

Use Rare Breed for Genuine Foods in Romanian Rural Tourism and Possibility of Traceability the Traditional Products

**Iudith IPATE, Alexandru T. BOGDAN, Marcel PARASCHVESCU, Mariana SANDU,
Simona IVANA, Nicolae IPATE, Amalia STRATEANU, George TOBA, Mihai ENACHE**

Romanian Academy-INCE-CSCBA, 13 Septembrie Street,
Bucharest, Romania; cscbas@yahoo.com

Abstract. The specific of the touristic product and its quality depend to a large extent on the professional ability of the service staff (kindness, solitude, punctuality, promptness). Aspects related to professional ethics (correctitude, trust, honesty) are seen by the consumer as inseparable from the quality of a service. At the same time, tourist's perception on the quality of the received service depends on the level of performers' involvement. Actually, in rural tourism, at boarding houses and agro tourist farms, the staff is interested in bringing more tourists, their offer being characterized by a thorough competition. Agro tourist boarding houses offer a wide range of accommodation places and natural food products from their own households. Each agro tourist region has its own specific features that are, the building style, comfort, and traditional kitchen. The *National Office of Traditional Products* protect the name of traditional products to avoid bad competition between producers who made same product with same geographical name but in different zone. The quality of services provided to native tourists by the boarding house or agro tourist firm staff finds itself in an interdependent relation with ecological food products. The analysis based on microsatellite data has demonstrated the possibility to genetically characterize the breeds studied and to distinguish the origin of animals. The incorrect labeling of foods represents a commercial fraud. It is very important to establish that species of high commercial value declared are not substitute, partial or entirely, by other lower value species.

Keywords: rural tourism, traditional food, rare breed, traceability

INTRODUCTION

Local food is a principle of sustainability relying on consumption of food products that are locally grown. It is part of the concept of local purchasing; a preference to buy locally produced goods and services. Food and farming play a key role in creating our culture, landscape and health. Local food production brings people together to make this possible and also benefit local economies. In Romanian rural tourism use resource from rural farm for different rural programs, witch can take many points: serve table with traditional menu; naturals products made in naturals conditions and with a good biological value.

Rural tourism in Romania has turned out to be an extremely dynamic sector in recent years. Guesthouses and rural guesthouses have cropped up lately. Some of them have been built in recent years and display a modern architecture, whereas others, more traditional, are housed by the typical Romanian village house. These guest houses have a smaller capacity, of only 2-3 rooms; others the so-called group guest houses offer accommodation in more than 10 rooms, and their standard is in no way below the standard provided by the regular hotels.

In rural farm, tourists can choice for serve table or not. This table is strong motive for choice this tourism shape.

The natural product can be serving in different mode: complete serve; half serve; only breakfast; “Do it yourself” for preparing food.

Essential specific feature in rural tourism is the next fact: table is made of natural’s products, fresh, witch obtained in own farm of host.

Local food is food witch meets the following criteria:

- Produce processed, traded and sold with a defined radius and proximate originating from the closet practicable sources; source or minimizing energy uses:
- Healthy as part of a balanced diet and not containing harmful biological or chemical contaminants; fairly or cooperatively traded between producers, processors, retailers and consumers; non–exploiting of employees in food sector in terms of pays and conditions; environmentally beneficial or begin in its production;
- Accessible both in terms of geographic access and affordability; high animal welfare standards in both production and transport; builds social capital and is socially inclusive of all people in society;

In Romania it is the *National Office of Traditional Products*. His job is to protect the name of traditional products to avoid bad competition between producers who made same product with same geographical name but in different zone. He has the general quartier in Brasov City and is subordinate Agricultural Ministry. Institution offers assistance for producer to prepare documentation for trade and protect indications about origin, name of origin, nature and essentials qualities of Romanian traditional products. In nomenclature of this institution found the many Romanian traditional products. Detection of pork, beef, buffalo, ewe, goat, horse, chicken and turkey in marinated, processed and fermented products by amplification of mitochondrial cytochrome *b* gene and analysis of restriction fragments (PCR-RFLP) was described by Meyer et al. This method enabled the detection of pork in meat mixtures of pork and beef at levels below 1% (w/w). Specific detection of pork was also obtained by amplification of *D-loop* mitochondrial DNA from meat and fat in meat mixtures. The PCR amplification of pork mitochondrial genes (12S rRNA and cytochrome *b*) was successfully applied in the identification of pork derivatives in different types of food products, proving to be a reliable and suitable technique in routine food analysis.

MATERIALS AND METHODS

The research team used modern tools to identify the traceability the original materials (meat or milk) of different species from traditional products - molecular tests based on identification, amplification and characterization of nucleic acids for food traceability (PCR techniques). The analytical methods used for species identification and authenticity of foods rely mainly on protein and DNA analysis. The PCR amplification is based on the hybridisation of specific oligonucleotides (primers) and synthesis, in vitro, of millions of copies flanked by those primers. The specific amplification of one fragment followed by agarose gel electrophoresis for fragment size verification is the simplest PCR strategy to evaluate the presence of a species.

Also, we use the systematic study of longitudinal methods, which have followed the processes, issues over time and the qualitative researches methods to achieve a correlation between the description-classification-connection. We are described by the analysis of qualitative data on more regional situation using relationships between all these different principles and techniques aimed at building having a general vision. Delphi-method was used as a technique of consensus related to the unanimity of views that exist in relation to the need

to manage a response, which have highlighted the vulnerability of species threatened with extinction.

RESULTS AND DISCUSSION

We try description some specific products obtained in our country:

Telemea Cheese: This products is a traditional Romanian cheese, made from cow milk, buffalo milk or sheep milk. Breed who give the milk for made this cheese are: Romanian Grey Steppe, Romanian Buffalo, Tzigai, Turcană and Carpathian Goat. She is likely Greek feta cheese. The taste is salty and contained 50% water and 25% fat.

Buffalo telemea cheese: For buffalo telemea cheese the fat % is more, approximates 55-60% fat. The breed is very well adapted to the local environment. Cheese must be hold in brine few months, and after she can be eat.

The quality of milks products depend the composition of milk (water, protein, fat, carbohydrate, energy, lactose, fatty acids saturated, fatty acids monounsaturated, fatty acids polyunsaturated, cholesterol, calcium) for differed species (Tab. 1).

Tab. 1

Milk composition analysis, per 100 grams

Constituents	unit	Cow	Goat	Sheep	Buffalo
Water	g	87.8	88.9	83.0	81.1
Protein	g	3.2	3.1	5.4	4.5
Fat	g	3.9	3.5	6.0	8.0
Carbohydrate	g	4.8	4.4	5.1	4.9
Energy	kcal	66	60	95	110
	kJ	275	253	396	463
Sugars (Lactose)	g	4.8	4.4	5.1	4.9
Fatty Acids:					
Saturated	g	2.4	2.3	3.8	4.2
Mono-unsaturated	g	1.1	0.8	1.5	1.7
Polyunsaturated	g	0.1	0.1	0.3	0.2
Cholesterol	mg	14	10	11	8
Calcium	iu	120	100	170	195

Quality cheese is obtained from the milk of the following cow breeds: Romanian Grey Steppe, Romanian Buffalo, Tzigai, Turcană, Carpathian Goat, Transylvanian Pinzgau, Brown of Maramures and Transylvanian Simmental. In the last fifteen years the number of animals belonging to these species has decreased.

Common adulterations of dairy products are the substitution of higher value milk by non-declared cow's milk or the omission of a declared milk species. Thus, the detection of milk species is important in cheese making, especially those made from one pure species and with protected designation of origin, such as pure sheep or pure goat's cheeses.

Plescoi Sausages: Is obtained in village with same name of Buzau County. They obtained by mixed pork meat and sheep meat (Mangalitză or Bazna, rustic breed, resistance of disease, specialized for fat, with a good taste and Tzigai or Turcană, rustic breed, resistance of disease, specialized for meat, milk, wool, skin). This meat is crop in small pieces. Next this mixture put in bowel sheep.

This sausage is produce from local company who trade with control the origin name.

Salami Hermanstadt: Is one salami raw-dry with low percent of water, made by pork meat Mangalitza (rustic breed, resistance of disease, specialized for fat, with a good taste). Salami raw, dry, are made by meat who is subdued of enzyme proper of muscular fiber and same enzyme produce by bacteria, mould, and dregs. This process accomplish in time of process of fabrication to low temperature. This salami has a traditional composition and is made traditional. He is distinct towards another similar product.

The method based on microsatellite markers gives concrete results and is a valuable tool for the specific meat of breed. The applicability of the methods is very important because give the transparency needs of the market in very short time.

The analytical methods used for species identification and authenticity of foods really mainly on protein and DNA analysis. The protein-based methods include immunological assays electrophoretical and chromatographic techniques.

More recently, DNA molecules have been the target compounds for species identification due to the high stability compared with the proteins, and also to their presence in most biological tissues, making them the molecules of choice for differentiation and identification of components in foods, and a good alternative to protein analysis. Most DNA-based methods for species identification in foods consist on the highly specific amplification of one or more DNA fragments by means of polymerase chain reaction (PCR). DNA microsatellite markers are proposed for meat traceability. 10 microsatellites were amplified in multiplex reactions and analyzed on ABI310 genetic analyzer.

The probes it was works in Agrobiogen Laboratory at the Vienna.

Tissue collection with TypiFix™ –System The TypiFix™ ear tag system is a combination of a conventional ear tag with a simultaneous tissue sampling technology. By ear tagging the farm animals, the tissue samples are automatically collected and sealed in the TypiFix™ sample containers, where the tissue samples are preserved at ambient temperature and can be used for protein or DNA based assays. The easy handling of the TypiFix™ ear tag system allows economic sampling of whole populations and is therefore an effective tool for analysis of genetic markers for paternity control, traceability and breeding traits.

The Typi-Fix-System is a procedure for the collection of DNA containing tissue samples avoiding all these hurdles and problems. With the Typi-Fix-ear tags the animal is marked, in the usual convention, with a plastic ear tag. At the same time, however, a tissue sample is taken by the spike of the ear tag that immediately after the collection is packaged in a special plastic container (sample receiving container) labeled with the (bar coded) animals ear tag number.

After collection the preservation and preparation of the DNA is initiated automatically by substances which are hold in stock in the sample receiving container. The identification number of the samples can be registered by a reading device (scanner). The sample container is connected to the ear tag by a plug and socket and is easily removed after the ear tag has been affixed and the tissue sample simultaneously collected. If desired, the sample container can also be used without the ear tag. After pigs' tissue collection with ear tagging, we collected meat probes in abattoir. The porcine agreed microsatellite markers use for: Set I is: S0005 for chromosome 5 and range 205-248, S0090 for chromosome 12 and range 244-251, S0155 for chromosome 1 and range 150-166, SW857 for chromosome 14 and range 144-160, SW240 for chromosome 2 and range 96-115; Set II is: SW24 for chromosome 17 and range 96-121, SW951 for chromosome 10 and range 125-133.

DNA purification with DNA FIX columns an extremely simplified and shortened one-step high-throughput separation procedure of genomic DNA from TypiFix samples. The sorbents retain protein and other contaminants, while the DNA passes the column in the

exclusion volume. DNA isolation and purification can be automated through the use of a pipetting robot and a special one-step procedure (Nexttec technology). PCR reactions with these samples can also be prepared automatically. The results of the multiplex PCR 565 analyses are linked with the scanned identification number and saved in the animal data bank. *Gel electrophoresis of NCC purified DNA from 88 TypiFix eartag samples*: 5 µl (total elution volume: 240 µL) of each sample were loaded on a 1% agarose/ EtBr gel. The DNA concentration is about 10 ng/µl or greater = negative control

The development and the promotion of the rural tourism should be aware of the negative impact that it may have on the environment (the disappearance of some fauna and flowers' species, of some other natural monuments, the overworking and the overtaking of the ecological support's capacity, the disappearance of some arable and forest lands, an increase in urbanization, etc).

CONCLUSIONS

- Essential specific feature in rural tourism is the next fact: table is made of natural's products, fresh, witch obtained in own farm of host.
- The *National Office of Traditional Products* protects the name of traditional products to avoid bad competition between producers who made same product with same geographical name but in different zone.
- The Plescoi sausage is obtained in Buzau and is obtained by mixed pork meat and sheep meat (Mangalitza or Bazna, rustic breed, resistance of disease, specialized for fat, with a good taste and Tzigai or Turcană, rustic breed, resistance of disease,
- Salami Hermanstadt is one traditional product salami raw-dry with low percent of water, made by pork meat Mangalitza (rustic breed, resistance of disease, specialized for fat, with a good taste).
- The Telemea Cheese is a traditional Romanian cheese made from cow milk, buffalo milk or sheep milk. Breed who give the milk for made this cheese are: Romanian grey Steppe, Romanian Buffalo, Tzigai, Turcană and Carpathian Goat.
- The incorrect labeling of foods represents a commercial fraud, considering the consumer acquisition. It is very important to establish that species of high commercial value declared are not substitute, partial or entirely, by other lower value species
- The DNA-based methods, namely the PCR, proved to be reliable, fast, sensitive and extremely specific techniques for the detection of frauds
- The method based on microsatellite markers gives concrete results and is a valuable tool for the specific meat of breed. The applicability of the methods is very important because give the transparency needs of the market in very short time.

Acknowledgments. This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/89/1.5/S/63258 "Postdoctoral school for zootechnical biodiversity and food biotechnology based on the eco-economy and the bio-economy required by eco-san-genesis".

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