equip themselves to guarantee effective control and compliance with the European Union laws regarding food sold online. It emerged that there are different levels of non-compliance with online food: the non-registration of the food business operator (registrant) and the non-compliance with the obligations as the law prescribes (obligations on food hygiene, electronic commerce, and information to consumers about the food).

The focus of this survey on the distance sale of dairy products in Modena Local Competent Authority territory is on the pattern suggested by the Food Standards Agency in 2016. This analysis is based on two different phases. The first one is the study of the websites, and the second one is the physical visit to the address of the online food business. This survey shows how to collect the first phase's data and organize the official controls.

## Introduction

The offers and sales of food products on the internet are increasing. This sale is carried out by using distance communication where there is not the simultaneous physical presence of the supplier and the consumer at the moment of the conclusion of a contract between those parties, as defined in Article 2(u) Regulation n. 1169/2011 (European Parliament and Council of the European Union, 2011). In particular, the online offer of food products and all the associated services (home delivery and after-purchase evaluation) are expanding in a context where the purchase is part of a “cross-canal” pattern (Tedioli, 2022). The e-commerce of food products in Italy, after getting a +63% in 2020, in 2021 has had an even more important growth of about 37%. According to *Casaleggio Associati* (2022), it has represented 64,1 billion euros. In 2022, Italian e-commerce made up 6% of total turnover. This economic relevance indicates that the food sold through distant selling techniques, like the internet, meets all food safety requirements of Italian and European Union (EU) laws.

The Internet and digital technologies represent specific challenges to the Local Competent Authorities (LCA), referred to as local tasks. To address these challenges and protect EU consumers from unsafe food or deceptive practices, it is necessary to strengthen official controls on offers and sales *via* the Internet (European Commission, 2018a).

The food inspection scheme as conceived in European law cannot be easily applied to the online sale of food (Schreiber, 2013). Another important aspect to consider is that the online trade of food products is less transparent and more difficult to control than the traditional one.

There are some studies on e-selling techniques, the potential of e-commerce, modeling and simulation of the cost of analytics for e-commerce deliveries, and small-scale dairy processors. In these studies, the economic aspects are mainly taken into consideration, as are the requirements needed for selling products through e-commerce (Tsang *et al.*, 2021; Macca *et al.*, 2024; Miloradovic *et al.*, 2024). However, there are very few studies in the literature on official controls and the challenges for competent authority in such a new context (Krewinkel *et al.*, 2016). This study was created to find important elements to understand the typology and organization of food e-commerce and related activities in a defined territory. This would be the starting point for organizing official controls online and physically at the establishments in the area under the jurisdiction of the Competent Authority.

In general, it is essential for the organization of official controls to: i) know who the e-commerce operators are, how they are organized, and what their commercial and non-commercial practices are; ii) identify the players in this market and, where possible, quantify the flow of food products sold online in the territory controlled by the respective LCA; iii) understand how this type of channel

works, from order to delivery to the consumer, and identify the existence of particular risks from the point of view of health and traceability requirements.

The food business operators (FBO) are “the natural or legal persons responsible for ensuring that the requirements of food law are met within the food business under their control” (European Parliament and Council of the European Union, 2002 - Article 3(3) Regulation (EC) n. 178/2002).

Once online FBOs have been identified, they need to be registered, inspected, and risk-rated for future interventions. Inspections may need to be carried out in two phases: a first review of the website to gain an understanding of the nature of the business and any compliance issues, and a second physical visit to the address of the online food business (Food Standards Agency, 2016).

The main purpose of this survey is to apply an inspection scheme for the official control of the distance selling of foods of animal origin. This includes a first phase of analysis of the online sites for sale and a second phase of physical inspection of the operator responsible for the site. This contribution concerns the first phase.

## **Materials and Methods**

We have identified the FBO, both registered under ex Regulation (EC) n. 852/2004 and registered under ex Regulation (EC) n. 853/2004 (European Parliament and Council of the European Union, 2004a, 2004b), of the dairy production sector who carry out their activities in the territory of the Local Health Unit of Modena (LCA) through the extraction of the data contained in the authority database called SICER.

SICER is a management information system that supports all corporate activities of the Public Health Prevention Department of LCA of Modena. This database contains all the establishment dossiers that are present in the area. For each establishment, different information is available, including what was collected for this survey: the name of the FBO, value added tax (VAT) number, approval number, category, associated activity, and address.

This survey started in May 2023. We have searched on "Google" for the possible presence of online sales sites belonging to the companies surveyed and registered on the SICER database and present in the territory of the Local Health Unit of Modena.

For each dairy product establishment that has activated a remote food sale site structural requirements of the site were verified: i) the identification of the operator responsible for the site; ii) the indication of the VAT number on the home page and the correspondence of the VAT number to the operator responsible for the site; iii) the identification of the internet protocol (IP) address; iv) the registrant. The identification of the registrant, an individual or entity who registered a domain name, *i.e.*, the owner of the domain, allows to reveal of the owner of the site and therefore the FBO responsible for the information pursuant to Reg. (EU) n. 1169/2011 and the distance selling food business (Vaqué, 2015).

In computing and telecommunications, an IP address is an IP packet number that uniquely identifies a device called a host connected to a computer network that uses the IP as the network protocol for routing addressing, therefore it is inserted in the header of the IP datagram for addressing via the IP protocol. In essence, IP addresses are the identifier that allows information to be sent between devices on a network: they contain location information and make devices accessible for communication.

The check of the structural requirements of the site was carried out through <https://whois.domaintools.com/> (Internet Protocol Address) - Whois Lookup. By using the Whois.domaintools tool it was possible to consult the "Whois" database which is a free and public online database that collects useful information on the owner of a domain name. For each website identified that carried out the distance sale of food (in this case, dairy products) we have collected the name of the Registrant, *i.e.*, the owner of the domain.

Later on, we proceeded with the analysis of the functional characteristics regarding: i) the sale method (the internet site, social media, third-party site and so on); ii) the delivery methods; iii) the logistics chains – *i.e.*, the means of transport for food delivery from the production and sale establishments to the final consumer (Mareï *et al.*, 2016).

From the consultation of the websites, we also obtained information about e-sale foods, particularly if these are perishable foods (dairy products).

## Results

The territory under the jurisdiction of the Local Health Unit of Modena extends over an area of 2,688 km<sup>2</sup> and it is divided into four districts as follows: Pavullo (A), Vignola (B), Carpi-Mirandola (C) and Modena-Sassuolo-Castelfranco (D). The establishments that produce dairy products (European Parliament and Council of the European Union, 2004b - ALL.I p.7.2 of Regulation (EC) n. 853/2004) are currently 87 in this territory, of which 70 establishments (80%) are registered ex Regulation (EC) n. 853/2004 and 17 establishments (20%) ex Regulation (EC) n. 852/2004 (Table 1).

Within the establishments registered ex Regulation (EC) n. 853/2004, 63 (89%) of these produce typical cheeses, within the Protected Designation of Origin, 36 (57%) sell cheese online and 11 (28%) use the selling platform (website) of their own Consortium.

According to a deep analysis carried out by consulting the internet using the Google search engine, of the 87 structures present in the area, 56 (64%) have their own company website but only 44 establishments (51%) work on distance selling via their website. Moreover, 40 establishments (46%) use social media, in this case, Facebook (Table 1). In the analyzed cases the social media tool is not selected as a sale platform, but it is rather useful to direct the consumer to choose among the purchasing methods available on the website. Social media are also chosen as a promotional commercial instrument to purchase in local shops or stores.

After collecting all the data, it emerged that out of the 44 establishments that carry out distance selling *via* a website it was possible to identify the Registrant in 34 (77%) of the total cases and of these in 27 cases (79%) it corresponded to the identity of the FBO who owns the dairy production activity (Table 2).

In 42 cases over 44 (95%) it is clearly declared what types of products are sold online and all these products are perishable foods (dairy products, fresh cheeses, butter, and ricotta).

For what concerns the logistics chains declared by the various operators on their website, these chains were represented in 15 cases (34%) by the "courier", *i.e.*, by a company that carries out rapid interurban or international transport on behalf of third parties. Only in 4 cases (9%) the shipment of the food products was declared to be carried out via "refrigerated courier". In 2 cases (5%) the product was delivered by courier, but by collection at the point of sale and under the shipping conditions established on the website. In 23 cases (52%), it was not possible to detect the shipping methods of the food products (Table 3).

As regards the commercial area there is little information provided on the website. In fact, in 34 cases (79%) it was not possible to detect the commercial area. For the remaining 9 cases (21%), the declaration of the commercial area was found to be only the national territory for 3 (7%), Italy, and more generally "abroad" for the 6 remaining cases (14%).

Concerning the identification of distance selling methods, it emerged that the prevalent sale method was through the online e-commerce "cart" mechanism (22 cases), a software that allows customers to select products and purchase them online.

The use of e-mail is frequent (20%), both as a sale method and in association with the telephone (23%) which allows the consumer to place the order which will then be delivered and/or collected at the established point of sale. In two cases the possibility of buying and selling was found to be only and exclusively via telephone order (Table 4).

## Discussion

The identification of the Registrant as FBO responsible for the information according to Regulation (EU) n. 1169/2011 and the distance selling food business is highlighted in a document of the Commission's Directorate General for Consumer Health. Although this document has no official legal value, as indicated in the introduction of the document itself, it can be useful and still represents the opinion of the European Commission's Directorate-General for Health and Food Safety (DGSANCO,

2013). The direct consequence of this orientation is that the registrant must be considered as an FBO responsible for the information and he must register as an FBO if not already done. In this regard, for example, the Food Standards Agency establishes that "once online food business operators have been identified, they need to be registered" (Food Standards Agency, 2016).

In relation to the logistics chains, these products must be kept at a maximum temperature of +4°C (Bassoli *et al.*, 2011). In fact, the law prescribes the limit of the storage and transport temperature for perishable foods, unless otherwise indicated on the label for pre-packaged products.

## Conclusions

On the basis of this survey, it is possible to state that the analysis of websites helps to identify the owner of the site. A knowledge of the identity of the site owner allows the LCA to: i) establish whether or not it is an operator registered as an FBO; ii) confirm whether or not the FBO belongs to the territory under its jurisdiction, allowing, in this case, an appropriate traditional physical inspection according to the schemes ruled by Regulation (EU) n. 2017/625 (European Commission, 2017); iii) create a map of all the FBOs who sell their products online.

The process that would lead the LCA to this identification can be defined by the term "mapping".

It is possible for the LCA to discover for each operator in their territory who appears to have activated a remote food sale site: the IP address and the name of the registrant. This is possible thanks to the use of tools available on the web, for example, [domaintools.com](http://domaintools.com).

From these initial results, it would appear that in 21% of cases the individual or entity resulting as the owner of the site must register as an FBO because the registrant is different from the FBO (Table 2). According to the report of the European Commission - Directorate General for Health and Food Safety of 2018, it emerged that official controls on food products sold online are rather limited and mainly focus on registered FBO (European Commission, 2018b).

The identification of unregistered FBOs who have an online business (23%) proves to be difficult due to the relatively limited LCA resources allocated to this sector and the considerable number of these operators.

The evaluation of some characteristics - such as shipping methods - requires a more detailed investigation in the second phase of physical inspection of the owner of the site (registrant) who is, therefore, responsible for the food information to consumers. This FBO, who is the registrant, is also responsible for the obligations relating to traceability and food safety management system, as well as the hazard analysis, especially during the shipping and delivery phase. Selling food with remote communication techniques offers a multitude of delivery options (drive-through, relay delivery, home delivery, *etc.*), which involves, at least at the beginning, a complex and expensive logistical organization. The moment of distribution, *i.e.*, the function necessary for the transfer of products from the producer to the consumer is a critical and essential phase that must be managed; in fact, this often requires competence and training of all the staff and operators involved in the distance selling process and delivery of food products to consumers.

From these results, it would seem that there is a general tendency, to be confirmed during traditional physical inspection, towards non-compliance with some Regulations, in particular, non-compliance with the prescribed transport temperatures of foods that must necessarily be kept refrigerated.

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**Table 1. Identification of establishments in the territory of the Local Health Unit of Modena.**

Districts	Number of establishments	Registration Regulation n. 853/2004	Registration Regulation n. 852/2004	Having a web site	On line selling	Having Facebook
<b>A</b>	41	31	10	23	15	21
<b>B</b>	13	10	3	10	9	6
<b>C</b>	9	9	0	6	5	2
<b>D</b>	24	20	4	17	15	11
<b>Total</b>	<b>87</b>	<b>70 (80%)</b>	<b>17 (20%)</b>	<b>56 (64%)</b>	<b>44 (51%)</b>	<b>40 (46%)</b>

A, Pavullo; B, Vignola; C, Carpi-Mirandola; D, Modena-Sassuolo-Castelfranco.

**Table 2. Identification of the registrant in relation to the establishments carrying out distance selling.**

Districts	Online selling	Identified registrant	Non detected registrant	Registrant = FBO	Registrant ≠ FBO
<b>A</b>	15	13	2	11	2
<b>B</b>	9	9	0	6	3
<b>C</b>	5	3	2	3	0
<b>D</b>	15	9	6	7	2
<b>Total</b>	<b>44</b>	<b>34 (77%)</b>	<b>10 (23%)</b>	<b>27 (79%)</b>	<b>7 (21%)</b>

FBO, food business operators, A, Pavullo; B, Vignola; C, Carpi-Mirandola; D, Modena-Sassuolo-Castelfranco.

**Table 3. Identification of logistics chains.**

Districts	Online selling	Logistics chains			
		Courier	Refrigerated courier	Courier + withdrawal at shop	Non detected
<b>A</b>	15	3	1	1	10
<b>B</b>	9	3	2	1	3
<b>C</b>	5	1	0	0	4
<b>D</b>	15	8	1	0	6
<b>Total</b>	<b>44</b>	<b>15 (34%)</b>	<b>4 (9%)</b>	<b>2 (5%)</b>	<b>23 (52%)</b>

A, Pavullo; B, Vignola; C, Carpi-Mirandola; D, Modena-Sassuolo-Castelfranco.

**Table 4. Identification of distance selling methods.**

<b>Districts</b>	<b>On line selling</b>	<b>On line sales methods</b>				
		<b>E-mail</b>	<b>Phone</b>	<b>E-mail+phone</b>	<b>E-sales “shopping cart”</b>	<b>E-sales cart+phone</b>
<b>A</b>	15	1	0	3	11	0
<b>B</b>	9	1	0	3	4	1
<b>C</b>	5	5	0	0	0	0
<b>D</b>	15	2	2	4	7	0
<b>Tot.</b>	<b>44</b>	<b>9 (20%)</b>	<b>2 (4.5%)</b>	<b>10 (23%)</b>	<b>22 (50%)</b>	<b>1 (2.5%)</b>

A, Pavullo; B, Vignola; C, Carpi-Mirandola; D, Modena-Sassuolo-Castelfranco.