



The examination of spices used in the Ottoman palace cuisine

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Abstract

The human being has a vital prescription to eat and drink as much as the day-to-day process. This vital point constitutes the foundation stone of gastronomic tourism. In our globalized world, nations that express or offer their own values have become more successful. Therefore, the culture of Turkish food and nutrition refers as the key of national culture. Therefore, it is very important to examine the characteristics of the Ottoman cuisine to introduce food culture. Traditionally Ottoman cuisine, soups, meat dishes, olive oil vegetables, salads and spices used in desserts are important. Nowadays, people want to learn not only the sense of hunger but also the history of gastronomy (all components depending on cultural and environmental influences). It gives us great opportunities when it is told and applied to the history of that cultural gastronomy. These opportunities are making economic difference by strengthening the functions of gastronomic tourism. Due to the literature obtained in the study, it is thought that the inclusion of the spices in the Ottoman cuisine destinations in Turkey, which has a high potential for gastronomy tourism, will support sustainable development. In the study, was given informations about the characteristics of the spices used in Ottoman cuisine.

Keywords: Ottoman Cuisine; Gastronomy Tourism; Spices.

1. Introduction

In order for a place to become a tourism region, it must have characteristics that make up the tourism product. These features are; attractiveness, accessibility, activities, tourism operations and image (Kozak, 2006). Tourism is one of the important activities in the service sector that contribute to the economy. Domestic and foreign tourism activities bring income to the country's economy. In the sense that the three sides of our country are surrounded by seas, the seaside regions have a touristic attraction. However, natural, historical and ecological resources such as mountain, lake, plateau also constitute an important touristic potential (Gök & Tuna, 2013). Gastronomic tourism is defined as visits to primary or secondary food producers, food festivals, restaurants and special areas where priority travel motivation is to taste a meal or produce a special meal (C. M. Hall & Mitchell, 2001).

Due to the structural nature of tourism, a tourist does not benefit from only one element; On the contrary, it buys the 'ultimate product' which arises from a combination of many

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geographical, economic and social elements and this product can show itself as an important factor in the formation of the tourist's holiday experience (Sari & Kozak, 2005).

The use of plants as medicines in Anatolia or in other ancient settlements in history dates back to the previous years in B.C. It is thought that the Anatolian people have been using the plants since the Paleolithic. One of the oldest prescription patterns known in history belongs to the Hittites (Gürsoy & Kahraman, 2004). They are aromatic herbal products that are added to spices, foods and drinks for different purposes (Üner, Aksu, & Ergün, 2000). It is known that the spice was very valuable and precious in the 13th century and was used instead of money as a means of exchange in trades made. It can also be defined as the contribution of food to the discovery of new continents and new trade routes, which causes the nations to fight each other, and which brings eastern and western civilizations closer to each other (Yaldız, Kılınç, & Ülküsever, 2010).

Spice is a product of eastern countries. In 3000 BC, the Chinese started trading spices based on sales of cinnamon, cardamom, ginger and turmeric. The spice trade, initiated by the Chinese, was later developed by the Arabs. Throughout history, all civilizations have been able to make use of the richness brought by the spices and have brought these riches to their countries through the "Spice Road". In the early days, spices were being transported from West Asia to the Black Sea and Near East countries by land. Until the 1400's, Arab and Indian merchants were transported by sea to the ports in the Red Sea. There were two ways to move to Mediterranean ports; The first one was shipped from India to the Persian Gulf, and then to the ports of Anatolia and Syria by caravans. Istanbul was the city where these goods were the most. The second road was again brought to the Suez from the Indian Ocean and the Red Sea by the ships, then from the caravans to the Mediterranean ports. Spice trade has been in Venodes for many years. But it has been moved to different dimensions with the beginning of the domination of the Ottoman Empire. The most important commercial spice was black pepper (Tayar, 2012). The Ottoman palace cuisine was indispensable in the spring, especially during the 18th and 19th centuries, black pepper was placed in almost all meat dishes. Central Asian nomadic people have been influential in the formation of a rich Turkish food culture using food in conjunction with the spring of South Asia (Ertaş & Gezmen Karadağ, 2013). The commercial value of spices at the beginning of the 19th century had decreased due to the growth of spice-grown regions and the change of people's eating pleasures (Anonymous, 2017).

In this study, it was tried to contribute by informing about the spices as the destination attractiveness element of the Ottoman cuisine in gastronomy tourism by mentioning the characteristics of the spices which are most commonly used in the Ottoman cuisine.

2. Spices used in Ottoman Palace Cuisine

2.1. Nigella

Nigella; It is a blue flowering herbaceous plant which grows in the Mediterranean region and Anatolia, A. Nigell; Define the crowfoot family. *Nigella sativa* Linn seeds. (*Ranunculaceae*), commonly known as blackcurrant or barnyard grass, is used as a herbal remedy in the world for a range of conditions, treatment and prevention, including asthma, diarrhea and dyslipidaemia. Seeds contain fixed and volatile oils, proteins, alkaloids and saponin. Nigella oil is a reddish chestnut oil obtained by squeezing citrus seeds. Seed / oil has analgesic, anti-inflammatory, antibiotic and antineoplastic activity effects, reducing oil blood pressure and increasing respiration (Ali & Blunden, 2003). Seeds contain fixed oil (30-45%), essential oil, bitter and saponin. It has power transmitter, stimulant, urine and milk enhancer, appetizer and menses exterminating effects. Some active ingredients of seeds and extracts; Hypoglycemia, hypertension, antiasthmatic, antibiotic, antiparasitic, antioxidant and anti-cancer effects have been determined (Kalus et al., 2003; Randhawa & Alghamdi, 2011).

2.2. Sweet Basil

Ocimum includes single or perennial species belonging to the family *Labiataeae*. Among the Ocimum species, *Ocimum basilicum* L. is the most economical species. Basil (*Ocimum basilicum* L.) originating in South Asia, especially India, has spread to the tropical and temperate regions. Today, more cultures are being made in France, Italy and Spain (Çelebi, 2010; Erken, Sönmez, Sancaktaroğlu, & Bayram, 2015). Basil (*Ocimum basilicum* L.) is a pleasant fragrance in the form of a single annual bush, with its own unique herbal medicine and spice plants (Karakuzu, 2015). In some regions, especially in the east, purple-colored figures are common and named as basil (Erken et al., 2015). Basil is grown in all the Mediterranean countries and Turkey, with India being the mainland. Leaves, bows and seeds of the plant are nervous soothing, digestive facilitator, urine enhancer and gas extractor. It is also used to flavor food such as mint. It is used as an urinary tract antiseptics and also it is used as a stomach sedative and gas expectorant (Ghasemzadeh et al., 2016; Uzun, 2007).

2.3. Rose Geranium

Sardinia, Pelargonium (*Pelargonium Graveolens*, *Pelargonium Radicula*, *Pelargonium Rose*) family, Geraniumceae family leaves are fragrant ornamental plants. The thorn species, which is used as an important fragrance in soap and perfumery, is grown in India and North Africa (Morocco, Algeria). The wild flowers of the *Pelargonium Endlicherianum* grown in the Central and Eastern Anatolian mountains are used as wolf-lowering agents. It is cultivated as ornamental plant all over the world with hybrids with some species of South African origin. This plant is used in traditional medicine in South Africa for a long time. Bronchitis, sinusitis, angina (sore throat), nasal discharge due to viral infections and pharyngitis have been found to be effective. Studies in some species have shown that free radical scavenging and antioxidant effects on antiinflammatory and oxidative stress (Öz, 2013; Rafiq et al., 2016; Ünlü & Aysan, 2016).

2.4. Thyme

Thyme (*Thymus vulgaris*) plant is in the *Lamiaceae* family. Thyme has a unique smell, especially thymol and carvacrol. Thyme plant is known to have antimicrobial, digestive stimulant, antispasmodic and antioxidant effects. It is known that antimicrobial effects of thymol and carvacrolin are found especially in thyme essential oils (Ertürk, Çelik, Kaygusuz, & Aydın, 2010). It is also used as a spice. Cold tea, bronchitis, colds, flu and coughing against drinking tea. In addition, tea is given to small infants as an intestinal gas remover (Türkan, Malyer, Özaydın, & Tümen, 2006). In recent years, antioxidant and antimicrobial effects in food storage and prolongation of shelf life have been used to prevent aggravation and deterioration in food (Kerekes et al., 2016; Quesada, Sendra, Navarro, & Sayas-Barberá, 2016).

2.5. Black Pepper

It is a tree that grows in the hot regions of the world and is used as a spice. This tree is defined as the bitter and fragrant fruit of a small pea. This fruit is dried after being ground and prepared by grinding. In black pepper there is a crystalline substance called piperine; As well as a very bitter greasy green oil, a balsamic volatile oil, a gummy substance, malic and uric acid, and various salts. A bitter resin is extracted at the burning point from the black pepper dissolved in alcohol. Black pepper has various irritating, appetizing effects at different ratios. Black pepper is one of the most consumed spices in Turkish cuisine. Ottomans began to dominate the Mediterranean trade XVI. and XVII. In the 19th century, the black pepper, which came with other spice varieties, was first used in palace and mansion cuisines because it was an expensive item; Then spread to the

public as well. Today it is the main flavor ingredient used in many meat dishes, rice, pasta type pastries, some stuffed mortars, soups, some pastries, some sauces and sauces, grain or powder. It can be used by joining the spice during the cooking of your meal or after sprinkling it on it. When consumed in small quantities, it has an appetizing effect (*Büyük Larousse Sözlük ve Ansiklopedisi*, 1986a). Black pepper (*Piper nigrum*) is one of the most widely used spices. Black pepper is used not only for medical and other purposes like human dietaries, but also as a preservative and perfume. Black pepper, its essence, large or active principle, piperine, many physiological effects have been reported in recent years. Dietary piperine improves digestive capacity by stimulating digestive enzymes in the positive pancreas, and greatly reduces food gastrointestinal transit time. Piperine has been shown to protect against oxidative damage in vitro studies or to protect water from free radicals and reactive oxygen species. The effects of antioxidant molecules and antioxidant enzymes have been proven in black pepper or piperine therapy. The most extensive attribute of Piperine has been the inhibitor effect on enzymatic drug biotransforming responses in the liver. Piperine has been documented to develop a number of treatments with treatments, as well as a number of chromium and iron should be given. Piperine has been found to have anti-mutagenic and anti-tumor effects, although it is non-genotoxic (Derosa, Maffioli, & Sahebkar, 2016; Srinivasan, 2007). Piperine is a non-genotoxic agent that has anti-mutagenic and anti- Are used to treat rheumatic diseases (Chaudhry & Tariq, 2006; Karsha & Lakshmi, 2010).

2.6. Pine Kernel

Pinus pinea (*Pinus pinea*) is a kind of forest tree with a wide hill and pile root system (Batur, 2015; Gönültaş & Balaban Uçar, 2012), which forms natural and artificial forests on the Mediterranean climate belt. Side products other than pine nuts are also obtained from the peanut pine tree. These; Conifer and firewood are used as firewood. As a by-product, the material of turpentine used in the paint and chemical industry is obtained from the resin of this tree. Peanuts are preferred in the forest and furniture industry because the body of the pine tree is of good quality (Çetin, 2003). The composition of mature seed of peanut pine (*Pinus pinea*) contains fixed fat, protein and cellulose. The paste obtained by crushing with honey is used as a force transmitter (*Büyük Larousse Sözlük ve Ansiklopedisi*, 1986b).

2.7. Mint

Mentha (*Mentha spicata* L.) contains ethereal oils, especially menthol and tannin, which is a vegetable-edible vegetable in the class of medical plants. Mint, which is fresh and dry in our country, is also used as tea at the same time. It is widely used in various food industries and in the treatment of various diseases due to antiseptic properties with its widespread use in perfume, drink, chewing gum and medicine industry (Kocabıyık & Demirtürk, 2008). *Mentha* species are commercially cultivated in many countries due to the precious value of volatile oil. It has medicinally effective spasm and degasser, antimicrobial, midwife, refreshing, stimulant and diuretic effects and is widely used in spices and herbal teas. Menthol is the most abundant natural source of mint oil medicine, food and cosmetics industry and it is rich in pulegon (Ertürk et al., 2010; Özgüven & Kırıcı, 1999). Mint tea made with lemon is used against colds, flu, colds and nausea. Spread as a spice (Türkan et al., 2006). Essence extracted from the leaves is added to toothpastes and chewing gum as an odor. In pharmacopoeia, there are about ten mints registered. From the body and leaves of many people (*M.Piperita*), water vapor extracts the essence of mint, a volatile oil. This essence called Naneruhu is taken as a light antiseptic, refreshing, nausea-sicting, dropping 2-10 drops onto a piece of sugar. Strong smelling, burning, tasty liquid. It contains 40-90% menthol according to its origin. Garden nanesinin shade-dried leaves contain resin, tannin

and essential oil. 4-5% infusion is used as a nausea-blocker, gas expectorant, odor and power transmitter by drinking two glasses a day (*Büyük Larousse Sözlük ve Ansiklopedisi*, 1986).

2.8. Sumac

The sumacs are small type trees with bushes, small buds. Fruits are reddish and consist of single core. Sumac has been produced in Spain, Turkey, some Mediterranean and Arab countries since the 1970s. (Latin name: *Rhus coriaria* Familia: *Anacardiaceae*) is a type of spice commonly used in Turkey and the Middle East countries. Sumac is used to give the food a sour taste after being harvested and then dried and ground. In addition, the water extract of sumac granules is used as sauce in salads and some dishes (Özkanlı & Tekin, 2006). The natural spread of the *Rhus* genus systematically belongs to the *Anacardiaceae* family, and in the west it spreads widely from Canada to Tajikistan in the east (Yücedağ, Gültekin, & Pırlak, 2010). *Rhus coriaria*: Several studies have been carried out on the antimicrobial effects of sumac and have been found to be antimicrobial effective. It has been determined that the antioxidant capacity is high (Kosar, Bozan, Temelli, & Baser, 2007; Nasar-Abbas & Halkman, 2004).

2.9. Cinnamon

Cinnamon (*cinnamomum*); Belongs to the family of *lauraceae*, whose motherland is South and Southeast Asia. This aromatic, low-tall tree that does not plow its leaves; Is not growing in Turkey due to the inadequate climate. Cinnamon consumed in Turkey is mainly imported from Indonesia, Singapore and Vietnam (Ö. Aydın, 2011; Shylaja & Peter, 2006). Cinnamon shell with aromatic flavor is mostly found in Egyptian and Turkish cuisine. It is used in meat and fish dishes in England cuisine, cinnamon cake and pastry desserts in American cuisine, as a sweetener in meat dishes, rice dishes and garam masala in Indian cuisine as well as curry powder. It is a plant that everyone uses especially in desserts, syrups, pilafs and teas with its pleasant smell and delicious taste. It is used as a sweetener in pastries, cakes and cookies and is also frequently used as an indispensable drink in winter. Cinnamon, which we use in our cuisines as a flavor and aromatic scent, has been used for therapeutic purposes since ancient times. In recent years, scientific research has shown that the cinnamon has antimicrobial, antioxidant and lipid-lowering effects. Phytotherapy approaches, which are very popular in recent times, are also in the treatment of coronary heart disease and spices such as fennel, thyme, rosemary and cinnamon are used among the people (Dhuley, Safdar, Khan, Khattak, & Anderson, 1999; Özbek et al., 2016). It is also known that cinnamon shells have a psychoactive effect in the case of smoke inhalation. 1950-1970 has been shown to be one of the hallucinogenic substances used by American hippies (Gürson & Özçelikay, 2005).

2.10. Cilantro

In Turkey, coriander is a spice plant of the *Umbelliferae* family, known by names such as Ashtoot, Kuzbere (Baytop, 1994). *Coriandrum* L. is represented by 2 varieties (Davis, 1988) and 2 varieties in the genus Turkey Flora. *C. sativum* L. var. *Microcarpum* DC. It is known as small granular coriander (Wagner & Bladt, 1996; Zeybek & Zeybek, 1994). Mardin, Gaziantep, Burdur, Erzurum, Denizli, such as our agriculture is made (Akgül, 1993). Fresh leaves of coriander seeds are used in various salads and roots are used as spices in meals. At the same time refreshing is also appetizing with pleasant smell. It is used in the finishing of meat dishes and olive oil. It is used for the treatment of head and teeth pain, dizziness, pharyngitis, weakness of the heart and stomach, hemorrhoids, hives and pimples (Kara, 2016; Şanlı, Karadoğan, & Daldal, 2012). *Cicinia* has brought the Romans to Europe using meat to make brine. The coriander, which has been named in the Bible and at One Thousand Nights, was used as a medicine in ancient

Mesopotamia, Egypt (1500 BC). The Chinese believed that coriander had overcome immortality. In the Middle Ages (5-15 centuries), aphrodisiac love was used as an elixir. Small coriander fruits are covered with sugar and a special candy called 'coriander sugar' is produced (Doğan & Akgün, 1987).

2.11. Cumin

Cumin (*cuminum cyminum L.*) is a herbaceous plant variety of 40-60 cm in length, which opens in May and June, white and pink flowers, from the family of parsley gills. The mainland is the Eastern Mediterranean and the Middle East. In July, the fruit grow ripe. It has a special scent of its own. It is an important spice plant in terms of volatile oil. Cumin is the most cultivated countries in the world: Iran, Uzbekistan, Tajikistan, Turkey, Morocco, Egypt, India, Syria, Mexico and Chile. Cumin is one of the plants that can be used for shortening of fallowing time and shortening of fallow fields by the lack of water and nutrient requirement. It is a medicine and spice plant cultivated most in Central Anatolia region in Turkey. Cumin fuels contain 15-25% protein, 2-5% essential oil, 10-23% fixed fat, tannin, flavonoid, resin and gum (Akgül, 1993). (Antiinflammatory effect), pharyngitis (antiinflammatory effect), abdominal pain (analgesic and myorelaxant effect), rheumatism (antiinflammatory effect), tooth pain (analgesic and antiinflammatory effect), diabetic retinopathy Antispasmodic effect), diuretic and urinary tract obstruction (anti-inflammatory effect) (Gürsoy & Kahraman, 2004; Janahmadi, Niazi, Danyali, & Kamalinejad, 2006; Pamuk, 1998). Cumin seed sweetener is one of the popular spices used for traditional dental pain (Thippeswamy & Naidu, 2005).

2.12. Gum

Located in the middle of three continents due to its geographical location, Turkey has different characteristics due to its center of these three continents both in terms of climate and land. These different features bring with it species diversity and richness. One type of this richness is the mastic tree (*pistacia lentiscus L. var chia*), which spreads only on the Chios Island of Greece and on the shores of the Çeşme. Gum; Which is also known in the time of the Pharaohs and which is cultivated and traded on the island of Chios since the antiquity and which has been traded, taken for protection by law, applied to the holy books which are known as the oldest seabed of the World (Ak & Parlakçı, 2009; Boztok & Zeybek, 2003). The gum tree is an important raw material of the pharmaceutical and food industry today. There is also ecological value due to its ability to withstand drought, then its ability to renew itself quickly (Mascarello, Fascella, Zizzo, Mantovani, & Ruffoni, 2007). As a sweetener, in cakes, in ice cream, in milk desserts, in the production of alcoholic drinks, especially in the production of liquor and ouzo, mastic is widely used. Mastic gum is also used to give consistency to spices and different sauces. Mastic resin is the main component of puddings and ice creams, making them light white in color (Akdemir, Tilkat, Onay, Kılınc, & Süzerer, 2013).

2.13. Aniseed

Anise (*Pimpinella anisum L.*) is a one-year, aromatic plant of the Apiaceae family from the Apiles family. The anise is a very old cultivated plant originating from the Eastern Mediterranean. Turkey, Italy, Mexico, Spain, Germany, India, Central and South America (Doğramacı & Arabacı, 2010). Among the people, Anison is also called Enison, Nanahan (Gaziantep) and Raziyaneci-rumi (Baytop, 1999). Anise has strong medicinal properties that stimulate digestion, degasifiers, appetizing, fragrance and immobility stimuli. China and India have been using this plant for many years. Indians chew aniseed seeds after each meal, indicating that the anion has an effect on the digestive system. Anise is used in the preparation of some alcoholic beverages (raki), meat, poultry and fish, pastries, sweeteners in donuts and snake bites for treatment purposes. The

distinctive, lasting and beautiful fragrance of the anise fruit is indispensable for the perfumery industry. In addition, there are more essential oils in the aniseed fruit than in the seeds of *Cirque du Soleil*. Aniseed volatile oil medicine and pharmacy; Antispasmodic, antioxidant, antimicrobial, insecticidal and antifungal properties (Özcan & Chalchat, 2006; Tirapelli et al., 2007; Zeybek & Zeybek, 1994). Anason is used medically in dissipative complaints, in the treatment of influenza and as a mild sputum remover (Blumenthal, 2000).

2.14. A blend of powdered thyme(Zahter)

Thymus, *Thymbra* and *Origanum* species belonging to *lamiaceae* family are known in Turkish as thyme in general. There are about 40 species of *Thymus* genus in Turkey (Kızıllı, Töncer, Dıraz, & Karaman, 2015). *Thymbra spicata* from the same family is usually called Kara thyme and in the Southeastern Anatolia region this dried plant leaves and flowers are known by the names of sater and they are drinking as tea due to its antiseptic and stimulating effect. Almost entirely in Turkey, Zahter of Gaziantep and Antakya province is famous and known for being like a cape. With a sharp smell and a bitter tiger, the bush is a bush in April and May with a bushy appearance. Apart from being a plant, Zahter adds a distinct flavor to every meal with its different flavor and smell. Dried and put into a bowl with a grinded olive oil, poultry, poultry and fish dishes, fresh leaves can also be consumed in salad form. Especially during the Ottoman period, breakfast has become indispensable. Zahter plant; Zahter tea, zahter oil, zahter paste, zahter soap and zahter cream are produced. In the composition of the zahterine there is 1.2-1.8% essential oil. Essential oils include carvacrol (Baytop, 1984). It is used as stimulant of blood circulation, strengthening of the nervous system, constipation, digestive, stomachic, diuretic, antiseptic, stimulant, carminative, diaphoretic, dispeptic, sedative, antihelminthic and expectorant (Fakılı, 2010).

2.15. Sweet Marjoram

Marjoram has a wide distribution area. South of Greece, Crete and many other Greek islands, and south and west of Turkey (Ietswaart, 1980). It is used in meat and meat products, pizza, soup, salad and many food products. Marjoram oil and oleoresin are also used in alcoholic and non-alcoholic beverages as well as in cosmetic products. Kekinin's water distillation product, volatile oil and water (thyme), is used because of its bile-enhancing properties in endocrine disorders such as stomach, intestinal disorders (abdominal pain, nausea, indigestion) and diabetes (S. Aydın, Öztürk, & Başer, 1993). It was found that marjoram volatile oil delayed the fat oxidation of raw and cooked chicken, and had strong antioxidant activity at low concentration (100 ppm) (Botsoglou, Christaki, Fletouris, Florou-Paneri, & Spais, 2002; Ruberto, Baratta, Sari, & Kaâbeche, 2002).

2.16. Cardamom

Kakule, known in Arabic and Persian as "Hêl", is known as "cardamom" in English, and West and South India are large-leaf perennial plant breeds that grow in the hot regions of Southeast Asia (Agnihotri & Wakode, 2010). Cardamom (*Elettaria cardamomum*) is a family member of the family *Zingiberaceae*, traditionally used in food and medicine (Anwar, Abbas, Alkharfy, & Gilani, 2016). Its seeds are lentil-shaped and large in size, with a reddish brown color and a sharp smell. It is used as a spice because of its pleasant taste and smell. It can be used in salted foods such as cardamom, meat and pulses dishes, spicy rice, baked goods and fish. It also gives a nice flavor to milky desserts, cookies and cakes (Akrayi, 2012). In many cultures tea is used to add flavor, especially coffee (Ağaoğlu, Dostbil, & Alemdar, 2006). It has effects like appetizer, memory booster and gas extractor. Antimicrobial effects have been observed in some studies (Ağaoğlu et al., 2006; Parthasarathy & Prasath, 2012).

2.17. Clove

The scientific name of carnation is *Syzygium aromaticum*. The carnation is obtained from the flower of *Syzygium aromaticum*, and the blossoms are obtained from the plant of *Dianthus petraeus*. Its homeland is Indonesia and used as a spice in all world cuisines (Adefegha & Oboh, 2012). The main components of caraway oil are generally classified as eugenol, β -caryophyllene, α -humulene and humulene epoxide according to their proportions. Eugenol, a fragrant, strong antiseptic and analgesic substance in carnation oil, can vary from 68% to 94.4% depending on the plant material and extraction method (Gill & Holley, 2003; Juliani et al., 2006). In addition to antimicrobial, antioxidant, antifungal and antiviral activity, carnations also have antiinflammatory, cytotoxic, insect repellent and anesthetic properties (Aguilar-González, Palou, & López-Malo, 2015; Chaieb et al., 2007; Pilar Santamarina, Roselló, Giménez, & Amparo Blázquez, 2016). Antimicrobial activity of volatile oils and extracts of 15 different plants and spices has been investigated and classified according to their effect level. Clove was the most effective spice group in this order (Zaika, 2007). Consumption of compounds such as carnation parent compounds can help to prevent oxidative damage in vivo, such as lipid peroxidation, which is associated with many diseases including cancer, arteriosclerosis, diabetes, and immunodeficiency (Lee & Shibamoto, 2001).

2.18. Fennel

Fennel is an important medicinal and aromatic plant (Pavela, Žabka, Bednář, Tříška, & Vrchtová, 2016). An important spice plant of the *Apiaceae* (*Umbelliferae*) family, is the homeland of Western Asia and the Mediterranean countries (Uzun, Kevseroğlu, Özçelik, & Yılmaz, 2012). It is used as a sweetener in soups, breads, pasta, meat and meat products, dairy desserts, fish, pickles and salads. In addition to being consumed as a vegetable or condiment when fresh, liquid extracts prepared from roots and seeds are also used in soft drinks, ice creams, sugary products and vinegar (Akgül, 1993; Kaya, Yılmaz, & Telci, 2000; Şanlı et al., 2012). It is also commonly used in fennel liqueurs, breads, fish, cucumbers and cheeses (Damjanovic, Lepojevic, Zivkovic, & Tolic, 2005). As a matter of fact, fennel seeds have been widely used in herbal tea forms, although they have been used for various purposes in recent years (Baranska, Schulz, Rosch, Strehle, & Popp, 2004). The use of cough and bronchite in the digestive (dispeptic) disorders of the refinery is approved by the European Commission (Blumenthal, Goldberg, & Brinckmann, 2000; Gruenwald, Brendler, & Jaenicke, 2004).

2.19. Estragon

Tarhun (Mohammad Reza, Hamideh, & Zahra, 2015), whose Latin name is '*Artemisia dracunculus*', is the homeland of Siberia and has spread all over Eurasia. It has a very nice taste and smell. Especially the green and tomato salad adds a pleasant flavor. Used in various sauces. It holds its salt, pepper and sirkenin with its beautiful smell (Binici, 2002). It has an important place among the spices used to sweeten the dishes in the world, especially the French cuisine with its sharp smell and different flavor. Tarhun otu exhibits a wonderful harmony with chicken, fish, eggs, salad, potatoes and cream. Tarhunun leafy branches are rich in iodine, mineral salts, vitamins A and C. Its composition contains essential oils (0.4-0.8%), tannins and flavonoids, bitter, iodine, vitamins A and C (Gürpınar Y., 2012). Tarhun essential oil contains methyl ethers, such as osmine, myrsene, α -pinene, β -pinene, camphor, limonene and linalool (Hassanzadeh, Tayarani Najaran, Nasery, & Emami, 2016).

2.20. Mustard

Wild mustard (*Sinapis arvensis* L.) (*Cruciferae*), which has more than 3,000 species in 350 genera in the family of *Brassicaceae* (*Cruciferae*), grows as weeds in cultivated plants (Price, Palmer, & Al-Shehbaz, 1994). It is cultivated in third world countries and is known as the origin of black mustard (Akgül, 1993). Mustard is a natural antioxidant nutrient. For example, the extract has radical scavengers such as galic acid, quercetin, ferulic acid and caffeic acid. It is used as sweetening agent in foods. Medically, rheumatism and joint pain are used in the treatment of liver disease and throat tumors (Rajamurugan et al., 2012). Antifungal, antifungal, antiviral and antioxidant properties of mustard essential oil have been investigated in some studies (Chen & Liu, 2016; Gilles, Zhao, An, & Agboola, 2010; Mattson et al., 2011; Olaimat & Holley, 2016; Prakash et al., 2011; Turgis, Han, Caillet, & Lacroix, 2009).

2.21. Safflower

Aspir (*Carthamus tinctorius* L.) (C. Hall, 2016), a member of the family Compositae / Asteraceae, is grown for seeds which are essentially derived from edible oil and used as bird seeds (Eryılmaz, Cesur, Yeşilyurt, & Aydın, 2014). Aspir seeds contain 25-37% fat. Aspiration oil is a vegetable oil with the highest linoleic acid content (73-79%) among known oils. This increases the quality of aspiration oil both in terms of quality and human nutrition (Nas, Gökalp, & Ünsal, 1992). The main reason for consumption of aspirated flowers as tea in China is the presence of amino acids, mineral antioxidants and certain vitamins (B1, B2, B12, C and E) in the flower (Babaoğlu, 2006; Mündel, 2008). Aspir has been proven medically to provide more oxygen to tissues by increasing blood flow in the veins, reducing high blood pressure in women during menstrual periods, cardiovascular disorders and trauma-induced swelling and pain treatment (110). In Turkey, aspir (also known as hasp) flower is used to color some foods. In Turkey's Southeastern Anatolia Region (Diyarbakir and its environs), aspiration flowers in yellow color are used in pilaf and it is ensured that the rice is yellow in color (Babaoğlu, 2014).

2.22. Saffron

From the family of saffron (*Crocus sativus*), it is an onion culture plant and the spice obtained from this plant (Baytop, 1999; MCGimpsey, Douglas, & Wallace, 1997). Saffron, one of the most valuable spices in the world, is grown in Southwest Asia, indigenous peoples and in Southeast Asia, Turkey, Iran, India, Spain and Greece (Ahmed, Anwar, Al-Sokari, Ansari, & Wagih, 2016). Saffron contains 150 "volatile and aroma-bearing compounds (Vurdu, Şaltu, & Ayan, 2002). Most of these are carotenoids, including zeaxanthin, lycopene, and various α - and β -carotene. However, the saffron golden yellow-orange color gives α -crocin (Baytop, 1999; Maggi et al., 2010). Picrocrine is a sweetener and improves the flavor of your food, especially when used in meals (Baghalian, Sheshtamand, & Jamshidi, 2010). Since ancient times, saffron has been regarded not only as a spice but also as a healing and protective substance for diseases and even sacred for its color at various times (Baytop, 1999). Safran has been found by modern medicine to have anticarcinogenic (cancer suppressant), anti-mutagenic (mutation-inhibiting), immunomodulating and antioxidant-like properties (Abdullaev, 2002; Dalby, 2000).

2.23. Daphne

Daphne family has 2200 species. Laurel plant (*Laurus nobilis* L.) is grown on the southern European and Mediterranean coasts in many warm temperate regions of the world (İzzaddeen, 2015). In Defnein's composition; Tannin and 1-4% fragrant essential oil (Karaoğul, Ertaş, Altuntaş, & Alma, 2011). Especially in volatile oil, the active substance is 35-50% 1.8 cineole

substance (Şafak & Okan, 2004). In some studies antimicrobial properties of bay volatile oil have been investigated (Basak & Candan, 2013; Evren & Tekgüler, 2011; McIntosh, Newbold, Losa, Williams, & Wallace, 2000; Smith-Palmer, Stewart, & Fyfe, 2002). Dried leaves are generally used in canned foods, spices in soups, meat and fish, in canned fish to preserve the freshness of the fish and to smell it (Bozkurt, Yaltrık, & Özdönmez, 1982). Antiseptic, antirheumatic, diuretic, otic and stomach pain relieving as traditional treatment; Dry fruits are used as sweeteners in foods, dry leaves in tea, volatile oils in soap making, and food and cosmetic industries as smell (Baytop, 1999). It has been reported that antioxidant activity can be used as an alternative to synthetic food additives (Hinneburg, Damien Dorman, & Hiltunen, 2006).

2.24. Ginger

Ginger (*Zingiber officinale Roscoe*); a tuber-rooted yellowish plant that lives and grows in the geographical areas of the tropical climate (Kaplan, 2005). Widely used in many parts of the world, ginger has been used for centuries as a traditional spice or food aid (Jakribettu et al., 2016). Age and dried ginger are traditionally used to treat stomach pain, diarrhea, vehicle stiffness and have an appetizing effect. Roman, Chinese, Greek and Ottoman medical records indicate that ginger is used as a medicinal plant (Jakribettu et al., 2016; Konuklugil & Özçelikay, 2004; Marx et al., 2014). Ginger contains antioxidant phenols, vitamin C, beta carotene, flavonoids and tannins. Gingerol, zingerone and shogaol are the most important phenolic compounds (Jakribettu et al., 2016; Park & Pezzuto, 2002). It has digestive facilitating, appetizing, antioxidant and antiseptic properties (Konuklugil & Özçelikay, 2004).

3. Conclusion and Discussion

Culinary culture constitutes an important part of the cultural values of an country. It is necessary to increase the number and capacity of gastronomy establishments that are working for the organization of gastronomic tourism, taking initiatives for the ownership of gastronomic tourism by the local people and promoting Turkey to strengthen the tourism awareness of the people. It would be useful to make informative presentations about the Ottoman cuisine for local people. Promotion and advertising activities need to be emphasized to improve gastronomic tourism. Introducing local products specific to the Ottoman cuisine at national and international fairs and concrete presentation of the historical, natural and cultural attractions of the Ottoman Empire during tourism fairs will affect the economy and image of Turkey in terms of marketing of tourism and spices sales.

Within the framework of development plans in Turkey, gastronomic tourism is emphasized in the studies to spread tourism to 12 months rather than seasonal. In this context, gastronomic tourism is important in terms of many destinations in Turkey as well. The Ottoman cuisine, which is among the richest cuisines in the world, has come to the conclusion that it will provide great contribution to the branding of destinations with an accurate positioning and an attractive image to be created.

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