



## Authenticity of Parmigiano Reggiano

*Dairy is one of the most adulterated food sectors in Europe (European Parliament, 2013) and premium cheeses with "Protected Designation of Origin" (PDO) label are among the most affected products because of their high economic value.*

PDO products come from a unique combination of human and environmental factors distinctive of a territory. **PDO recognition ensures the highest quality** by certifying a local production and packaging with traditional methods in the place indicated as origin, according to a strict set of official guidelines (product specification).

**Italian PDO Parmigiano Reggiano is one of the most imitated cheeses in the world.**

The market offers several products that claim to be Parmigiano Reggiano, while being parmesan cheeses of poorer quality, thus the **Italian Sounding** causes enormous economic damage.

### FOOD FRAUD

Food Fraud is the deliberate and intentional adulteration, misrepresentation or misleading statements of food, food ingredients and food packaging for financial gain.

Food frauds can cause economic damage and pose a serious health concern for consumers.

### ITALIAN SOUNDING

Italian Sounding is the improper trade of products that "sound Italian" by name, labels, images, etc. but they are not. At international level, "Made in Italy" food frauds worth more than € 60 billion. Premium products are the most affected.

### FOOD FRAUD IN DAIRY

Most common frauds in dairy products are geographic origin, dilution, melamine addition, fraudulent heat treatments, adulteration with foreign fats, replacement with milk from other animals, etc.

In collaboration with the “Consorzio del Parmigiano-Reggiano” (the Italian body promoting and safeguarding the authenticity of Parmigiano Reggiano) **Mérieux NutriSciences** developed an **array of independent targeted and non-targeted analyses to accurately identify authentic samples of PDO Parmigiano Reggiano.**

The analyses properly combine different independent parameters that characterize:

### 1. THE TYPICAL GEOGRAPHICAL ORIGIN

PDO Parmigiano Reggiano is produced in a very well defined area of Italy that comprises the provinces of Parma, Reggio Emilia, Modena, Mantua, Bologna and the plain, the hills and the mountains enshrined between river Po and river Reno; **Mérieux NutriSciences identifies the cheese produced elsewhere thanks to a non-targeted authenticity testing;**

### 2. THE PRODUCTION PROCESS

The PDO Parmigiano Reggiano is produced according to very precise criteria that regulate every step of the process. Along the whole production process, **Mérieux NutriSciences identifies different biomarkers** whose variability can assess the compliance to product specification;

### 3. ANIMAL FEED AND MILK QUALITY

Animals providing the milk to produce PDO Parmigiano Reggiano are fed on fodder from the defined geographic areas and cannot have forbidden feed like insulates; in addition, milk has to be fresh, with no preservatives added. **Mérieux NutriSciences verifies that animal feed and milk freshness comply with the official product specification;**

### 4. MINIMUM AGING PERIOD

Authentic PDO Parmigiano Reggiano is characterized by a minimum aging period of 12 months. **Mérieux NutriSciences can identify not matured enough cheese** by quantifying the total amount of free amino acids compared to the whole protein content.

**TARGETED AND NON-TARGETED APPROACHES** are independently carried out and **statistically evaluated with a specific chemometric analysis, to assess samples' authenticity.**

Mérieux NutriSciences is the key partner for food industries: it provides full services for the prevention and management of food frauds.

Mérieux NutriSciences can manage complex fraud issues and develop customized authenticity projects thanks to a longstanding experience in food fraud, cutting-edge equipment and strong scientific skills.

**For more information, please contact our experts by phone at +39 0423 7177 or by e-mail at [food.italy@mxns.com](mailto:food.italy@mxns.com)**

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