



Research Article

**A GASTRONOMIC PRODUCT CANDIDATE FOR GEOGRAPHICAL INDICATION:
AYRANCI BURNT YOGURT**

Ali ŞEN^{1*} (orcid.org/ 0000-0002-4310-362X)

¹Karamanoğlu Mehmetbey Üniversitesi, Uygulamalı Bilimler Yüksekokulu, Gastronomi ve Mutfak Sanatları Bölümü, Karaman, Türkiye

Abstract

This study aims to determine the production processes and specifics of Ayrancı burnt yogurt. In this regard, the study used the phenomenological research type, in which the qualitative research method was used. Within the scope of the research, face-to-face interviews were conducted with 8 participants who produced Ayrancı burnt yogurt and knew its taste. During the interview, a semi-structured interview form determined within the scope of the study was used. The information given by the participants was interpreted by dividing them into themes and sub-themes using descriptive and content analysis methods. At the end of the research, six themes were identified in which the name of the product came from, the stages of construction, distinguishing features, and preservation methods. According to the findings obtained from the research; Ayrancı burnt yogurt is produced with local traditional methods. Sheep yogurt and traditional natural yeast are used in its production. It has been stated that especially pewter cauldron cauldrons are used during the cooking of milk. In addition, the materials used in its production are supplied from the Ayrancı region. It has been reported that the use of local products positively affects the flavor and aroma of burnt yogurt. As a result of laboratory food analysis, the protein value of Ayrancı burnt yogurt was 7.01%, the fat content was 8.8%, and the acid value in terms of lactic acid was 1.66%. Ayrancı burnt yogurt differs from its counterparts in terms of distinctive features. Ayrancı burnt yogurt has the potential to receive geographical indication. In addition, it is thought that it can be an economic value in terms of gastronomic tourism. In this context, suggestions are presented to the relevant institutions and organizations for the registration of Ayrancı burnt yogurt with geographical indication and its evaluation within the scope of gastronomy tourism.

Key Words: Gastronomy, Local Product, Geographical Indication, Yogurt, Ayrancı,

Introduction

It is important to preserve the cultural heritage and transfer it to future generations (Tören, Kozak and Demirel 2012: 70). In the historical process, local gastronomic products have contributed to the formation of culinary culture. Today, the interest in gastronomic local products is increasing. Legal protection of local gastronomic products with the geographical indication system is imperative in terms of the sustainability of the products (Karaca, 2016: 21).

The concept of geographical indication is defined as "the quality mark that shows and guarantees the source of the product, its characteristics and the connection between the said characteristics of the product and the geographical area" (Turkish Patent and Trademark Office [TÜRKPATENT], 2022). In this context, the registration and promotion of local products and their evaluation within the scope of gastronomy tourism are important in terms of contributing to the local and country economy (Temizkan, Cankul and Kaya, 2021: 232). Turkey is home to many regionally different culinary cultures with its geographical location, soil structure, climate, vegetation, historical and natural riches (Boyraz, 2018: 242). Karaman has hosted many civilizations. Also, it reflects the Turkish cuisine culture from the past to the present. Geographical location and vegetation made it rich in traditional products (Aslan, Güldemir, and Işık, 2019: 231). Considering the local gastronomic products of Karaman, it is a city that could not reveal its potential in obtaining a geographical indication system. Geographically indicated gastronomic products are listed as follows: "Karaman Dıvle Obruk Tulum Cheese, Ermenek Halva and Karaman Sour Grape". It is seen that Turkey is in last places with this number.

* Corresponding Author: alisen.gastronomi@gmail.com

DOI: 10.33083/joghat.2023.244

When its potential is examined, it is known that it has many products such as "batırık, tarhanabaşı, baştarhana, Ermenek bandırma, pest elma (apple pulp), and gıcıcık" (Akturfan and Şen, 2022: 412).

This study aims to reveal the production processes and characteristics of Ayrancı burnt yogurt produced in the Ayrancı district of Karaman province. As a result of the study, it is expected to contribute to the relevant institutions and organizations in the application of geographical indications for Ayrancı burnt yogurt and its evaluation within the scope of gastronomy tourism.

Conceptual Framework

Geographical indications are defined as signs that have a clear border and specific features originating from the area, that are referred to by the country or region, that serve to distinguish products with characteristic features from their imitations, and that express the differences of these products (Tuncay, 2009: 1; Üzülmöz, 2020: 189). Geographically indicated products are divided into two the name of origin and the location sign. The name of origin obliges all operations, including the production of the product, to be carried out in the specified geographical area. Location sign; It obliges at least one of the production, processing and preparation phases of the product to be carried out in a certain region. Location sign allows the product to be produced outside the region (Dayısoylu, Yörükoğlu, and Ançel, 2017: 81). Moreover, products that have been proven to have been produced by traditional methods for at least 30 years in the area where they originated, except for the name of origin and Location sign, are defined as "traditional product name" (TÜRKPATENT, 2022).

Geographical indication can contribute to regional development, employment, infrastructure works and the development of alternative tourism (Orhan and Özdemir, 2021: 47). The product to be evaluated within the scope of geographical indication should have emerged in a certain region, the product should have a specific feature, and there should be a relationship between this feature and the region where it emerged (Teuber, 2011: 903; Suna and Uçuk, 2018: 102).

Geographical indication shows the distinctive feature of the product to producers and consumers. In addition, it provides benefits such as providing geographical indication supply control, creating a sense of belonging to the culture, improving living conditions, creating added value, and creating sustainable resource management. In terms of consumers, it provides contributions such as facilitating access to local quality products, reducing costs, reminding the products of the past, and giving them nostalgic feelings. In terms of rural areas, it contributes to social development, sustainable ecological resource management, increasing employment, decreasing migration to the city, and making rural life attractive. In terms of regions, provinces, and countries, geographically indicated products provide benefits in terms of diversification of business lines, development of tourism, increase in employment, and ensuring the import-export balance in trade (Paşlı, 2021: 94).

Gastronomy Tourism

The concept of gastronomy, which consists of the Greek words "gaster" and "nomas", which means stomach and law, has many definitions. Some of these definitions are: covering the issues related to the preparation of food and beverages (Kivela and Crotts, 2006: 355; Şahin and Ünver, 2015: 64), being related to cultural, social, and psychological elements in the process from the production to consumption of the food (Öney, 2013: 164), the presentation of food and drinks prepared according to hygiene and sanitation rules in a way that appeals to the eye and the palate (Dilsiz, 2010: 3), a healthy and well-designed delicious kitchen system (Hatipoğlu, 2014: 10), the science that examines the relationship between food and culture branch (Özdemir & Altın, 2019: 3). The functions of gastronomy are classified as production, consumption, production, and consumption (Altın, 2009: 2-3).

Gastronomy tourism, which develops in line with the functions of gastronomy, increases interest in local foods. It also contributed to the expansion of touristic activities that provide sustainable economic benefits. Experiencing the production stages of a gastronomic product belonging to a certain region or the food made with that product attracts the attention of tourists visiting the region. Therefore, local dishes, food and beverages can be used as an attraction factor in tourism (Sezgin and Onur, 2017: 212; Toklu, 2020: 19). Among the local products in a region, gastronomic products attract more attention. This interest requires local gastronomic products to have certain standards. It also facilitates the transfer of these products to future generations by taking them under legal protection. Quality gastronomic products can promote a region nationally and internationally. In addition, it supports the creation of sustainable economic resources for the region (Bucak and Aracı, 2013: 207).

Gastronomy tourism has its roots in agriculture, culture, and tourism. Agriculture, culture, and tourism ensure that gastronomy tourism is marketed as a regional attraction and experience (Yüncü, 2010: 30). The most important point in the development of gastronomic tourism is that the people in that region take care of their local products. The local people's ownership of the products will ensure the recognition of the culture created by that people (Santich, 2004: 18).

Contributions of Geographically Indicated Products to Tourism Destinations

The geographical indication system, which is important for many economic activities such as handicrafts, industry, and agriculture is also important for gastronomy tourism, which is among alternative tourism types. Local products produced with traditional methods constitute the economic infrastructure of rural areas (Tuncay, 2009:2). Tourism destinations strengthen the infrastructure to attract tourists to their regions, aim to employ qualified personnel, and plan various gastronomic activities. Destinations aim to be different from their peers and develop gastronomic products together with activities that can be considered attractive. It also aims to enable guests to experience these products, to promote the products by attracting the attention of potential guests, and to meet the gastronomic demands of the guests (Orhan and Özdemir, 2021: 48).

Local products shape consumer behavior in the context of geographical indication features. Local products are seen as a destination attractiveness factor. Consumers recognize local products with geographical indication emblems (Polat, 2020:185). Today, tourists have turned to the activity areas where traditional products and cultural activities that can be an alternative to sea, sand, and sun tourism are found and experienced. Among the traditional products, especially geographically indicated, gastronomic products that reflect local values and are produced with traditional methods arouse curiosity. Moreover, this case is in first place in the preference of destinations (Deveci, Türkmen and Avcıkurt, 2013: 29; Orhan, 2010: 245).

In this context, when Karaman city center is evaluated, the facilities where visitors can stay have been put into service by the public and private sectors. Tourism enterprises operating in the Karaman city center are listed in Table 1.

Table 1. Tourism Enterprises Operating in Karaman City Center

Ministry-certified accommodation facilities	7
Municipality-certified accommodation facilities	5
Restaurant businesses	31
Toplam	43

Reference: Karaman Provincial Directorate of Culture and Tourism, 2022; Tripadvisor, 2022

Gastronomic elements play an important role in the choice of destination. Worldwide, 88.2% of tourists consider food variety and taste when choosing a holiday center. The number of foreign and domestic tourists coming to Karaman is increasing every year. In Karaman, gastronomy-themed businesses and gastronomy-themed festival events are also increasing (TURSAB, 2022). The number of domestic and foreign tourists visiting Karaman province is given in Table 2.

Table 2. Number of tourists visiting Karaman province

Topic	Ministry Data	
	2021	2022 (First 6 Months)
Number of Foreign Visitors	3.621	2.307
Number of Domestic Visitors	81.432	43.546

Reference: Karaman Provincial Directorate of Culture and Tourism, 2022

Literature Review

It is quite common to use a feature that is identified with the region where it originated while describing foods. It is known that foods named with local, traditional, ethnic, and typical characteristics are generally registered with geographical indications (Altuntaş and Gülçubuk, 2014: 74). When the relevant literature is examined, it is seen that there are many scientific studies on local foods. Some of these studies are: Temizkan, Cankül and Kaya (2021), "A Gastronomic Value Candidate for Geographical Indication: Eskişehir Bagel"; Karayığit and Nergiz (2020), "Evaluation of Adıyaman Pestil in the Scope of Geographical Indication Registration"; Şen, Seçim and Akturfan (2018), "A Qualitative Research on Ermenek Baştarhana"; Arvas (2013), "A Traditional Taste from Past to Present: İskilip Dolma"; Alici ve Badem (2021), "A Meal of Samsun Province: Goose Tirit"; Erol ve Çontu (2019), "Grape as a Gastronomic Product: The Case of Ürgüp"; Güldemir ve Işık (2013), "Keş

A Traditional Dried Yogurt". The studies examined as a result of the literature research generally focus on the following subjects: the production method of traditional products, the determination of their distinctive features, their contribution to the local economy, and their registration with geographical indication.

There is not enough information in the literature about the study Ayrancı Burnt Yogurt". However, there is a study on isli (such as smoked) yogurt, a product of Denizli province. Doğan (2021), conducted a study titled "Production and Consumption of isli Yogurt from Denizli's Traditional Foods". In this study, there are issues related to the consumption frequency of yogurt, at which meals it is consumed, the reason for consumption, consumption patterns, sensory analysis results, and places to buy. As a result of the literature review, it is understood that the products named as traditional or regional are examined under various themes. Obtaining geographical indications for local and traditional products is important for transferring them to future generations.

Methodology

This research was carried out in order to determine the production processes and distinctive features of Ayrancı burnt yogurt, which is traditionally produced in the Ayrancı district of Karaman province, and to contribute to the geographical indication registration process. Qualitative research method was used in this study. During the research process, the production stages of yogurt were monitored in situ. In order to reveal the distinctive features of traditionally produced Ayrancı burnt yogurt more clearly, product analyzes were carried out in the food laboratory.

The qualitative research method is an interpretive technique that uses data collection tools such as interrogative, solution-oriented observation, interview, and archive-document analysis about the problem being investigated (Baltacı, 2019: 369). In the qualitative research method, first of all, the theoretical framework should be clearly stated. In the next step, a systematic, feasible and flexible strategy should be determined. Finally, the research should be reported in a way that the reader can understand (Karataş, 2015: 67; Yıldırım and Şimşek, 2008: 84).

In this study, the phenomenological research technique, one of the qualitative research methods, was used in line with the purpose of the research. Phenomenological research aims to reveal people's experiences. In this method, the participants of the research can easily express their feelings and thoughts about the researched subject (Tekindal and Arsu, 2020: 159). In this study, face-to-face interviews were conducted within the scope of phenomenological research. In addition, the data obtained from the Turkish Patent and Trademark Office were evaluated with the document analysis technique. Therefore, the study was supported by different sources. The obtained data were interpreted using content and descriptive analysis methods. At the end of the study, suggestions were made to the relevant institutions and organizations in order to apply for geographical indication of Ayrancı burnt yogurt and to evaluate it within the scope of gastronomy tourism.

Working group

The participants of the study consist of people who know the production stages of Ayrancı burnt yogurt and have a command of its taste. In addition, the participants are the local people residing in Ayrancı. During the face-to-face interview with the participants, the answers to the questions were recorded on a voice recorder. The suggestions of the Ayrancı District Governorate, Ayrancı District Agriculture and Forestry Directorate were taken into account in the determination of the participants who volunteered to participate in the research. Since yogurt production in the region is generally done by women, all the participants are women, as they have more information on this subject. Names and surnames were not used while giving information about the participants. Instead, the participants were given codes as P1, P2, P3. Demographic information of the participants is given in Table 3.

Table 3. Demographic Information of Participants

Order	Interviewed	Gender	Age	Job	Hometown	Face-to-Face Meeting Time (minutes)
1	P (1)	Woman	65	Farmer/Housewife	Ayrancı	50
2	P (2)	Woman	72	Farmer/Housewife	Ayrancı	63
3	P (3)	Woman	74	Farmer/Housewife	Ayrancı	70
4	P (4)	Woman	55	Farmer/Housewife	Ayrancı	61
5	P (5)	Woman	65	Farmer/Housewife	Ayrancı	57
6	P (6)	Woman	71	Farmer/Housewife	Ayrancı	55
7	P (7)	Woman	67	Farmer/Housewife	Ayrancı	66

8	P (8)	Woman	52	Farmer/Housewife	Ayrancı	65
---	-------	-------	----	------------------	---------	----

The participants carry out the duties of farming and housewives together. All of the participants live in Ayrancı district. Interviews with the participants were carried out in a time interval ranging from 45 to 70 minutes.

Data Collection Tools

Research data were obtained through a semi-structured interview form. This technique offers participants the opportunity to discuss in detail the topics being researched. In addition, the researcher can provide the interviewer to elaborate on the subject with additional different questions according to the course of the interview (Türnüklü, 2000: 545). In the preparation of the questions, Halıcı (2020), Question Book for Food and Culinary Field Studies, was utilized. The interview form consists of two parts. The first part contains demographic information. In the second part, there are 12 questions determined within the scope of the research. The questions asked to the participants are listed in Table 4.

Table 4. Questions Asked to Participants

Order	Questions
1	What are the materials used in making Ayrancı burnt yogurt? Do the materials used have their own characteristics?
2	What are the tools used in making Ayrancı burnt yogurt?
3	Can you tell us the stages of making Ayrancı burnt yogurt? What should be considered in order to provide the desired color, taste, and flavor while making Ayrancı burnt yogurt?
4	How should Ayrancı burnt yogurt be stored?
5	What is the consumption style of Ayrancı burnt yogurt?
6	Do you know how long burnt yogurt has been made in Ayrancı?
7	How many years have you been making Ayrancı burnt yogurt?
8	From whom/where did you learn how to make Ayrancı burnt yogurt?
9	In which period/season do you make Ayrancı burnt yogurt? Is there anything special about this period?
10	How often do you make Ayrancı burnt yogurt?
11	Does Ayrancı burnt yogurt have a local name(s)?
12	Are there any other foods made using Ayrancı burnt yogurt?

Data Collection and Analysis

Exploratory research provides the researcher with the opportunity to obtain preliminary information throughout the process. The researcher organizes the research data obtained and puts them in a certain order. Then, these data are synthesized by the researcher and a research report is written according to the findings (Gürbüz & Şahin, 2018: 430-433). In this context, the data obtained in the research were interpreted using descriptive and content analysis methods. The data obtained within the scope of the research were analyzed and divided into sub-themes under 6 main themes. Firstly, the forms containing the opinions of the participants were coded as P1, P2.

The data obtained were explained and interpreted by placing them in tables and figures. The questions in the semi-structured interview form used in the research were adapted by using the study titled "A Traditional Taste in Ermenek Cuisine: Tarhanabaşı" (2022). The design of the study was created by benefiting from the study titled "A Gastronomic Value Candidate for a Geographical Indication: Eskişehir Bagel" by Temizkan, Cankul and Kaya (2021).

Laboratory Analysis and Method

3 kg of research samples were taken from burnt yogurt produced with traditional methods by the participants in Ayrancı district and brought to the laboratory environment under the cold chain. In the analysis of the product, oil, protein, starch, and acidity values were examined. In fat analysis, TS 1330 was applied for the total amount of fat in milk and dairy products, TS EN ISO 8968-1 for protein analysis, and TKB Foodstuffs Inspection and Analysis Methods Book for starch analysis were taken as reference. TS 1330 methods were used for Acidity/Total Acid (in Lactic Acid) analysis.

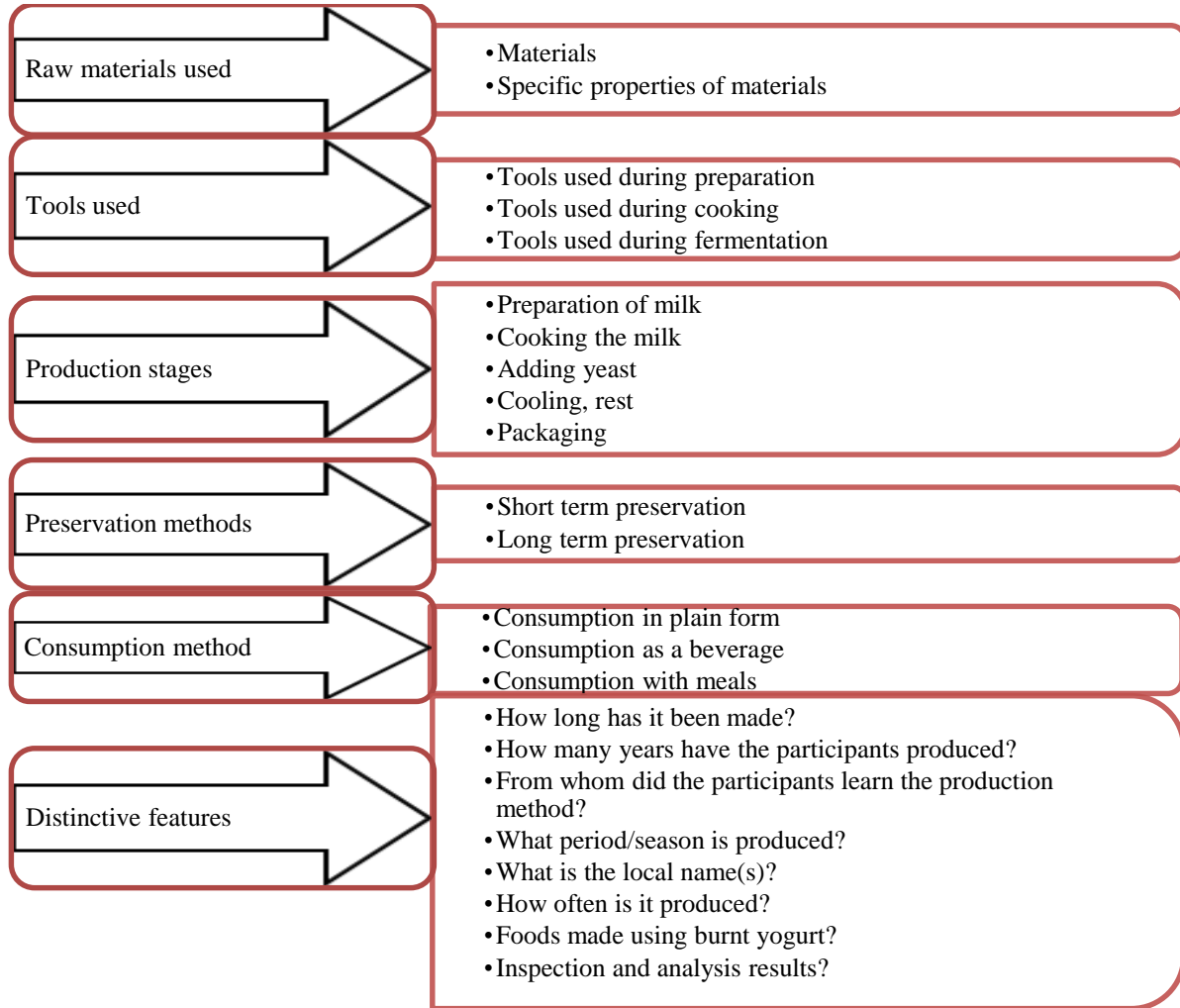
Research Ethics

The process of obtaining the ethics committee report for this study, titled "A Gastronomic Product Candidate for Geographical Indication: Ayrancı Burnt Yogurt", was completed with the decision number 2022/09/264, dated 06/12/2022 adopted unanimously.

Results

The answers given by the participants to the questions determined in the interview form were examined, and the data obtained were divided into themes and codes. As a result of the interpretation of the obtained data, the study gathered around 6 themes. These themes are; raw materials used, tools used, construction stages, preservation methods, consumption style, and distinctive features. The themes and sub-themes determined within the scope of the study are indicated in Figure 1.

Figure 1. Theme and Sub-Themes Created in the Scope of the Study



According to Figure 1, it is seen that 6 themes and sub-themes describing these themes were determined under each theme.

In order to determine the raw materials used, which is the first of the themes determined within the scope of the study, the participants were asked: "What are the materials used in making Ayrancı burnt yogurt? "Do the materials used have unique properties?" were asked.

Under the theme of raw materials used, the sub-themes of materials and their unique properties are given in Table 5.

Table 5. Ingredients Used in Making Ayrancı Burnt Yogurt

Theme 1	Sub-Theme	Codes	Participants
Raw materials used	Materials	Milk, traditional yogurt yeast/lactobacillus acidophilus Ayrancı region sheep milk	P1-P8
	Specific properties of materials	Traditional Ayrancı burnt yogurt yeast	

All of the participants stated that the raw materials used in making Ayrancı burnt yogurt are milk and yeast. They reported that in the production of Ayrancı Burnt yogurt, only local sheep's milk should be used. For the production of yogurt, it has been stated that goat or cow milk should never be mixed with sheep's milk. It was emphasized that sheep raised in the Ayrancı region should be preferred. It has been stated that the yeast used in the production of yogurt is the natural yogurt yeast (Starter culture) that has been produced before.

Participants reported that the flavor and aroma of yogurt changed when the materials used in yogurt production were procured from regions outside the region. For this reason, it was specifically stated that the materials to be used should be obtained from the region.

"What are the tools used in making Ayrancı burnt yogurt?" The answers given to the question were analyzed with the following method.

Under the main theme of tools used in yogurt production, three sub themes are given as tools used during preparation, cooking, and fermentation. The codes were determined under the sub-themes. The theme of the tools used, the sub-themes of the tools used in the preparation and cooking stages, and the codes determined are given in Table 6.

Table 6. Ingredients Used in Making Ayrancı Burnt Yogurt

Theme 2	Sub-Theme	Codes	Participants
Tools used	Tools used during preparation	Bucket Funnel	P1-P8
	Tools used during cooking	Strainer	
	Tools used during fermentation	Wood Short iron Foot Stove (for wood burning and outdoor) Copper Cookware Tinned copper cauldron Table cloth, thick cover	

Participants reported that the tools used in the production of Ayrancı burnt yogurt were used in the preparation, cooking, and fermentation stages. It has been reported that tools such as buckets, funnels, and strainers were used during the preparation phase. In the cooking stage, tools such as wood, iron foot stove, and copper cookware, tinned copper cauldron are used. In the fermentation phase, It has been stated that equipment such as table cloth is used.

It was stated by the participants that Ayrancı burnt yogurt production should be home-style. Some of the participants used the following statements;

P3: "Today, machines have started to be used for milking animals. However, milking was done by hand in the past".

P5: "When yeast (Starter culture) is added to milk, it is necessary to adjust the temperature of the milk well. In ancient times, the temperature of the milk was understood by dipping the pinky finger of a hand into the milk.

Today, food thermometers have been used to detect the temperature of the milk."

P8: "Woodfire has been used for boiling milk in our region since ancient times. It is important to use a tinned copper cauldron for cooking milk."

"Can you tell the participants about the production stages of Ayrancı burnt yogurt? What should be considered in order to provide the desired color, taste, and flavor while making Ayrancı burnt yogurt?" questions were asked.

As a result of the analysis of the answers given, the third theme, "production stages", was determined. Under this theme, sub-themes "preparing milk, cooking the milk, adding yeast, cooling, resting, packaging" were determined. Production stages, sub-themes and determined codes are given in Table 7.

Table 7. Production Stages of Ayrancı Burnt Yogurt

Theme 3	Sub-Theme	Codes	Participants
Production Stages	Preparing milk	In the process of preparing milk, foremost, milk must be milked in clean conditions and in suitable environments. If the conditions are suitable; Milk is milked from the animal into the bucket. Then it is passed through a strainer with the help of a funnel and transferred to the milk bucket. In the process of cooking milk; First, the tinned copper cauldrons that will be used to cook the milk are heated until light burning occurs before the milk is added. Then, 100 kg of milk is put into the heated cauldron. 20–35 minutes at a temperature of approximately 90 °C, cooked in a wood fire. After the boiling process is over, the milk is taken to another container and rested for at least 2–4 hours After the resting process, the temperature of the milk should have dropped to 40-45 °C. Yeast is prepared from Ayrancı Burnt Sheep Yogurt that has been produced before and is ready for consumption. The yeast measure is prepared as follows: It is measured so that the milk and yeast (milk/yeast) ratio is %2 kg. With this prepared natural yeast, the milk is subjected to the fermentation process. During fermentation, the top of the yogurt container is covered with thick covers or tablecloths in an airtight manner. Then, in order for the milk to ferment, it is kept at room temperature for about 2–3 hours. After the fermentation process, the closed cover on the container is removed. Ayrancı Burnt yogurt is packaged in different weights (between 2-10 kg) in plastic or tin packages.	P1-P8
	Cooking the milk		
	Adding yeast,		
	Cooling,		
	Resting,		
Packaging			

One of the participants, P4: Reported that the preparation of Ayrancı burnt yogurt is difficult, but it is a taste worth the effort.

Participant P5 stated that "In the yogurt production stage, the temperature of the milk before fermentation and the amount of yeast should be adjusted correctly, and it requires expertise".

P7: "During the milk preparation phase, the milking environment, the udder of the sheep, the bucket in which the milk is put, it should be very clean.

In addition, the milking person must comply with the hygiene conditions. All of the participants stated that "a tinned copper cauldron" should be used to cook milk, that the cauldron should be heated to give the milk a slightly burnt taste, and that the time taken for the yogurt to ferment should be adjusted well.

"How should Ayrancı burnt yogurt be stored?" The answers to the question were analyzed. As a result of the analysis, two sub-themes were determined under the main theme of "preservation methods".

These sub-themes are listed as "short-term preservation method" and "long-term preservation method". The preservation methods theme and sub-themes are given in Table 8.

Table 8. Preservation Methods of Ayrancı Burnt Yogurt

Theme 4	Sub-Theme	Codes	Participants
Preservation methods	Short-term preservation	When the yogurt has a hard consistency, the fermentation process is terminated. Then, Ayrancı Yanıksı yogurt is packed in plastic or tin boxes of different weights (between 2-10 kg). The short-term preservation method of the product is carried out by keeping it in a temperature environment of 0°C±2°C. The long-term preservation method of yogurt is carried out by keeping it in a temperature environment of -6±0°C. If the product is stored under these temperature conditions, it can be consumed within 1 year. A more guaranteed result can be obtained when the storage temperature is in the refrigerator cabinets. However, it can also be kept in natural environments that meet the stated temperatures. In the past, it was kept in cold environments such as underground or in caves.	P1-P8
	Long-term preservation method		

Participants reported that if yogurt is not stored under appropriate conditions, its aroma and flavor may be adversely affected. In addition, sourness, mold, etc. in yogurt. indicated that they may occur. Participants P3, P7, and P8 stated that regarding the preservation of yogurt: "It is necessary to maintain a suitable temperature environment from the production process to the time of consumption." Otherwise, its consistency may be adversely affected."

One of the participants, P4, stated that "yogurt can also be stored in cold storage, but hygiene conditions must be met during cold storage." Participant P7: "The temperature of the cold storage should be checked at certain intervals. The lighting system should also be suitable in order to avoid color defects in yogurt."

Participant P8, expressed as follows: "Natural yogurt (yeast) used to ferment Ayrancı burnt yogurt should also be kept under appropriate conditions. If the yeast is not used immediately, it can be stored using the drying or freezing method."

"How is Ayrancı burnt yogurt consumed?" The answers to the question were analyzed. In this direction, the theme of the "consumption method" was determined. The "consumption method" theme and its sub-themes are given in Table 9.

Table 9. Consumption methods of Ayrancı burnt yogurt

Theme 5	Sub-Theme	Codes	Participants	
Consumption methods	plain consumption		P1-P8	
	Consumption as a beverage	buttermilk	P1-P8	
	Consumption with meals	With meatballs		P1, P3
		Along with pasta dishes		P2, P5
		with vegetable dishes		P4, P7
	By mixing with molasses		P3, P8	

All of the participants (P1-P8) reported that Ayrancı burnt yogurt was consumed as "plain" and "buttermilk (Turkish name: ayan)". One of the participants, P3, explained the recipe for "traditional buttermilk" as follows: "It is made by mixing, water and Ayrancı burnt yogurt in a bowl. Salt can be added upon request. Participants, "Ayrancı burnt yogurt is consumed together with which dishes?" In general, they answered the question as follows. "together with meatball dishes (P1, P3), pasta dishes (P2, P5), and optionally various vegetable dishes (P4, P7)." In addition, (P2, F5) stated that it was prepared in the form of yogurt with garlic when served with pasta dishes. Some participants stated that molasses and yogurt are mixed and consumed (P3, P8).

The following questions were asked of the participants: "Do you know how long the Ayrancı burnt yogurt has been made in this region? How many years have you been making Ayrancı burnt yogurt? From whom/where

did you learn how to make Ayrancı burnt yogurt? Is there a special period or time for the production of Ayrancı burnt yogurt? (If any) What is the reason for its production in this period? How often do you make Ayrancı burnt yogurt? Does Ayrancı burnt yogurt have a local name(s)? Are there any other foods made using Ayrancı burnt yogurt?"

The answers to the questions were analyzed. Afterward, the theme of "Distinctive features of Ayrancı burnt yogurt," together with the sub-themes related to this theme, was determined. The theme and the sub-themes and codes determined under this theme are given in Table 10.

Table 10. Distinctive Features of Ayrancı Burnt Yogurt

Theme 6	Sub-Theme	Codes	Participants
Distinctive features	How long the Ayrancı burnt yogurt has been made in this region?	No exact information	P1-P8
	How many years have you been making Ayrancı burnt yogurt?	30 years	P1, P5
		40 years	P4, P6
		45 years	P7
		50 years	P2
		55 years	P8
	From whom/where did you learn how to make Ayrancı burnt yogurt?	60 years	P3
		Mother uncle's wife grandmother Neighbor	P1, P3, P8 P2 P4, P5, P6 P7
	Is there a special period or time for the production of Ayrancı burnt yogurt? (If any) What is the reason for its production in this period?	April, May, June During this period, sheep milk is abundant in the region.	P1-P8
	How often do you make Ayrancı burnt yogurt?	Weekly (in the period of sheep's milk)	P1-P8
Does Ayrancı burnt yogurt burn yogurt have a local name(s)?	Ayrancı burnt sheep yogurt Ağızboğaz village yogurt	P1-P8	
Are there any other foods made using Ayrancı burnt yogurt?"	Buttermilk	P1-P8	
	Yogurt soup	P1-P8	
	Garlic yogurt appetizer with meat or pasta dishes	P4, P6, P7	

Particularly emphasized by the participants: "In the production of Ayrancı burnt yogurt, the milk of sheep fed in the geographical border of Ayrancı district is used." However, Sheep fed within the geographical boundaries of Ayrancı have adapted to the climatic structure and vegetation of this region. The milk of the sheep fed with grass and fodder belonging to this region has its own unique aroma and taste. It is important that Ayrancı burnt yogurt production is in the center of Ayrancı district and its affiliated villages (P1-P8).

The participants stated that the production of Ayrancı burnt yogurt is intense in the spring months (April, May, and June) because the sheep's milk is abundant. The amount of yogurt produced in a household is evaluated as follows: "Foremost, the amount of yogurt required by the household is reserved for consumption at home. Afterward, the remaining amount is stored in cold storage or under suitable storage conditions for up to two years. If the yogurt harvest is very good, the surplus amount can be sold to generate income for the household." They stated that yogurts commercially graded are generally sold in local farmer's markets or in supermarkets in nearby cities and towns. As for the local names of the yogurt belonging to the region, The participants stated that the local names of the yogurt belonging the region are known in the region as "often Ayrancı Yanıksı yogurt and then Ağızboğaz village yogurt".

"Are there any other foods and drinks made with Ayrancı burnt yogurt?" The participants generally answered the question as follows. "The Ayrancı burnt yogurt is used as an appetizer with garlic to accompany pasta and meatball dishes, as the main ingredient in local yogurt soup, and in making buttermilk (ayran) as a beverage.

In the Ayrancı district, 3 kg of Ayrancı burnt yogurt samples produced by the participants with traditional methods were taken, and product analysis was carried out in the laboratory environment. The analysis results of the product are given in Table 11.

Table 11. Ayrancı Burnt Yogurt Inspection and Analysis Report

Analysis Name	Conclusion (%)	Method Used
Fat	8,8	TS 1330
Protein	7,01	TS EN ISO 8968-1
Acidity	1,66	TS 1330

As can be seen from the table, the fat content of Ayrancı burnt yogurt was 8.8%, the protein rate was 7.01%, and the acidity rate was 1.66%. According to Turkish Food Codex Communiqué on Fermented Dairy Products-2009/25, yogurt should not contain starch. No starch substance was found in the analysis of Ayrancı Yanıksı yogurt. The Ministry of Agriculture and Rural Affairs Food Inspection and Analysis Methods Book was taken as a reference in determining the starch value.

Conclusion and Suggestions

Although it is not known exactly when it was first made, yogurt is considered a traditional Turkish food. Yogurt is an indispensable part of a healthy and balanced diet in terms of the nutritional composition. In Turkish culinary culture, it is usually included as a side dish or one of the main components, as well as food groups such as soup, stuffed grape leaves, stuffed, pilaf, meatballs, salad, and appetizers.

Turkey is among the important destinations in gastronomic tourism with its traditional gastronomic products. Gastro-tourists, who visit destinations to experience traditional products, contribute to the promotion of the destinations they visit by carrying the cultural elements of the regions they visit to their hometowns. It is important to register traditional products with geographical indications, to produce traditional products in accordance with the original, to transfer them to future generations, to give confidence to the consumer and to contribute economically to the producer. Geographical indication system is an important tool on a global scale in order to protect and prevent the production methods of local products from being forgotten.

This study was carried out to determine the distinctive features of Ayrancı burnt yogurt, which is a traditional and local product, for registration with geographical indication and to bring it into the literature. Within the scope of this study, face-to-face interviews were conducted with 8 participants who produced Ayrancı burnt yogurt and knew its taste. In order to reach the data of the study, the interview form with 12 questions was used, and the data were gathered around 6 themes and interpreted.

When the findings of the research are evaluated, Ayrancı Yanıksı yogurt is produced with traditional methods specific to the region. In the production of Ayrancı burnt yogurt, sheep yogurt, traditional natural yeast, and a tinned cauldron are used for cooking.

It has been concluded that the use of local products in the production of Ayrancı burnt yogurt affects the flavor and aroma of the product. It has been determined that Ayrancı burnt yogurt is not registered with geographical indication.

It is important that Ayrancı burnt yogurt and similar traditional products are registered with geographical indication. In order to obtain the geographical sign registration of Ayrancı Yanıksı yogurt, which is one of the aims of the study, it would be appropriate for the local people, public institutions and organizations, and non-governmental organizations to make a planning to cooperate.

It is thought that determining the traditional products that can be registered with a geographical indication and then obtaining a geographical indication will make an economic contribution to the local people when evaluated within the scope of gastronomy tourism.

Acknowledgment

We would like to thank the Ayrancı District Directorate of Agriculture and Forestry for their contribution and support to the completion of the Ayrancı burnt yogurt analysis process.

References

- Akturfan, M. and Şen, A. (2022). Gastronomic products with geographical indication and geographical indication potential: The case of Karaman. Sandıkçı, M. and Pamukçu, H. (Ed.), in *VI. International Gastronomy Tourism Studies Congress* (p. 397-418). Afyon: Afyon Kocatepe University.
- Alıcı, K. and Badem, A. (2021). A food of Samsun province: Kaz Tirit. In *2nd International Congress of New Generations and New Trends in Tourism* (p. 325-334). Sakarya: Sakarya University of Applied Sciences.
- Altinel, H. (2009). *Menu management in gastronomy*. Master's Thesis, Istanbul University Institute of Social Sciences, Istanbul.
- Altuntaş, A. and Gülçubuk, B. (2014). Local traditional foods as a widespread tool in local development and dissemination of traditional food legislation. *Journal of Gaziosmanpaşa University Faculty of Agriculture*, 31(3), 72-80.
- Arvas, A. (2013). A traditional taste from past to present: İskilip Dolma. *The Journal of Academic Social Science Studies*, 6(1), 229-239. doi:10.9761/JASSS_471.
- Aslan, F.P., Güldemir, O. and Işık, N. (2019). Karaman Culinary Culture and Dishes. H. Muşmal, E. Yüksel and M.A. Kapar (Ed.), in *Karaman Studies II* (p.231-245). Palette Publications.
- Baltacı, A. (2019). Qualitative research process: how to conduct a qualitative research? *Ahi Evran University Journal of Social Sciences Institute*, (2), 368-388. doi: 10.31592/aeusbed.598299.
- Bucak, T. and Aracı, Ü.E. (2013). A general evaluation on gastronomy tourism in Turkey. *Balıkesir University Journal of Social Sciences Institut*, 16 (30), 203-216.
- Boyraz, M. (2018). Geographically indicated products and Afyonkarhisar example. Karadal, H., Erdem, A.T. and Karadal, M.S. (Ed.), in *2nd International EMI Entrepreneurship and Social Sciences Congress* (pp. 241-250). Nevşehir: Nevşehir Hacı Bektaş Veli University.
- Dayısoylu, K. S., Yörükoğlu, T. and Ançel, T. (2017). Geographically indicated products of Kahramanmaraş and potential status of the province. *KSU Journal of Natural Sciences*, 20(1), 80-88.
- Deveci, B., Türkmen, S. and Avcıkurt, C. (2013). The relationship between rural tourism and gastronomy tourism: the case of Bigadiç. *International Journal of Social and Economic Sciences*, 3(2), 29-34.
- Dilsiz, B. (2010). *Gastronomy and tourism in Turkey (Istanbul example)*. Master Thesis, Istanbul University Institute of Social Sciences, Istanbul.
- Doğan, E. (2021). *Production and consumption of smoked (burnt-smelling) yogurt, one of the traditional foods of Denizli*. Master Thesis, Pamukkale University Institute of Social Sciences, Denizli.
- Erol, G. and Çontu, M. (2019). Grapes as a gastronomic product: the example of Ürgüp. Aydın, S., Shepherd, O., Karakus, Y. and Caliskan, N. (Ed.), in the *4th International Congress of Gastronomy Tourism Research* (pp. 116-121). Nevşehir: Nevşehir Hacı Bektaş Veli University.
- Güldemir, O. and Işık, N. (2013). Keş a traditional dried yogurt. (Poster), *The 2nd International Symposium on Traditional Foods from Adriatic to Caucasus* (pp.133). Namık Kemal University and University of St. Kliment Ohridski. Macedonia: Struga.
- Gürbüz, S. and Şahin, F. (2018). *Research methods in social sciences: philosophy-method-analysis (5th Edition)*. Ankara: Seckin Publishing.
- Halıcı, N. (2020). *Question book for food and culinary field studies*. Ankara: Girişim Printing.
- Hatipoğlu, A. (2014). *Investigation of Ottoman Palace cuisine in the framework of gastronomy tourism*. PhD thesis, Sakarya University Institute of Social Sciences, Sakarya.
- Karaca, O. B. (2016). The importance of our traditional cheeses in gastronomic tourism. *Journal of Tourism and Gastronomy Studies*, 4(2), 17-39. doi: 10.21325/jotags.2016.12

- Karataş, Z. (2015). Qualitative research methods in the social sciences. *Journal of Spiritual Based Social Work Research* 1(1), 62-80.
- Karaman Provincial Directorate of Culture and Tourism (2022). *Karaman tourism data was obtained from*. Erişim tarihi: 12.10.2022, <https://karaman.ktb.gov.tr>.
- Karayiğit, R. and Nergiz, H. G. (2020). Evaluation of Adıyaman Pestil in the scope of geographical indication registration. Gökkaya, Ö., Kılıslan, İ., Demir, B. and Kahraman K. (Ed.), In *International Marmara Social Sciences Congress IMASCON 2020-Autumn* (p. 445-450). Kocaeli, Kocaeli University.
- Kivela, J. and Crotts, J. C. (2006). Tourism and gastronomy: gastronomy's influence on how tourists experience a destination. *Journal of Hospitality & Tourism Research*, 30(3), 354-377. doi: 10.1177/1096348006286797.
- Paslı, M.M. (2021). A research on geographically indicated gastronomy products: The example of Giresun province. *To & Re*, 3 (1),93-9.
- Polat, M. (2020), The effect of local food image on destination preference: the case of Kahramanmaraş. *Journal of Eastern Geography*, 25(43), 183-194.
- Santich, B. (2004). The study of gastronomy and its relevance to hospitality education and training. *Hospitality Management*, 15-24.
- Sezgin, A. C. and Onur, M. (2017). Investigation of cultural heritage wedding meals in terms of gastronomy tourism: the case of Erzincan province. *Erzincan University Journal of Social Sciences Institute*, 203-214.
- Suna, B. and Herpes, C. (2018). The effect of having a product registered with geographical indication on destination marketing. *Journal of Tourism and Gastronomy Studies*, 6(3), 100-118. doi: 10.21325/jotags.2018.274.
- Şahin, G.G. and Unver, G. (2015). "Gastronomic tourism" as a destination marketing tool: a research on Istanbul's gastronomy tourism potential. *Journal of Tourism and Gastronomy Studies*, 3(2), 63–73.
- Şen, A., Seç, Y. and Akturfan, M. (2018). A Qualitative Research on Ermenek Baş Tarhana. Musmal, H., Yuksel, E., Kapar, M.A. and Chechen, O. (Ed.), in *Ermenek Research – II*, (pp. 309-316). Konya: Palette Publications.
- Tekindal, M. and S. U. Arsu (2020). A review of the scope and process of the phenomenological approach as a qualitative research method. *Journal of Beyond the Horizon*, 20 (1), 153-182.
- Temizkan, S. P., Cankul, D., and Kaya, S. (2021). A gastronomic value candidate for geographical indication: Eskişehir simidi, *Tourism Academic Journal*, 8 (2), 229-241.
- Teuber, R. (2011). Consumers and producers expectations towards geographical indications empirical evidence for a German case study. *British Food Journal*, 113 (7), 900-918.
- Tuncay, M. (2009). *Protection of geographical indications*. Master Thesis. Kırıkkale University Institute of Social Sciences, Kırıkkale.
- Turkish Patent and Trademark Office (TÜRKPATENT), (2022). *Geographical Indication*. Erişim tarihi: 14.10.2022, <https://ci.turkpatent.gov.tr/>.
- Türnüklü, A. (2000). A qualitative research technique that can be used effectively in educational research: Interview. *Educational administration in theory and practice*, 24(24), 543-559.
- TÜRSAB (2022). *Reports were obtained from*. Erişim tarihi: 19.10.2022, <https://www.tursab.org.tr/sektorel-raporlar>.
- Toklu, S. (2020). *Investigation of the Local Cuisine of Karaman province in the context of cultural identity and bringing it to tourism*. Master's Thesis, Necmettin Erbakan University, Institute of Social Sciences, Konya.
- Tören, E., Kozak, N. and Demiral, G. N. (2012). The role of public institutions in the protection of cultural heritage assets of Eskişehir. *Journal of Aksaray University Faculty of Economics and Administrative Sciences*, 4(2), 69-88.

- Tripadvisor (2022). *Karaman province restaurants*. Erişim tarihi: 20.10.2022, <https://www.tripadvisor.com.tr/>
- Üzülmez, M. (2020). Evaluation of geographically indicated product potential of Osmaniye province. *Journal of Academic Value Studies*, 6(2),188-196. doi:10.29228/javs.41832.
- Orhan, A. (2010). The use of geographical indications in transforming local values into tourism products: the example of İzmit Pişmaniyesi. *Journal of Tourism Research*, 21(2), 243-254.
- Orhan, H.C. and Özdemir, F. (2021). Evaluation of Elazığ geographically indicated products in terms of regional tourism with SWOT analysis. *Journal of Tourism Studies*, 3(2), 45-60.
- Öney, H. (2013). *Gastronomy tourism*. S. Bahçe (Ed.), in *Alternative Tourism*, (p.158-188). Anadolu University Press.
- Özdemir, G. and Altın, D.D. (2019). A Study on Gastronomy Concepts and Gastronomy Tourism. *Erzincan University Journal of Social Sciences Institute*, 12 (1), 1-14.
- Yüncü, H. (2010). *Gastronomy tourism and Persembe Plateau in terms of sustainable tourism*. 10. Aybastı-Kabataş congress: In local values and highland tourism (pp. 28-34). Şengel, S. (Edt.) Detay Publishing, Ankara.
- Yıldırım, A. and Şimşek, H. (2008). *Qualitative research methods in social sciences* (6th Edition). Seckin Publishing.