

HYGIENIC ASPECTS AND GEOGRAPHIC CONDITIONS FOR PRODUCTION OF MILK FARM PRODUCTS AS TRADITIONAL SPECIALITY GUARANTEED

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Abstract: Since 1992, EU member states can officially apply for the protection and also protect their food products on the EU level. The original idea of the protection of traditional agricultural and food products comes from France, where it started to develop more than sixty years ago as an initiative of food producers and their corporations. They have felt the urgent need for the protection of their products and recipes against the falsifiers (Supeková, 2009). Several typical products were designated as foods with protected geographical indication (PGI) up to the present. The Slovak dairy products include Slovenska bryndza, Slovenska parenica and Slovensky oštiepok, designated in 2008.

Key words: Slovak dairy products, traditional speciality guaranteed, protected geographical indication

INTRODUCTION

Generally, Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG) are geographical indications, or more precisely regimes within the Protected Geographical Status (PGS) framework defined in European Union law to protect the names of regional foods. The law (enforced within the EU and being gradually expanded internationally via bilateral agreements of the EU with non-EU countries) ensures that only products genuinely originating in that region are allowed in commerce as such. The purpose of the law is to protect the reputation of the regional foods and eliminate the unfair competition and misleading of consumers by non-genuine products, which may be of inferior quality or of different flavour. These laws protect the names of wines, cheeses, hams, sausages, olive, beer, Balsamic vinegar, and even regional breads, fruits, and vegetables.

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Foods such as Gorgonzola, Parmigiano-Regiano, Melton Mowbray pork pies, Asiago cheese, Camembert de Normandie and Champagne can only be labelled as such if they come from the designated region. To qualify as Roquefort, for example, cheese must be made from milk of a certain breed of sheep, and matured in the natural caves near the town of Roquefort in the Aveyron region of France, where it is infected with the spores of a fungus (*Penicillium roqueforti*) that grows in these caves.

MATERIAL AND METHODS

Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG) are systems similar to Appellation systems throughout the world, such as the Appellation d'origine contrôlée (AOC) used in France, the Denominazione di origine controllata (DOC) used in Italy, the Denominação de Origem Controlada (DOC) used in Portugal and the Denominación de Origen (DO) system used in Spain. In many cases (as listed above), the EU PDO/PGI system works parallel with the system used in the specified country, and in some cases is subordinated to the appellation system that was already instituted, particularly with wine, for example, and in France (in particular) with cheese, for example Maroilles (as most others) has both PDO (AOP in French) and AOC classifications, but generally only the AOC classification will be shown. Only products which meet the various geographical and quality criteria may use the protected indication. It is also prohibited to combine the indication with words such as "style", "type", "imitation" or "method" in connection with the protected indications, or to do anything which might imply that the product meets the specifications (e.g., using distinctive packaging associated with the protected product) (Šilhár a Matulová, 2009). Protected indications are treated as intellectual property rights by the Customs Regulation 1383/2003 concerning customs action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights), and infringing goods may be seized by customs on import. Within the European Union enforcement measures vary: infringement may be treated as counterfeit misleading advertising, passing off or even as a question of public health.

The using of geographical indications is intended to increase the income of right holders the preambles to the Regulations cite consumer demand for quality foodstuffs and identify a number of goals for the protection regimes:

- the promotion of products with specific characteristics, particularly those coming from less-favoured or rural areas;
- the improvement of the income of farmers, in return for a "genuine effort to improve quality";
- the retention of population in rural areas;
- the provision of clear and succinct information to consumers regarding product origin.

The origin of the product is only one of the criteria for use of the protected terms: the product must also meet various quality criteria. The label "Traditional Speciality Guaranteed" (TSG) is a similar protected term which does not impose any restrictions on the geographical origin of the product. The protection of geographical indications was extended to foodstuffs and other agricultural products in 1992. Given the widely different national provisions, this "general regime" gives much more power to the European

Commission (compared to the special regimes) to ensure a harmonized protection across the European Union. It is currently governed by the Regulation on the protection of geographical indications and designations of origin for agricultural products and foodstuffs (No 510/2006).

To qualify for a PDO, the product must have qualities and characteristics which are essentially due to its region of production: it must also be produced, processed and prepared exclusively within that region. The requirement for a PGI are slightly less strict; a good reputation of a product from a given region is sufficient (rather than objectively different characteristics) if any of the steps of production, processing and preparation may take place within the region. Otherwise the protection afforded by the two terms is equivalent.

An application for a PDO or a PGI is first made to the authorities of the relevant Member State. It is judged by the Member State against the criteria in the Regulation and, if found to be acceptable, forwarded to the European Commission for final approval. Applications are published at both the national and Community stages of examination, and third parties can object to proposed PDOs or PGIs which they feel would harm their business. A recurrent objection is that the proposed denomination is a generic term for the product in question: generic names cannot be registered but, once registered, the denominations are protected from genericization. Hence Cheddar cheese was deemed to be a generic name, but the PGI “West Country farmhouse cheddar cheese” was allowed: Feta was deemed not to have become generic, and was registered as a PGI to the disappointment of cheesemakers outside of Greece.

The Protected designation of origin is the name of an area, a specific place or, in exceptional cases, the name of a country, used as a designation for an agricultural product or a foodstuff,

- which comes from such an area, place or country,
- whose quality or properties are significantly or exclusively determined by the geographical environment, including natural and human factors,
- whose production, processing and preparation takes place within the determined geographical area.

In other words, to receive the PDO status, the entire product must be traditionally and ENTIRELY manufactured (prepared, processed AND produced) within the specific region and thus acquire unique properties.

The Protected geographical indication is the name of an area, a specific place or, in exceptional cases, the name of a country, used as a description of an agricultural product or a foodstuff,

- which comes from such an area, place or country,
- which has a specific quality, goodwill or other characteristic property, attributable to its geographical origin,
- whose production, processing or preparation takes place within the determined geographical area.

In other words, to receive the PGI status, the entire product must be traditionally and at least PARTIALLY manufactured (prepared, processed OR produced) within the specific region and thus acquire unique properties.

The Traditional speciality guaranteed is a trademark for an agricultural product or a foodstuff, which has a certain feature or a set of features, setting it clearly apart from other similar products or foodstuffs belonging to the same category. The product or foodstuff must be manufactured using traditional ingredients or must be characteristic for its traditional composition, production process, or processing reflecting a traditional type of manufacturing or processing.

In other words, to receive a TSG status, the product does not have to be manufactured in a specific geographically delimited area; it is sufficient that it be traditional and different from other similar products.

In mountain regions of Slovakia, sheep & cattle grazing for centuries belonged to the one of the most important ways of supporting extensive families. Sheep and goats were far less demanding, satisfying their hunger on windthrow clearings, clearcuts, bushy hill-sides and ditches, where they were feeding on tree and bush twigs and even on green matter. Since the 14th century, a new unique grazing method- Wallachian cattle grazing, was in use. This method was brought to us by the Wallachians who came to our territory from what is nowadays Romania. The period of their "invasion" is called Wallachian colonization. Their arrival was probably linked to Turkish and Tartar invasions. Their notoriously famous plundering raids left many times no stone upturned on vast territories. The Wallachians were establishing their own settlements, but gradually they merged with native Slovak inhabitants. Their influence on the Slovak traditions is very significant and is very much apparent to these days. Step by step the Wallachian changed into wallachian with a small letter, that is to say a peasant exercising the wallachian grazing method and it was also commonly used for a lower rank labourer on a sheep farm (one lever lower rank than a chief sheepman called 'bača').

Wallachians were very modest and undemanding. Sheep and goat keeping belonged to their main livelihood activities. For the main part of the year, they were living in forests and alpine meadows where they erected very simple temporary dwellings called "salaše". This way, the pressure put on forestland was doubled. Apart from the pressure, existing on the bottom timberline due to the arable land enlargement efforts, there was also pressure on the alpine tree limit linked to the attempts of artificial alpine meadows spreading.

Slovakia is located in central Europe. The length of Slovakia (W-E) is 428 km, the most width of the country (N-S) is 195 km. Altitude in Slovakia is very different (min. altitude is 95 m, Bodrog in East Slovakian lowland and max. altitude is 2656 m, Gerlach in Hight Tatras). Northern Slovakia and the central part of the country are more mountainous. The Carpathian bow extends across these regions. The south and east parts of the country are planar (Danubian lowland, East Slovakian lowland, South-slovakian basin), important agricultural areas in Slovakia. East Slovakia has a continental climate, with four distinct seasons. Winters are typically cold and sometimes dry, while summers tend to be hot and humid. The average daily temperature ranges in Bratislava from -3° to 2°C in January and 16 °C to 26 °C in July. Temperatures tend to be cooler in mountains. In areas of high altitude (Carpathian Mts.) snow is often present for as many as 130 days each year (and may be more).

All these characteristic features are associated also with the agriculture, mainly with the sheep breeding. Natural **sheep milk** is the basis for the production of traditional

bryndza, with lump sheep cheese to be made of the milk. The cheese is then modified in a bryndza-producing facility to give rise to soft, salty substance with a distinctive taste that is known abroad as the “Liptov cheese” or Liptauer. The region of Liptov lies in the north of Slovakia in the central part of Carpathian Mts. region. Its general geographic position is: In the north-west the Liptov region is surrounded by the ridge of Chočské Mts. The northern border of the territory is formed by Tatras (West Tatras and part of East Tatras – the High Tatras), the southern border is represented by Low Tatras, the western border by Veľká Fatra and eastern border of Liptov passes along the valley of Čierny Váh river to the main European watershed in Kozie chrbty Mts. and across Štrbské sedlo to High Tatras (Michaeli, 2008). The **natural scenery** of Liptov is **one of the most beautiful** in Slovakia. The hydrographic axis of the territory is the Váh river (the longest river in Slovakia). Liptov is one of the most attractive regions in Slovakia. The most part of its territory is mountainous, abounding with forests and beauties of nature.

Slovenská bryndza from Slovakia was granted a protected geographical indication in July 2008. The geographical indication was requested in October 2007. Ján Vagač started to produce the local variety of Slovenská bryndza and in 1787 he founded the first factory for producing the cheese in Detva. Today, around 4 000 tons of bryndza are produced in Slovakia annually (Herian, 2010).

Slovenská bryndza has white to slight yellowish colour (not yellow) and fine spreadable consistency, and it has a stray grouts parts. The cheese has the taste and aroma very delicious, mildly sour, and typical. In winter period the flavour can be mild savoury and salty, but not sour, fatty, bitter, etc. Salt content varies from 1 - 2% (summer cheese) to 2 - 3% (winter cheese). Bryndza is manufactured in sheepsfoot roller followed in drum mill from ripened ewe's milk lump cheese, or from the mixture of ewe's and cow's milk lump cheeses. Ewe's lump cheese must be in 51% proportion. Bryndza contains wide spectrum of microorganisms, mainly, following genera: *Lactobacillus*, *Enterococcus*, *Lactococcus*, *Streptococcus*, *Kluyveromyces marxianus* and *Geotrichum candidum* (Dudriková, 2009).

On the other hand, there is a requirement for the registration of the „hrudkový syr salašnícky „farm ewe's milk lump cheese „as the traditional speciality guaranteed. This is a product originally made on salaš from fresh raw ewe's milk, which achieve its characteristic taste by a traditional type of manufacturing during the fermentation process and by hand forming onto the form of lump. We think, that besides all documents important for registration, which make out the specific and traditional character of cheese (for instance, citations in the literature, traveller's guide, encyclopaedias, consumer inquiry, etc.), illustration of cheese (in the frame of requirement), also will be useful the usage of geographical documentation of given region. It means the usage of analysis of the secondary structure of the landscape, in which according to the related categories Land use, individual elements of landscape can be identified by using of interpretation of coloured satellite orthophotograph maps with high resolution. Of course, using geography in PDO, PDI status is more important. Šuhaj (2008) reported the geographical authentication of Edam and Emmental cheeses in Slovakia by the analysis of 12 chemical elements, namely Ba, Ca, Cu, Cr, Hg, K, Mg, Mn, Mo, Na, Ni V such as markers of geographical origin chosen on the basis of variability study of the chemical elements of soils in Slovakia. The 84% effectiveness in 11 producers of both cheese types was observed (in six of them the effectiveness was 100%).

CONCLUSION

Pillonell et al. (2003) and Karoui et al. (2007) studied the determination of the geographic origin of cheese using spectroscopic methods. They developed rapid, economical non-destructive and multi-parametric methods for the geographic origin assessment of Emmental cheese and more generally, the geographic origin of European hard cheese. Each region produces a cheese with typical features, such as a ripening time that can vary from six weeks to several months. To survey the authenticity of Emmental cheese, samples from the main European manufacturers were collected, corresponding to 110 winter and 73 summer samples. From a preliminary study, a series of promising analytical methods were selected and applied to the 183 samples: total nitrogen, water soluble nitrogen (WSN), 12% TCA soluble nitrogen (NPN), pH-value, volatile short-chain acids, chloride, organic acids, enterococci, obligate heterofermentative lactobacilli, *Lb. helveticus*, sodium, copper, zinc, magnesium and isotope stable ratios. The data was analysed by univariate statistic according to the geographic origin and the season of production. Significant differences between the regions of origin were found for all investigated parameters (ANOVA with $P < 0.001$). Some regions showed very specific properties such as low LAP and *Lb. helveticus* in Switzerland, low lactate and pyruvate in Finland or high ^2H and ^{34}S in Bretagne. However, for the correct assignment of all regions, several parameters combined by multivariate analysis will be required. Seasonal differences were observed in certain regions for the parameters acetate, propionate, capronate, WSN, NPN, pyruvate, OHL, zinc and ^{13}C .

From this short summary it seems that to develop some technique of correct geographic authenticity of agricultural products or foods is serious process required the co-operation of several disciplines.

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HYGIENICKÉ ASPEKTY A GEOGRAFICKÉ PODMIENKY PRE PRODUKCIU MLIEČNYCH FARMÁRSKÝCH VÝROBKOV GARANTOVANÝCH AKO TRADIČNÉ ŠPECIALITY

Summary

Od roku 1998, členské štáty Európskej Únie môžu oficiálne žiadať o ochranu a chrániť svoje potravinárske produkty na úrovni Európskej Únie. Prvotná idea ochrany tradičných poľnohospodárskych a potravinárskych produktov pochádza z Francúzska, kde sa začala rozvíjať pred šesťdesiatimi rokmi ako iniciatíva výrobcov potravín a ich korporácií. Pociťovali urgentnú potrebu ochrany svojich produktov a receptúr voči tým, ktorí tieto receptúry ilegálne kopírovali (Supeková, 2009). Do dnešného obdobia bolo vytvorených mnoho typických produktov ako potravín s ochrannou geografickou známkou (PGI). Slovenské mliekarenské výrobky zahŕňajú Slovenskú bryndzu, Slovenskú parenicu, Slovenský oštiepok a boli certifikované v roku 2008.

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