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Review Article

Determination of Consumer Knowledge Level, Preferences and Attitudes Towards Lentils Which is An Important Vegetable Protein Source and Evaluation in Case of Gastronomic Value

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Abstract

This study was performed with 330 consumers by using an online survey to examine knowledge, attitudes, and behaviors and to determine the effect of sociodemographic factor of consumers on lentil consumption. The importance of lentil in the history, its role in religious terms, nutritional content, health benefits, and the use of lentils in the food industry as an alternative product were summarized from literature research.

Chi-square test, t-test and one-way analysis of variance test (ANOVA) in the evaluation of data; Scheffe test was used to determine the direction of the differences. The results of factors such as knowledge level, consumption preferences, consumption habits, consumption frequency, consumption reasons were obtained and evaluated.

39.2% of the participants consumed lentil once in 2 weeks, 33.4% once or twice a week; 77.5% consume lentil as a soup. We see that lentil is consumed mostly as lentil soup, a traditional form, at the first order. The awareness of consumers must be increased to improve consumption of lentil with different alternative forms, such as a source of high vegetable protein, dietary fiber and must be informed for consumption options together with traditional recipes.

Keywords: Lentil, Gastronomy, Vegetable Protein, Healthy Food, Consumer Attitude

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Introduction

Since start of humanity, there have been animal foods and plant foods as two basic food sources in human life [1]. With the transition of people to a settled life, it has been seen that animal domestication and plant production using seeds have become widespread. It is known that these seeds are mainly lentils, chickpeas, peas and broad beans [2]. Pulses are considered to be among the best nutritional sources due to their nutritional value [3] [4].

Latin name is *Lens Culinaris*, are the seeds of a legume that has been used for centuries and has a great importance in human nutrition [5]. Archaeological remains reveal that lentils were consumed 9500-13000 years ago and are one of the first domesticated crops [6]. The earliest archaeological finds of lentils are found in the Mesolithic and Paleolithic layers of the Franchthi Cave in Greece; It was obtained in the Mesolithic layer near Göbekli Tepe in Şanlıurfa, which is the current settlement name in Mureybit. There is evidence that Egyptians, Romans and Hebrews consumed lentils [7]. In general, lentils were found with the excavations made in many of the regions in the Middle and Near East. Among the civilizations, the Egyptians, Greeks and Romans accepted lentils as a valuable product and used it both in human nutrition and animal nutrition [8]. When book of Seyahatname of Evliya Çelebi is examined, it is seen that the lentil dish is a very popular dish in the palace kitchens [9].

Lentils, which have such an ancient history, are also encountered in religious sources such as the Qur'an, the Torah and the Bible. In the Qur'an, lentils are mentioned in the 61st verse of Surat al-Baqara**.** Rich people want to consume vegetables such as lentils, onions, garlic, cucumbers that poor people consume, and the Prophet Moses tells those who make this request that they should go to the city and uses the phrase "Exchange the superior with the inferior"; he says that the people in the lower strata are punished with misery and helplessness [10]. According to the Catholic faith, "Remembrance Day of the Dead " is held on the 2nd or 3rd of November in Europe. On this commemoration day, a meal consisting of lentils, peas and beans is prepared, and poor people are distributed along with other food available at home [11]. According to the Orthodox faith, it has become a tradition to drink lentil soup, which represents the sadness and tears of Mary, on the day of the crucifixion of Jesus on Easter, and this tradition is called "the tears of the Virgin Mary". However, vinegar is added to the soup to symbolize the sufferings of Jesus [12]. According to the sources in the Torah and the symbolic stories that emerged, it seen that lentils are the food of pain and mourning. When Adam and Eve lost their children, when Cain killed Abel, when Abraham's brother Haran died, it is known that lentil food is consumed. From this information, it is clearly understood that lentils represent death and are consumed as a mourning food [13].

Looking at the lentil plant, it is seen that the consumption of green and red lentil species is much more common. The colors found in lentils are due to zeaxanthin carotenoids and lutein. The approximate values of lentil components are as follows; 51.1% carbohydrates (48.8% starch, 1.8% soluble sugar), 13.8% dietary fiber, 0.9% soluble fiber, 0.9% insoluble fiber, 23% protein, 1% fat [14] [15]. In addition to being rich in protein and carbohydrates, lentils are also rich in vitamin B and minerals of Fe, Mn, Na, Ca, Cu, Zn, P [16].

Lentils, which are in the group of foods that do not contain cholesterol, are poor in terms of saturated fatty acids. It is stated that it is good for brain and nervous health, strengthens the immune system, protects against immune system-related diseases, increases breast milk in nursing mothers, and increases intestinal digestion. Since it is also a source of energy, it is recommended to be consumed by people

who work hard in their daily life or athletes who do heavy sports. Thanks to its fibrous structure, it contributes to preventing the rise of blood sugar. For this reason, it is a food that diabetic patients can easily consume. It lowers hypertension because it has potassium content. Lentils, which are rich in protein, are good for anemia thanks to their high folic acid content [17].

Nutrition facts for green and red lentils are given in Table 1 and 2. The striking situation in both tables is that lentils are very rich in protein and fiber.

Table 1 125 ml Cooked Whole Green Lentils Nutrition Facts [41]

Table 2 125 ml Cooked Split Red Lentil Nutrition Facts [42]

Legumes, which have an important place for human and animal consumption, enrich the soil they are in by binding the free nitrogen in the atmosphere to the soil [18]. Nitrogen in plants; It plays an important role in root respiration, chlorophyll production, flowering, fruit formation and maturation. Being a heat, cold and drought resistant plant makes lentil production easier. Since it is a food obtained from the seeds of the lentil plant, it is a product suitable for consumption all year. It is a plant food source for human, and a fattening source for animals. Thus, the efficiency in production increases and waste materials are reduced. Maximum efficiency is obtained from the product [19]. Important lentil producing countries are respectively; Canada, India, Australia, Turkey, USA. Canada meets the lentil production with a rate of 33% worldwide [20]. When it is considered on Turkey, it is seen that there are fluctuations in production.

Enriching foods is seen as a way to reduce nutrient deficiencies. Especially the food industry; It also aims to diversify products in order to reduce the increasing world population, reduce availability and cost [21]. These situations increase the need for vegetable protein. In addition to being rich in protein and fiber, lentils are a cheap and healthy plant food source for consumers due to their nutritional values [22]. In addition to being a rich source of protein, lentils can also be preferred because it is a product that can be easily produced, stocked and distributed. Having such a rich nutritional content, lentils are seen as an important protein source of the future. While the studies to increase the use of lentils have increased, alternative products have started to be produced with lentil.

Thanks to the development of lentil processing technologies in recent years, it can be obtained by separating its protein and starch. Different formulations have been created with the protein and starch obtained, and they have started to be used in baby foods, snacks and bakery products. Also, lentils; It is also used as a protein gelling agent, emulsifier and stabilizer, and with these properties, it creates an alternative to animal foods [23].

Since lentils, which are a type of legume, do not contain gluten, they are suitable for consumption by consumers with gluten intolerance. Thanks to the new studies, the use of lentils as a delicious and healthy food in alternative products has started to increase, apart from the usual way of consumption. Pastas and chips obtained from lentils, which are accepted as health-supporting products and which people prefer to consume as a source of vegetable protein and fiber in their daily diets, have taken their places on the shelves.

The consumption preferences of individuals are changing day by day and these changes cause the development of different nutrition trends. For example, with the spread of vegan-vegetarian nutrition, consumers need more vegetable protein. For this reason, studies on vegetable proteins have increased and different recipes have been started to be created using

protein-rich plants. In addition, people's meat consumption tends to decrease with political, philosophical, environmentalist and animal-loving approaches. The search for alternative food to animal proteins has accelerated in recent years. Sales of products containing vegetable protein have increased due to sustainability and environmental concerns [24] [25].

Benayad et al. (2021) showed that the antioxidant, protein and fiber ratio of the couscous, which they prepared by mixing lentil flour with semolina, increased and the carbohydrate and fat ratio decreased. In the study of Benayad et al., an increase in the nutritional values of couscous obtained with the addition of lentil flour was observed. The microbiological quality of couscous added to lentil flour increased and the shelf life of couscous was extended. In addition, enriched couscous was highly appreciated by those who tasted it [26]. In addition to the production of couscous, it is aimed to enrich the nutritional content of the products obtained by using lentil flour in pastas, breads and similar pastries.

Benmeziane et al. (2021), it was explained that decreasing of sineresis value of yogurt which is produced from milk enriched with lentil flour and this yogurt was liked by the consumer. Therefore, lentil flour is a functional product that can be used in yoghurt production to increase its probiotic and prebiotic properties [27].

In this study, it was aimed to determine the consumption size and consumer knowledge level of lentils, which added in food formulations in order to increase their nutritional value. It is aimed to be a source for studies by determining the consumer knowledge level of lentils. Studies to expand the usage areas of lentils in the food industry should continue and these studies should be supported and consumer awareness should be increased.

Materials and Methods

Research Method and Sample

This study was carried out in 2021 to determine the lentil consumption attitudes and knowledge levels of consumers. Survey analysis technique was used as a research method. While selecting the research sample, non-probabilistic, purposeful sampling type was chosen. The criterion sampling method was applied based on the selection of people with certain qualifications [28] [29]. In line with this information, the research population was determined as the lentil market in Turkey, and the sample was determined as lentil consumers living in Turkey.

According to the determined sample, the sufficient number of participants for the survey was calculated by Tabachnick and Fidell (2006) considering that there should be 8 + 50 participants per statement. The formula (15*8) + 50 was used for the 15 statements in the survey [30]. In this way, the number of participants was calculated as 170. The survey reached 330 participants.

Data Collection Tool of the Research

In order to determine the survey questions to be used in the research, a literature review was made, researches on similar subjects and measurement tools were examined. The survey form was prepared on the internet and presented to the consumers. Care was taken to ensure that the survey from was understandable and 32 questions were asked. The prepared survey form consists of three parts. In the first part, while descriptive information (age, gender, marital status) was directed to the consumers participating in the research; In the second part, questions were asked in order to measure the lentil consumption attitudes and behaviors of the consumers, and in the third part to measure the knowledge level of the consumers about lentils. In the first 17 questions, questions

including the demographic characteristics of the participants and their knowledge about lentils were asked. The other 15 questions were prepared on a 5-point Likert type scale (1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly Agree).

Evaluation of Research Data

Chi-square test, t-test and one-way analysis of variance test (ANOVA) in the evaluation of data; The Scheffe test was used to determine the direction of the difference. IBM-SPSS Statistics 22 program was used for statistical analysis of the survey data. During the analysis of the results, frequency and percentage frequency tables of the responses were created, the results were evaluated and interpreted. In order to measure the reliability of the prepared survey form, Cronbach's Alpha analysis was applied and a value of 0.703 was obtained as a result of the analysis. To test the differences and relationships, $p<0.05$ was accepted as significant at the 95.0% confidence interval. Chi-square analysis method is a common analysis method used to measure the relationship between two variables [31]. Equality of ratios is tested using the chi-square analysis method [32] [33]. The t-test, on the other hand, is used to investigate whether there is a significant difference between the two sample groups in terms of means [34] [33]. ANOVA analysis (analysis of variance) is a method used to compare two or more groups, or to examine changes over time by considering a single group [32] [33].

Descriptive Analysis of Nominal Data Directed to Consumers

Turkey has hosted many different cultures throughout history. Along with this cultural diversity, the variety of food is also quite high. For example, it is seen that mucedder, which is very common in Kilis, actually comes from Arabian lands and is a part of Arab food culture. [35]. In the study, the participants were asked how many number of lentil varieties they know, how many number of lentil dishes they know, and their awareness of beluga lentils. The The level of knowledge of the survey participants about lentils is given in Table 5 in line with their marital status. The marital

Findings and Discussion

Consumer Identifiable Information

In line with the data obtained in the study, the findings of the analyzes regarding the demographic characteristics are given in Table 3. A total of 330 people participated in the survey. The majority of the participants are between the ages of 18-24. Participant percentages; 18-24 age 49.2%, 25-29 age 19.1%, 30-35 age 14%, 36 age and over 17.6%. 59.9% of the survey participants were female and 40.1% were male. The number of female participants is 19.8% more than the number of male participants. When we look at the answers to the marital status of the participants; When the marital status of the participants is examined; It is seen that 75.1% of them are single and 24.9% of them are married.

Table 3 Descriptive characteristics of survey participants (n=330)

answers obtained are given in Table 4, taking into account the gender of the participants. There were no significant differences between the genders of the survey participants in line with the answers obtained. The p value of all three questions was greater than 0.05.

Table 4 Data on the level of knowledge of the survey participants about lentils according to their gender

status of the participants; show a significant difference in the number of lentil varieties they know. The significance (p) value is

0.022 and is less than 0.05. The number of lentil dishes that the participants knew showed a significant difference in line with their marital status. Significance (p) value is 0.024 and is less than 0.05. In the case of beluga lentil awareness, there was no significant difference between marital status.

Table 5. Data on the level of knowledge of the survey participants about lentils according to their marital status

The relationship between the level of knowledge of the survey participants about lentils and their age groups is given in Table 6. The number of lentil varieties known by the participants and the awareness of beluga lentils do not differ significantly according to age groups. However, the number of lentil dishes that the participants knew differed significantly between age groups. The significance value is 0.002.

Table 6. Data on the level of knowledge of the survey participants about lentils according to age groups

Considering the consumption frequency of lentils, the number of those who consume once or twice a week is 33.4%, the number of those who consume once in 2 weeks is 39.2%, and the number of those who consume more than twice a week is 5.2%. While 21.3% consume it once a month, the number of those who do not consume is 0.6%. When a general evaluation is made, it is seen that lentil consumption is quite common and sufficient.

When the survey participants were asked about the most consumed lentil varieties, it was seen that red lentils were the most consumed lentils with 62.2%. Green lentils take the second place with 31.9%. The lowest percentage belongs to beluga lentils with 0.3%. Although the worldwide awareness and consumption of Beluga lentils is high, it is not preferred much in Turkey. The consumer is not very familiar with the product.

Within the scope of the survey, consumers were asked which lentil consumption preference is the most, and the answer of 77.5% of the participants was lentil soup. When the study of 'Soups in Turkish Cuisine Culture' by Mine Arlı and Hüseyin Gümüş is examined, it is seen that there are 17 soups containing lentils [36]. The fact that lentils are used so much even under the title of soup indicates the value of lentils in Turkish cuisine culture. Lentil soup is followed by lentil dish with 13.1%. The total percentage of these two dishes is 90.6%, this result shows that only 9.4% of the participants do not consume soup and meal. Other data are as follows; meatball 4%, salad 2.7%, “Afyon bükmesi” 0.9%, “Tokat Batı” 0.3%, “Müceddere” 1.2%, “Bayburt galacoş” 0.3%. None of the participants preferred “Malhıtalı Aş”.

When the participants were asked about their lentil consumption reasons, 5 answers were determined; cheap, delicious, satisfying, healthy, easy to prepare. Although lentils provided all these answers, it was asked to determine the priority of consumers. 41.6% of the participants stated that they consumed it because it was delicious. 38.6% of them consume it because it is healthy. The fact that it is satisfying, cheap and easy to prepare, has a low percentage of being the first factor in consumers' preference for lentils.

The survey participants were asked about their lentil consumption frequency, their preferred lentil varieties, their lentil consumption preferences and their priorities in lentil consumption. Lentil consumption habits were evaluated according to the gender of the participants. The responses received are listed in Table 7. With the

gender of the participants; There is no significant difference between their preferred lentil varieties, their lentil consumption preferences and their priorities in lentil consumption. There was a significant difference between the lentil consumption frequency and gender of the The lentil consumption habits of the survey participants according to their marital status are given in Table 8, and the lentil consumption habits by age groups are given in Table 9. There was a significant difference between the marital status of the participants and their priorities in lentil consumption. The significant difference observed is 0.009. There was no significant difference between the age groups of the participants. The significance value (p) obtained is 0.032 and is less than 0.05.

Table 7. Data on lentil consumption habits of the survey participants according to their gender

participants and their lentil consumption habits.

Table 8. Data on lentil consumption habits of the survey participants according to their marital status

Table 9. Data on lentil consumption habits of the survey participants according to age groups

In Table 10, Table 11 and Table 12, data on the level of knowledge of the participants about the production regions of red and green lentils and the world leader in lentil production are given. According to the data obtained, there was no significant difference between the genders of the participants. When the marital status and answers of the participants were examined, a significant difference was found only in the answers given to the question of production region of red lentil. The significance value obtained was found to be 0.026.

When the green-red lentil production regions of the participants and the country that is the world leader in lentil production were asked, there were significant differences between the age groups of the participants in each question in line with the answers received. Significant difference values are indicated in Table 12. In line with the answers given by the participants, there was a significant difference between age groups in the question of the world leader in lentil production. The significant difference (p) value is 0.002.

Table 10. Data on the level of knowledge of the survey participants about the production regions of red-green lentils and the world leader in lentil production according to their gender

Table 11. Data on the level of knowledge of the survey participants about the production regions of red-green lentils and the world leader in lentil production according to their marital status

Table 12. Data on the level of knowledge of the survey participants about the production regions of red-green lentils and the world leader in lentil production according to to age groups

Participants were asked the question in which region of Turkey green and red lentils are produced intensively. When it comes to green lentils, 50.5% of the participants answered the Central Anatolia Region. The answers of the remaining participants were almost equally distributed in the other 6 regions. 49.5% of the participants know the region where green lentils are produced intensively [37]. In the same direction, the question of the production region of red lentils was asked to the participants in order to measure information. In this question, the participants were generally divided into two groups. 40.7% of the participants gave the

answer of Central Anatolia, 40.4% of them gave the answer of Southeastern Anatolia. In this case, the participants who know that red lentil production is intense in Southeast Anatolia covers 40.4%. Considering the demographic characteristics in the answers given for the red lentil production region, there was a significant difference between marital status. Significance (p) value was obtained as 0.026. Although Turkey seems to be the leader of lentil production, Canada has actually taken the lead [20]. With the seeds it brought from Turkey in 1973, it has become the world leader in lentil exports for almost half a century. In the results of this consumer attitude survey, the answers given by the participants are as follows; 22.2% Canada, 30.7% India, 8.5% USA, 32.2% Turkey, 6.4% Australia.

Conclusion and Recommendations

As a result of this study carried out on 330 consumers in order to determine the knowledge, attitudes and behaviors of consumers about lentils; There were differences in some of the answers given by the participants and similarities in some of them. The majority of the participants were aware that lentils are a functional product and reflected this situation in their consumption. When the participants were asked about the reasons for lentil consumption, 38.6% of the participants emphasized that they consume lentils because it is healthy. The reason for preference that comes before the health option is stated by 41.6% of the participants because it is delicious. Married and single participants; There were significant differences in the number of lentil varieties they knew, their answers to the region where red lentils were grown, and their priorities in lentil consumption ($p>0.05$). Considering the age groups of the participants; There were significant differences in the answers given to the number of lentil dishes they know, the region where red lentils are produced in Turkey, the region where green lentils are produced in Turkey, and the country that is the world leader in lentil production ($p>0.05$). When the participants were evaluated by gender, there was a significant difference in the frequency of lentil consumption ($p>0.05$).

Although the consumers stated that lentil is a functional product, the frequency of consumption was found to be infrequent as a result of the study. Despite the low consumption frequency and the fact that there are dozens of lentil-based dishes in Turkey, more than half of the participants stated that they know 1-3 varieties of lentil dishes. Necip Buğra Engin 's study titled 'Examination of Consumer Attitudes towards Tarhana Consumption ' conducted with 302 participants in 2019, 84.4% of the participants stated that Tarhana is a functional product [38]. At the same time, 84.8% of the participants in Engin's study like the taste of lentils. Consumers' approaches to lentils and Tarhana are similar in terms of being functional.

89.9% of the participants of Engin's study prefer to consume Tarhana as soup. 77.5% of the lentil consumer attitude survey participants stated that they consume lentils as soup ($p>0.05$). In terms of consumption, both products are preferred by consumers in the form of soup.

The participants were asked about the frequency of consumption of lentils, which is an important vegetable protein source. The consumption frequency of lentils, which is an easily accessible, convenient, healthy and functional food, differs between male and female participants. In the graduate study of 'Development of a Food Consumption Frequency Questionnaire for Vegan and Vegetarian Individuals Living in Turkey' by Tuğçe Nur Balcı, who is student at Hacettepe University, the participants were asked about the frequency of consumption of green and red lentils. 285 vegan and vegetarian individuals participated in the

study. 53.6% of the participants 2-4 times a month, 33.3% of the participants 2-3 times a week, 1.2% of the participants 4-6 times a week, 2.4% of the participants once a day, 1,2% of the participants consume green lentils 2-3 times a day or more. 50% of the participants 2-4 times a month, 29.8% of the participants 2-3 times a week, 4.6% of the participants 4-6 times a week, 1.2% of the participants once a day, 1.2% of the participants consumes red lentils 2-3 times or more a day [39]. When the two studies are compared, the results obtained differ, because Balcı's study was conducted among vegan or vegetarian individuals. Lentils have an important place in vegan and vegetarian diets due to being a functional product. When the lentil consumer attitude survey and Balcı's study are compared, it is seen that vegan and vegetarian individuals include lentils more frequently in their daily diets.

Consumers stated that the world leader in lentil production is Turkey, not Canada. When the lentil production in Turkey is evaluated on a ton basis, it is decreasing day by day, and imported lentils are on the shelves in Turkey. Promoting the production and consumption of lentils; Studies should be made to make this healthy, functional, satisfying, cheap and delicious product easily accessible to consumers. The sustainability of lentil dishes, which have a very rich place in Turkish food culture, should be ensured and recorded and transferred.

Due to the rapidly increasing world population, the food industry is also developing rapidly. This emerging industry aims to meet needs and create alternative foods. While developing alternative foods, care is taken to ensure that foods meet the nutritional needs of people, are easily accessible, cost-effective, satisfying and certainly functional. Consumers are becoming more conscious about healthy nutrition and the demand for healthy food is increasing accordingly [40].

Lentil is a food that can be developed with its rich nutritional content, easy storage, cheapness and accessibility. The fact that it is a vegetable source that offers an alternative to animal foods in terms of its high protein content makes lentils even more valuable. While the consumption of animal foods has decreased in recent years, the consumption of vegetable proteins has increased [24] [25]. Lentil, which is such a functional food, can be considered as an important vegetable protein source of the future.

Today, product development studies are carried out using lentils. The purpose of using lentils while creating food products; enriching the foods, developing alternative products based on lentils besides the classical recipes, supporting the consumption of the consumers. At the beginning of the developed products are pasta, couscous, bread and chips produced based on lentil flour. With the increase in product development and research and development studies, diversification is expected in these products.

In line with the studies to be carried out, healthy foods and snacks to be obtained from lentils can prevent consumers from consuming unhealthy snacks, and thus reduce the obesity rates, which have become a major risk today. Use of lentils and lentil-based products; Use of lentils and lentil-based products; will increase with further work. For this reason, studies on lentils, which may be an important vegetable protein source of the future, should be expanded and supported. In the same direction, people should be encouraged to consume lentils and their awareness should be raised.

Compliance with the Ethical Standard

Conflict of interest: The authors declared that there are no actual, potential, or perceived conflicts of interest for this article.

References

[1] E. Kaya, *Yüksek Lisans Tezi: Ülkemizde Yetiştirilen Bazı Mercimek Çeşitlerinin Bileşimlerinin Belirlenmesi,* Adana, Türkiye: Çukurova Üniversitesi Fen Bilimleri Enstitüsü. Gıda Mühendisliği Anabilim Dalı, 2010.

[2] E. Pekşen ve C. Artık, *Antibesinsel Maddeler Ve Yemeklik Tane Baklagillerin Besleyici Değerleri,* Samsun, Türkiye: Ondokuzmayıs Üniversitesi Ziraat Fakültesi Tarla Bitkileri Bölümü, 2004.

[3] Y. F. Cheng ve R. Bhat, «Functional, physicochemical and sensory properties of novel cookies produced by utilizing underutilized jering (Pithecellobium jiringa Jack.) legume flour,» *Food Bioscience,* no. 14, https://doi.org/10.1016/j. fbio.2016.03.002, p. 54–61, 2016.

[4] Y. Maphosa ve V. A. Jideani, «The role of legumes in human nutrition,» %1 içinde *In C. H. María (Ed.), Book of functional food-improve health through adequate food*, Spain: Cadix, https://doi.org/10.5772/intechopen.69127, 978-953-51-4718-3, 2017, p. (pp. 104–121).

[5] S. Şehirali, Yemeklik Tane Baklagiller, Ankara, Türkiye: Ankara Üniversitesi Ziraat Fakültesi Matbaası, sf; 435, 1988.

[6] M. Singh, H. D. Upadhyaya ve I. S. Bisht, «Tahıl Bakliyat İyileştirmenin Genetik ve Genomik Kaynakları,» *ScienceDirect,* pp. Sf 1-10, 2013.

[7] P. Filippone, *The History and Origin of Lentils.,* One of Man's First Food Sources,3, 2019.

[8] S. Özdemir, Yemeklik Baklagiller, Hasad Yayıncılık, 165, 2006.

[9] M. Yerasimos, Evliya Çelebi Seyahatnamesin'de Yemek Kültürü, YKY, 106, 2019.

[10] A. Bayındır, Kur'an Işığında Doğru Bildiğimiz Yanlışlar, İstanbul: Süleymaniye Vakfı Yayınları, 3. Baskı, 278-279, 2010.

[11] F. J. Simoons, *Plants of Life, Plants of Death, Madison,* University of Wisconsin Press, 252, 1998.

[12] P. Fieldhouse, Food & Nutrition, London: Croom Helm, 117, 1986.

[13] L. Gizberg, *Legends of the Jews,* 2003.

[14] M. Zeece, *Gıda Sistemleri ve Gelecekteki Yönlendirmeler, Gıda Kimyasına Giriş,* 2020.

[15] A. Romano, V. Gallo, P. Ferranti ve P. Masi, «Lentil flour: nutritional and technological properties, in vitro digestibility and perspectives for use in the food industry,» *ScienceDirect,* 2021.

[16] U. D. P. &. L. Council, «General Properties of Dry Peas, Lentils & Chickpeas,» %1 içinde *Processing Information & Technical Manual*, 2010, pp. 13-16.

[17] N. Yeşilçubuk, «Baklagillerin Gıda Sanayi Açısından Önemi Ve Kullanım,» %1 içinde *İstanbul Teknik Üniversitesi Gıda Mühendisliği Bölümü, Bakliyat ile Sağlıklı Beslenme Sağlıklı Hayat Sempozyumu*, İstanbul, Türkiye, 2016.

[18] B. Mollison, Permakültüre Giriş, Sinek Sekiz Yayınları, 274, 2011.

[19] B. M. Avcı, *Baklagillerin Önemini Bilmeliyiz,* Türkiye, 2016.

[20] T. M. O. G. Müdürlüğü, «Dünya Hububat Ve Bakliyat Raporu,» 2020. [Çevrimiçi]. Available: www.tmo.gov.tr.

[21] H. Khazaei, M. Subedi, M. Nickerson, C. Martinez-Villaluenga, J. Frias ve A. Vandenberg, Seed Protein of Lentils: Current Status, Progress, and Food Applications, Food, 2019.

[22] A. Romano, V. Gallo, P. Ferranti ve P. Masi, «Lentil flour: nutritional and technological properties, in vitro digestibility and perspectives for use in the food industry,» *ScienceDirect,* 2021.

[23] M. Joshil, Y. Timilsenal ve B. Adhikari, «Global production, processing and utilization of lentil: A review,» *ScienceDirect -Journal of Integrative Agriculture,* cilt 16, no. 12, p. 2898–2913, 2017.

[24] H. Aiking, «Future protein supply,» *Trends in Food Science and Technology,* no. 22, p. 112–120, 2011.

[25] D. C. –. F. a. Agriculture, «Earth Policy Institute,» 2012. [Çevrimiçi]. Available: http://www.earth-policy.org/data_center/C24. [Erişildi: 21 June 2017].

[26] A. Benayad, M. Taghouti, A. Benali, N. Benbrahim ve Y. Aboussaleh, «Development and nutritional, technological, microbiological, cooking and sensory characterization of durum wheat couscous partially enriched with lentil semolina,» *Food Bioscience,* 2021.

[27] F. Benmeziane, R. K. Raigar, N. E.-H. Ayat, D. Aoufi, L. Djermoune-Arkoub ve A. Chala, «Lentil (Lens culinaris) flour addition to yogurt: Impact on physicochemical, microbiological and sensory attributes during refrigeration storage and microstructure changes,» *LWT - Food Science and Technology,* cilt 140, 2021.

[28] Ş. Aslan, Sosyal Bilimlerde Araştırma Yöntemleri Nicel, Nitel ve Karma Tasarımlar İçin Bir Rehber, Eğitim Yayınevi, 2019.

[29] Y. Koç, «Sosyal Bilimlerde Örnekleme Kuramı.,» *The Journal of Academic Social Science,* pp. 480-495., 2017.

[30] B. Tabachnick ve L. Fidell, «Using Multivariate Statistics, 5th ed.,» %1 içinde *Using Multivariate Statistics*, Boston, Allyn & Bacon, 2006.

[31] M. Nakip, Pazarlama Araştırmaları Teknikler ve (SPSS Destekli) Uygulamalar, Ankara: Seçkin Yayınevi, 2. Basım, 2006.

[32] T. Baş, «Anket,» Seçkin yayıncılık Sanayi ve Ticaret A.Ş, Ankara, 2010.

[33] A. Sandallıoğlu, *Adana İlinde Organik Tarım Ürünleri Tüketimi ve Tüketici Eğilimleri,* Adana: Çukurova Üniversitesi. Fen Bilimleri Enstitüsü, Tarım Ekonomisi Anabilim Dalı. Doktora Tezi, 2014.

[34] Ş. Kalaycı, A. Albayrak, A. Eroğlu, E. Küçüksille, A. B., M. Karaltı, H. Keskin, E. Çiçek, A. Kayış, E. Öztürk, Ö. Antalyalı, N. Uçar, H. Demirgil, D. İşler ve O. Sungur, SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri, Ankara: Asil Yayın Dağıtım Ltd. Şti Yayınları, 1. Baskı, 2005.

[35] Z. N. Gülaç, « Ürün Raporu Mercimek 2017,» T.C. Tarım Ve Orman Bakanlığı Tarımsal Ekonomi Ve Politika Geliştirme Enstitüsü - Tarımsal Ekonomi Ve Politika Geliştirme Enstitüsü Tepge, Ankara, Türkiye, 2018.

[36] M. Arlı ve H. Gümüş, Türk Mutfak Kültüründe Çorbalar, 2017.

[37] «Türkiye İstatistik Kurumu (TUİK),» [Çevrimiçi]. Available: www.tuik.gov.tr. [Erişildi: 2017].

[38] N. Engin, *Tarhana Tüketimine İlişkin Tüketici Tutumlarının İncelenmesi,* İstanbul, Türkiye: İstanbul Okan Üniversitesi, Sosyal Bilimler Enstitüsü, Gastronomi Bölümü, 2019.

[39] T. Balcı, *Türkiye'de Yaşayan Vegan ve Vejetaryen Bireylere Özgü Besin Tüketim Sıklığı Anketi Geliştirilmesi,* Ankara, Türkiye: T.C. Hacettepe Üniversitesi Sağlık, Bilimleri Enstitüsü, Beslenme Bilimleri Programı, 2018.

[40] M. Vatansever, B. H. Tığa, S. Kumcuoğlu ve Ş. Tavman, «Farkli Oranlarda Mercimek Unu ve Patates Nişastasi İçeren Karişimlarin Ekstrüde Çabuk Erişte Üretiminde Kullaniminin İncelenmesi,» *The Journal of Food,* cilt 45, no. 5, pp. 837-849, 2020.

[41] «Nutritional Information for Lentils,» 2021. [Çevrimiçi]. Available: https://www.lentils.org/.

[42] «Nutritional Information for Lentils,» 2021, [Çevrimiçi]. Available: https://www.lentils.org/.

TABLES

Table 1 125 ml Cooked Whole Green Lentils Nutrition Facts [41]

	% Daily Value*
Total Fat 0.5 g	1%
Saturated fat 0 g	0%
Trans fat 0 g	0%
Cholesterol 0 mg	6%
Sodium 5 mg	0%
Total Carbohydrates 23 g	8%
Dietary Fiber 9 g	32%
Total Sugar 0 g	0%
Added Sugar 0 g	0%
Protein 12 g	
Vitamin D 0 mcg	0%
Calcium 25 mg	2%
Iron 2 mg	10%
Potassium 252 mg	6%
Folate 39 mcg DFE	10%
* Percent Daily Value indicates how much a nutrient in a serving of food contributes to the daily diet, using 2,000 calories per day for general nutritional advice.	

Table 2 125 ml Cooked Split Red Lentil Nutrition Facts [42]

	% Daily Value*
Total Fat 0.5 g	1%
Saturated fat 0 g	0%
Trans fat 0 g	0%
Cholesterol 0 mg	6%
Sodium 5 mg	0%
Total Carbohydrates 25 g	9%
Dietary Fiber 4 g	14%
Total Sugar 0 g	0%
Protein 12 g	
Vitamin D 0 mcg	0%
Calcium 12 mg	0%
Iron 3 mg	15%
Potassium 273mg	6%
Folate 55 mcg DFE	15%
* Percent Daily Value indicates how much a nutrient in a serving of food contributes to the daily diet, using 2,000 calories per day for general nutritional advice.	

Table 3 Descriptive characteristics of survey participants (n=330)

		Frequency	Percent (%)
Gender Distribution of Participants	Female	198	59.9
	Male	132	40.1
	Total	330	100
Age Distribution of Participants	18-24	163	49.2
	25-29	63	19.1
	30-35	46	14.0
	36 and over	58	17.6
	Total	330	100
Marital Status of Participants	Married	82	24.9
	Single	248	75.1
	Total	330	100

Table 4 Data on the level of knowledge of the survey participants about lentils according to their gender

		Female		Male		Total		p value χ2 value
		n	%	n	%	n	%	
Number of Known Lentil Varieties	0	1	0.3	5	1.5	6	1.8	p: 0.282 χ2 : 4.290
	1	2	0.6	4	1,2	6	1.8	
	2	82	24.6	64	20.4	146	45	
	3	81	24.3	42	13.1	123	37.4	
	4	22	6.4	10	3	32	9.4	
	More than 4	12	3.2	5	1.4	17	4.6	
	Total	200	60.6	130	39.4	330	100.0	
Known Number of Lentil Dishes	0	2	0.6	0	0	2	0.6	p: 0.434 χ2: 1,000
	1-3	101	30.5	70	21.2	171	51.7	
	4-6	73	22.3	54	16.6	127	38.9	
	7-9	16	4.6	3	0.9	19	5.5	
	More than 9	8	2,4	3	0.9	11	3.3	
	Total	200	60.6	130	39.4	330	100.0	
Beluga Lentil Awareness	I did not hear	158	48.7	101	31.5	260	80.2	p: 0.657 χ2: 0.165
	I heard, I don't consume	11	6.2	12	6.9	23	13.1	
	I've heard, I'm consuming	31	4.4	16	2.3	47	6.7	
	Total	200	60.6	130	39.4	330	100.0	

Table 5. Data on the level of knowledge of the survey participants about lentils according to their marital status

		Married		Single		Total		p value χ2 value
		n	%	n	%	n	%	
Number of Known Lentil Varieties	0	0	0	6	1.8	6	1.8	p: 0.022 χ2 : 2.277
	1	0	0	6	1.8	6	1.8	
	2	27	8.3	119	36.7	146	45	
	3	41	12.4	82	25	123	37.4	
	4	10	2.9	22	6.5	32	9.4	
	More than 4	3	0.7	13	3.9	18	4.6	
	Total	81	24.5	248	75.5	330	100.0	
Known Number of Lentil Dishes	0	2	0.6	0	0	2	0.6	p: 0.024 χ2: 0.438
	1-3	33	9.9	138	41.8	171	51.7	
	4-6	36	11	91	27.9	127	38.9	
	7-9	7	2	12	3,5	19	5.5	
	More than 9	3	0.9	8	2,4	11	3.3	
	Total	81	24.5	249	75.5	330	100.0	
Beluga Lentil Awareness	I did not hear	65	20	195	60.2	260	80.2	p: 0.549 χ2: 0.852
	I heard, I don't consume	7	3.9	16	9.2	23	13.1	
	I've heard, I'm consuming	9	1,2	38	5.5	47	6.7	
	Total	81	24.5	249	75.5	330	100.0	

Table 6. Data on the level of knowledge of the survey participants about lentils according to age groups

		18-24 Ages		***25-29 Ages***		***30-55 Ages***		***Age 36 and Above***		***Total***		***p value χ2 value***
		n	%	n	%	n	%	n	%	n	%	
Number of Known Lentil Varieties	0	4	1,2	1	0.3	1	0.3	0	0	6	1.8	p: 0.131 χ2: 5.111
	1	3	0.9	2	0.6	0	0	1	0.3	6	1.8	
	2	85	26.1	26	8.01	21	6.4	14	4.31	146	45	
	3	50	15.2	28	8.5	18	5.4	27	8.2	123	37.4	
	4	11	3.2	8	2.35	4	1.1	9	2.64	32	9.4	
	More than 4	7	1.89	4	1.08	1	0.27	5	1.35	17	4.6	
	Total	160	48.48	69	20.9	45	13.5	56	16.8	330	100.0	
Known Number of Lentil Dishes	0	0	0	0	0	2	0.6	0	0	2	0.6	p: 0.002 χ2: 2,800
	1-3	94	28.4	28	8.4	25	7.55	24	7.25	171	51.7	
	4-6	57	17.4	34	10.4	12	3.6	24	7.3	127	38.9	
	7-9	4	1.15	6	1.68	5	1.4	4	1.12	19	5.5	
	More than 9	5	1.5	1	0.3	4	1,2	4	1,2	11	3.3	
	Total	160	48.4	69	20.7	45	13.5	56	16.8	330	100.0	
Beluga Lentil Awareness	I did not hear	129	39.7	50	15	39	11.7	42	12.6	260	80.2	p: 0.153 χ2: 1.005
	I heard, I don't consume	6	3,4	9	5.04	3	1.68	5	2.8	23	13.1	
	I've heard, I'm consuming	25	3,5	10	1.4	3	0.42	9	1.28	47	6.7	
	Total	160	45.4	69	20.7	45	13.5	56	16.8	330	100.0	

Table 7. Data on lentil consumption habits of the survey participants according to their gender

		Female		Male		Total		p value χ2 value
		n	%	n	%	n	%	
Lentil Consumption Frequency	Never	0	0	2	0.6	2	0.6	p: 0.032 χ2 : 2,412
	Daily	1	0.3	0	0	1	0.3	
	Once or twice a week	73	22.1	37	11.1	110	33.4	
	More than twice a week	14	3.22	8	2,4	22	5.2	
	Once in 2 Weeks	84	14.8	43	12.9	127	39.2	
	Once a Month	28	0.94	40	1.35	68	2.3	
	Total	200	60.6	130	39.39	330	100.0	
More Preferred Lentil Varieties	Green Lentil	62	18.83	43	13.06	105	31.9	p: 0.733 χ2: 0.899
	Red Lentil	129	39	80	24.19	209	63.2	
	Yellow Lentil	8	2.45	7	2.14	15	4.6	
	Beluga Lentil	1	0.3	0	0	1	0.3	
	Total	200	60.6	130	39.39	330	100.0	
Lentil Consumption Preference of Participants	Soup	153	46.5	102	31	255	77.5	p: 0.957 χ2: 0.099
	Meatball	6	1.84	7	2.15	13	4	
	Green Lentil Dish	30	8.93	14	4,168	44	13.1	
	Salad	6	2.02	2	0.675	8	2.7	
	Malhıtalı Aş	0	0	0	0	0	0	
	Afton Bükme	1	0.3	2	0.3	3	0.9	
	Tokat Batı	1	0.3	0	0	1	0.3	
	Bayburt Galacoş	0	0	1	0.3	1	0.3	
	Müceddere	3	0.72	2	0.48	5	1,2	
	Total	200	60.6	130	39.39	330	100.0	
Priority of Participants in Lentil Consumption	Being Cheap	6	1.83	11	3.36	17	5.2	p: 0.345 χ2: 1.947
	Being Delicious	83	25.20	54	16.39	137	41.6	
	Being Hearty	17	4.99	14	4.10	31	9.1	
	Being Satiate	80	24.3	47	14.2	127	38.6	
	Easy Preparation	14	4.27	4	1.22	18	5.5	
	Total	200	60.6	130	39.39	330	100.0	

Table 8. Data on lentil consumption habits of the survey participants according to their marital status

		Married		Single		Total		p value χ2 value
		n	%	n	%	n	%	
Lentil Consumption Frequency	Never	0	0	2	0.6	2	0.6	p: 0.319 χ2 : 0.850
	Daily	1	0.3	0	0	1	0.3	
	Once or twice a week	30	9.1	80	24.29	110	33.4	
	More than twice a week	4	0.94	18	4.25	22	5.2	
	Once in 2 Weeks	33	10.1	94	29.1	127	39.2	
	Once a Month	13	0.43	55	1.86	68	2.3	
	Total	81	24.54	249	75.45	330	100.0	
More Preferred Lentil Varieties	Green Lentil	19	5.78	86	26.12	105	31.9	p: 0.225 χ2: 1.683
	Red Lentil	59	17.85	150	45.35	209	63.2	
	Yellow Lentil	3	0.92	12	23.68	15	4.6	
	Beluga Lentil	0	0	1	0.3	1	0.3	
	Total	81	24.54	249	75.45	330	100.0	
Lentil Consumption Preference of Participants	Soup	63	19.2	192	58.3	255	77.5	p: 0.232 χ2: 0.048
	Meatball	2	0.615	11	3.38	13	4	
	Green Lentil Dish	12	3,58	32	9.52	44	13.1	
	Salad	1	0.33	7	2.36	8	2.7	
	Malhıtalı Aş	0	0	0	0	0	0	
	Afton Bükme	2	0.6	1	0.3	3	0.9	
	Tokat Batı	1	0.3	0	0	1	0.3	
	Bayburt Galacoş	0	0	1	0.3	1	0.3	
	Müceddere	0	0	5	1,2	5	1,2	
	Total	81	24.54	249	75.45	330	100.0	
Priority of Participants in Lentil Consumption	Being Cheap	2	0.61	15	4,588	17	5.2	p: 0.009 χ2: 9.211
	Being Delicious	27	8.2	110	33.4	137	41.6	
	Being Hearty	3	0.89	28	8.21	31	9.1	
	Being Satiate	43	13.1	84	25.5	127	38.6	
	Easy Preparation	6	1.83	12	3.66	18	5.5	
	Total	81	24.54	249	75.45	330	100.0	

Table 9. Data on lentil consumption habits of the survey participants according to age groups

		18-24 Ages		*25-29 Ages*		*30-55 Ages*		*Age 36 and Above*		*Total*		*p value χ2 value*
		n	%	n	%	n	%	n	%	n	%	
Lentil Consumption Frequency	Never	1	0.3	1	0.3	0	0	0	0	2	0.6	p: 0.196 χ2: 2,467
	Daily	0	0	1	0.3	0	0	0	0	1	0.3	
	Once or twice a week	57	17.3	18	5.46	10	3.03	25	7.59	110	33.4	
	More than twice a week	12	2.83	6	1.41	1	0.23	3	0.7	22	5.2	
	Once in 2 Weeks	53	16.35	30	9.25	22	6.79	22	6.79	127	39.2	
	Once a Month	37	1.25	13	0.43	12	0.40	6	0.2	68	2.3	
	Total	160	48.48	69	20.9	45	13.63	56	16.96	330	100.0	
More Preferred Lentil Varieties	Green Lentil	53	16.1	25	7.59	10	3.03	17	5.16	105	31.9	p: 0.259 χ2: 0.720
	Red Lentil	100	30.23	39	11.7	33	9.97	37	63.2	209	63.2	
	Yellow Lentil	7	2.14	5	1.53	1	0.3	2	0.61	15	4.6	
	Beluga Lentil	0	0	0	0	1	10.3	0	0	1	0.3	
	Total	160	48.48	69	20.9	45	13.63	56	16.96	330	100.0	
Lentil Consumption Preference of Participants	Soup	126	38.29	53	16.1	37	1.24	39	11.8	255	77.5	p: 0.313 χ2: 0.591
	Meatball	8	2.46	3	0.92	0	0	2	0.615	13	4	
	Green Lentil Dish	17	5.06	9	2.67	7	2.08	11	3.27	44	13.1	
	Salad	2	0.67	3	1.01	1	0.33	0	0.6	8	2.7	
	Malhıtalı Aş	0	0	0	0	0	0	2	0	0	0	
	Afton Bükme	1	0.3	0	0	0	0	0	0.6	3	0.9	
	Tokat Batı	0	0	1	0.3	0	0	2	0	1	0.3	
	Bayburt Galacoş	1	0.3	0	0	0	0	0	0	1	0.3	
	Müceddere	5	1,2	0	0	0	0	0	0	5	1,2	
	Total	160	46.46	69	20.9	45	13.63	56	16.96	330	100.0	
Priority of Participants in Lentil Consumption	Being Cheap	8	2.44	1	0.3	4	1.22	4	1.22	17	5.2	p: 0.208 χ2: 0.515
	Being Delicious	69	20.95	33	10.02	16	4.85	19	5.76	137	41.6	
	Being Hearty	19	5.57	6	1.76	5	1.46	1	0.29	31	9.1	
	Being Satiate	53	15.55	26	7.63	19	5.77	29	8.81	127	38.6	
	Easy Preparation	11	3.36	3	0.91	1	0.3	3	0.91	18	5.5	
	Total	160	46.46	69	20.9	45	13.63	56	16.96	330	100.0	

Table 10. Data on the level of knowledge of the survey participants about the production regions of red-green lentils and the world leader in lentil production according to their gender

		Female		***Male***		***Total***		***p value χ2 value***
		n	%	n	%	n	%	
Red Lentil	Marmara Region	8	2.6	8	2.6	16	5.2	p: 0.052 χ2 : 1.351
	Black Sea Region	0	0	5	1.5	5	1.5	
	Aegean Region	5	1.38	8	2.21	13	3.6	
	Central Anatolia Region	82	25.1	51	15.6	133	40.7	
	Eastern Anatolia Region	16	5.42	2	0.67	18	6.1	
	Southeast Anatolia Region	86	25.36	51	15.9	137	40.4	
	Mediterranean Region	3	0.9	5	1.5	8	2,4	
	Total	200	60.6	130	39.39	330	100.0	
Green Lentil	Marmara Region	10	3.44	13	4.46	23	7.9	p: 0.221 χ2: 2.826
	Black Sea Region	8	2.19	11	3.01	19	5.2	
	Aegean Region	9	2.74	10	3.05	19	5.8	
	Central Anatolia Region	107	32.35	60	18.14	167	50.5	
	Eastern Anatolia Region	24	7.66	18	5.74	42	13.4	
	Southeast Anatolia Region	36	10.26	11	3.13	47	13.4	
	Mediterranean Region	6	1.85	7	2.15	13	4	
	Total	200	60.6	130	39.39	330	100.0	
World Leader	Canada	48	14.4	26	7.8	74	22.2	p: 0.382 χ2: 0.507
	India	60	18.05	42	12.64	102	30.7	
	USA	11	3.46	16	5.03	27	8.5	
	Turkey	69	1.82	37	11.2	106	32.2	
	Australia	12	3.65	9	2.74	21	6.4	
	Total	200	60.6	130	39.39	330	100.0	

Table 11. Data on the level of knowledge of the survey participants about the production regions of red-green lentils and the world leader in lentil production according to their marital status

		Married		***Single***		***Total***		***p value*** ***χ2 value***
		n	%	n	%	n	%	
Red Lentil	Marmara Region	5	1.63	11	3,57	16	5.2	p: 0.026 χ2 **:** 1.883
	Black Sea Region	0	0	5	1.5	5	1.5	
	Aegean Region	3	0.84	10	2.76	13	3.6	
	Central Anatolia Region	24	7.35	109	33.35	133	40.7	
	Eastern Anatolia Region	9	3.05	9	3.05	18	6.1	
	Southeast Anatolia Region	36	10.62	101	29.78	137	40.4	
	Mediterranean Region	4	1,2	4	1,2	8	2,4	
	Total	81	24.54	249	75.45	330	100.0	
Green Lentil	Marmara Region	5	1.71	18	6.18	23	7.9	p: 0.175 χ2: 3.038
	Black Sea Region	1	0.28	18	4.92	19	5.2	
	Aegean Region	2	0.63	17	5.27	19	5.9	
	Central Anatolia Region	45	13.6	122	36.89	167	50.5	
	Eastern Anatolia Region	9	2.88	33	10.52	42	13.4	
	Southeast Anatolia Region	16	4.6	31	8.8	47	13.4	
	Mediterranean Region	3	0.92	10	3.07	13	4	
	Total	81	24.54	249	75.45	330	100.0	
World Leader	Canada	24	7.2	50	15	74	22.2	p: 0.101 χ2: 5.166
	India	25	7.53	77	23.17	102	30.7	
	USA	8	2.51	19	5.98	27	8.5	
	Turkey	23	6.99	83	25.21	106	32.2	
	Australia	1	0.30	20	6.09	21	6.4	
	Total	81	24.54	249	75.45	330	100.0	

Table 12. Data on the level of knowledge of the survey participants about the production regions of red-green lentils and the world leader in lentil production according to to age groups

		18-24 Ages		*25-29 Ages*		*30-55 Ages*		*Age 36 and Above*		*Total*		*p value χ2 value*
		n	%	n	%	n	%	n	%	n	%	
Red Lentil	Marmara Region	8	2.6	2	0.65	4	1.3	2	0.65	16	5.2	p: 0.027 χ2: 2,413
	Black Sea Region	3	0.9	1	10.3	0	0	1	0.3	5	1.5	
	Aegean Region	8	2.21	3	0.83	0	0	2	0.55	13	3.6	
	Central Anatolia Region	73	22.33	35	10.71	10	3.06	15	4.59	133	40.7	
	Eastern Anatolia Region	6	2.03	2	0.67	6	2.03	4	1.35	18	6.1	
	Southeast Anatolia Region	58	17.1	26	7.66	22	6.48	31	9.1	137	40.4	
	Mediterranean Region	4	1.25	0	0	3	0.9	1	0.3	8	2,5	
	Total	160	48.48	69	20.9	45	13.6	56	16.96	330	100.0	
Green Lentil	Marmara Region	10	3.43	7	2,4	2	0.68	4	1.37	23	7.9	p: 0.040 χ2: 1.858
	Black Sea Region	13	3,55	3	0.82	3	0.82	0	0	19	5.2	
	Aegean Region	14	4.2	5	1.52	0	0	0	0	19	5.8	
	Central Anatolia Region	76	22.98	37	11.18	25	7.55	29	8.76	167	50.5	
	Eastern Anatolia Region	20	6.38	8	2.55	7	2.23	7	2.23	42	13.4	
	Southeast Anatolia Region	18	5.13	7	1.99	6	1.71	16	4.56	47	13.4	
	Mediterranean Region	9	2.7	2	0.61	2	0.61	0	0	13	4	
	Total	160	48.48	69	20.9	45	13.6	56	16.96	330	100.0	
World Leader	Canada	21	6.3	19	5.7	11	3.3	23	6.9	74	22.2	p: 0.002 χ2: 7.963
	India	49	14.74	19	5.71	19	5.71	15	4.51	102	30.7	
	USA	14	4.4	5	1.57	4	1.25	4	1.25	27	8.5	
	Turkey	59	90.46	23	6.98	10	3.03	14	4.25	106	32.2	
	Australia	17	5.1	3	0.91	1	0.30	0	0	21	6.4	
	Total	160	48.48	69	20.9	45	13.6	56	16.96	330	100.0	