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Determination of Eggplant Pure Lines Suitable for Drying by Different Methods**

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ABSTRACT

In the gastronomic culture of certain geographical regions such as Southeastern Anatolia, the position of eggplant, both fresh and dried, is very important. Dried eggplant production is common in Türkiye, and the drying process is traditionally done outdoors and under the sun. However, there are technologically developed technical drying methods as an alternative to this traditional method. In this study, local eggplant populations were collected from the regions, and DH pure lines were obtained from them by androgenesis. By examining criteria such as yield, fruit characteristics and growth strengths, 44 eggplant pure lines were selected among more than 200. Harvesting was done three times during the growing period in 3 different locations, Adana, Antalya, and Manisa. Conventional drying method (under 50% shade net in sunny weather) and drying method in tunnel type ovens were used to determine the drying performance of DH eggplant lines whose pre-washing and filtration processes were completed. In the oven drying process, the samples were laid on the baking tray and kept at 65°C for 6 hours, and the drying processes were completed. Various drying tests were applied to dried fruit samples such as moisture, ash, oil, pH, process efficiency, sensory evaluations and dry product shelf life were calculated separately for both sun drying and oven drying methods. On the 32nd, 48th and 64th days, the weights, color parameters, shape and taste characteristics of the products were evaluated as packed in vacuum and normal bags. Finally, four prominent dried eggplant DH lines were determined to be used for test hybridizations.

Keywords*:* Eggplant, pure line breeding, sun drying, oven drying

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Introduction

Eggplant (*Solanum melongena* L.), a member of the Solanaceae family, has a production value of 56.618.843 tons worldwide in 2020 (FAOSTAT 2020). China is the largest eggplant producer, providing about 65% of global eggplant production. Turkey is the 4th largest eggplant producer after India and Egypt with an annual eggplant production amount of 832.938 tons. In Türkiye, the provinces of Antalya (246.993 tons), Mersin (152.491 tons), Adana (43.270 tons), Mugla (35.120 tons) and Gaziantep (33.128 tons) had the largest production shares in 2021 (TUIK 2021).

Eggplant is among the vegetable types with a wide consumption range and economic value. In addition to being consumed by cooking, freezing and canning, eggplant is also consumed as dried slices and dried stuffed eggplants. In recent years, eggplant has been included in the product portfolio of businesses that commercially market dried food. In addition to being a newly developing sector commercially, eggplant has been dried for many years in order to meet the needs of families as family businesses and/or amateurs. Dried eggplant in Turkey has an important place in traditional Turkish cuisine. There is no statistical data about dried

eggplant cultivation in Turkey. In almost every region in Turkey, eggplant is dried and consumed in different ways as a dried product. Okra, pepper, eggplant and beans are the most dried vegetables among Turkish societies since Central Asia (Kosay and Ulkucan 1961). In addition to selling products for local consumption, dried peppers, chili peppers and dried eggplants are also exported abroad, primarily to European and Middle Eastern countries (Ozkan 2021). Considering the change in consumption habits in the world in recent years, it is seen that the interest in dried foods has increased gradually. This situation shows that the dried pepper and eggplant market abroad will also increase. The main shortcoming here is the lack of commercial varieties with sufficient number and product range in terms of suitability for drying in Turkey. In eggplant, fruits of varieties grown for fresh consumption or local populations with limited agronomic characteristics are used for drying. In eggplant, it is necessary to develop domestic hybrid varieties that are suitable for the drying sector, highly productive and resistant to diseases. It is known that open pollinated domestic and foreign hybrid varieties are used in the production of dried eggplant. In dried eggplant, many technical features such as the uniformity of the plant, homogeneous fruit structure, suitability for machine harvesting, nucleation, suitability for drying, shelf life, yield after drying, drying time and microbial status before and after drying come to the fore. There is a lack of commercial varieties with these characteristics in Turkey. With a study conducted by Antalya Agriculture Co., it was aimed to breed hybrid varieties (Sliced eggplant and stuffed eggplant) suitable for drying technology.

Mostly local genotypes and/or populations are used for drying. Although local genotypes are valuable materials, they are insufficient in terms of characteristics such as homogeneity, productivity, wide adaptability, suitability for machine harvesting, plant strength, and they also show variation. Therefore, they are not preferred in commercial production. Among the most important advantages of local genotypes are that they are suitable for local taste, local adaptation ability, aroma and quality characteristics are high. With breeding studies, it is generally preferred to develop dihaploid lines and hybrid varieties by preserving the characteristics of local populations and improving their deficiencies. Within the scope of our large project, dihaploid lines were obtained by androgenesis by using local genotypes in dried eggplant. Also in this study, the quality analyzes were made in terms of suitability for drying in these lines.

Eggplant is a vegetable that has taken its place in many cultures, as in the Mediterranean diet (Gallo et al., 2014). It is preferred for consumption due to its low calorie, low glycemic index (GI 15), low oil and low sodium content. Although the provitamin A and vitamin E content in eggplant seems low (fresh weight 27 IU/100 g vitamin A, 0.30 mg/100 g vitamin E), it is considered as one of the vegetable types rich in mineral substances such as ascorbic acid (Hanson et al., 2006) and phenolic compounds, phosphorus (P), potassium (K), calcium (Ca) and magnesium (Mg) (Stommel and Whitaker 2003). Depending on the genotype and locations, dry matter content in eggplant is 4.69-7.16 g/100 g, protein content is 0.41 – 0.68 g/100 g, phenolic content is 34.46 – 60.7 mg/100 g; P, K, Ca and Mg contents are up to 43.1 – 275.4 – 31.0 and 15.9 mg/100 g, respectively (Raigon et al., 2008; Michaloje and Buczkowska 2012).

Thanks to the drying method, which is the process of removing most of the existing moisture in the food from the product, the products to be processed or sold can be stored for a long time. Drying method is accepted as the oldest preservation method that people learned from nature and therefore has been applied since ancient times (Ayhan 2005; Er 2011; Alibas 2012). The drying method is the most suitable method in terms of preserving the vitamin values in the products, keeping the taste and appearance of the products, as well as the reduced mass amount and packaging, storage and transportation possibilities. (Ceylan et al., 2006; Kaya and Aydin 2008). Drying method is examined under two main headings as drying in “sun” or “artificial” dryers and these are grouped by considering various technical features. Drying in the sun is the traditional method applied to reduce the water content of the product by utilizing the heat of the sun. Artificial drying, on the other hand, can be defined as the process of performing the drying process in closed areas and under controllable standard conditions (Ayan 2010).

In our country, most of the products are still dried in the open air under the sun, which is the most economical and natural method. However, during the outdoor drying process under the sun, nutrient losses and deterioration can be seen due to the prolongation of the drying time of the product. Toxic risks due to air pollution such as exposure of the products to rain, wind, dust and soil, negative situations such as not drying the product uniformly and direct contact of the sun rays with the dried product may occur. Quality losses in the product cause commercial losses in the domestic and foreign markets economically (Ayhan 2005; Kocabiyik and Demirturk 2008). Considering the disadvantages of drying under the sun, various alternative drying methods such as contact, convective, radiation, dielectric, vacuum, freeze and osmotic drying have been developed.

Convective (hot air) drying process is one of the most used technical drying methods for drying fruits and vegetables. During drying, hot air is in direct contact with the product to be dried. Tunnel and cabinet dryers are the types of convective dryers in which air flow is most commonly applied during the drying of fruits and vegetables. This type of dryer is widely preferred due to the ease of application and low cost. Drying process has become widespread with the use of modern drying methods as well as the traditional sun drying method. In this way, dried products have become an effective alternative to the fresh product market (Hasturk-Sahin 2010).

In this study, DH eggplant lines obtained from local eggplant populations of Turkey were used as plant material. The aim of the study is to determine pure lines (containing different fruit types) for slice and stuffed eggplant product segments suitable for the drying industry. Another aim is to compare the quality characteristics of eggplant fruits dried by oven and sun drying methods.

Materials and Methods

This study covers a part of the hybrid variety breeding project of eggplant for drying. In the first phase of the project, eggplant genotypes with different drying characteristics were collected from the regions where dried eggplant cultivation is most common in Turkey (Southeast Anatolia and Mediterranean Regions). Seedlings grown from seeds of 35 local eggplant genotypes, 9 different F_1 and 2 standard eggplant varieties were examined for selection of donor parents to be used in anther culture studies.

During the selection stage, 30 different features were examined, including the suitability of the selected plants for drying work. At the end of this phase of project, 13 local eggplant genotypes were selected. After anther culture process, DH lines were obtained by using this local material as donor plants (Figure 1). The DH seedlings obtained from the seeds of pure lines were planted in the greenhouse located in the Antalya Tarım Research and Development Center. By examining 86 DH genotypes, 41 of them were selected for using quality analyses to obtain the prospective parents of eggplant hybrid varieties for dried fruits. This 41 eggplant DH lines and three OP varieties (as control) were grown together to be used in quality analysis in the study.

1. Prewash processes

Eggplant samples were immersed in 50 ppm sodium hypochlorite, 1% citric acid, 1.5% salt solution and distilled water for 10 minutes (Figure 2).

2. Drying processes in fruits

2.1. Traditional sun drying method

After the pre-washing processes were applied, the eggplants were cut as a whole in one piece and in longitudinal strips and lined up on the rope, then hung on the bunk bed system and left to dry in the sun under 50% shade tulle (Figure 3).

2.2. Oven drying method

Eggplant samples, which were pre-washed, were dried using a drying oven. The products are taken into trays specially produced for the use of the drying oven and after placing them on the carriage with shelves, the process is carried out in the drying room. There are special equipment in the system to circulate the air in the tray and the dryer. In this type of dryer, the air is heated by the heater in the device, no hot air is taken from outside (Badger and Banchero 1993).

The products are left to dry for 6-8 hours at 60-70°C. With the hot air flow that is continuously heated and introduced into the system, the formation of moisture is prevented and the problems that may occur in the quality of the products are minimized. During the drying process, the temperature is usually 60°C, but the temperature is increased to 70°C to stop the microbial activities in the products and this application continues for 10-15 minutes.

3. Quality analyzes

3.1 Amount of Water-Soluble Dry Matter

Before drying, the amount of water-soluble dry matter in fresh fruits was determined using the "Milwaukee MA871" digital refractometer device.

3.2. Determination of Moisture Content

In order to determine the moisture content, 3-5 g of dried products were weighed and moisture was determined in the samples with the 'Sartorius MA 45' device. For this, the Petri dish is placed in an oven at 100°C and brought to constant weight. It is then taken to a desiccator and waited for cooling. The Petri dish is weighed and the tare is noted. Approximately 5g of sample is weighed and added. Then it is placed in an oven at 100°C and waited for approximately 24 hours. The petri dish removed from the oven is taken to the desiccator and allowed to cool. Weighing is done and noted (TS EN ISO 712, 2012).

Calculation: % Humidity = [(M1-M2) / m] x 100

M1 = Sample weight + weight of the drier brought to constant weight

M2 = Dried sample + weight of the drying container brought to constant weighing

m = weight of sample taken

3.3 Determination of Ash Content

The crucibles are dried in a muffle furnace at 500-600°C. The crucibles are cooled in the desiccator and weighed (Y1). 3-4 gr sample is placed in the crucible and weighed (Y2). It is burned at 520°C until white ash is formed in the muffle furnace. After cooling in the desiccator, weighing is performed (Y3) (TS EN ISO 2171, 2010).

Calculation: Ash %=((Y3–Y1)/(Y2–Y1))×100

3.4 Determination of Oil Content

The Soxhelet extraction balloon is dried in an oven and brought to constant weight. It is noted by taking the tare. After the sample is dried and ground, approximately 5 g is weighed and put into the soxhelet cartridge. The cartridge is placed in the soxhelet extraction flask. About 140 ml Petroleum ether is added and placed in the device. After the water and pressure checks are made, the analysis is started. After the analysis is finished, the balloon is placed in the oven and kept in an oven at 100°C for approximately 1 hour. The balloon that is removed from the oven is placed in the desiccator and allowed to cool. The glass balloon is weighed and the amount is noted (TS EN ISO 11085, 2016).

Calculation: % oil = (M2-M1/m)*100

M1=Weight of balloon brought to constant weight (g).

M2=Total amount of oil in the balloon at the last weighing (g).

m=weight of the sample taken (g).

3.5 Determination of pH

To determine the pH ratio, 5 g of dried eggplant samples were ground and homogenized with 50 ml of distilled water. The pH of the resulting mixture is measured using a calibrated pH-meter with 4.0-7.0 buffer solutions.

3.6 Process Efficiency

It was calculated as % value using the formulation (Total dried fruit (kg) / Total fresh fruit (kg) x100) to determine the process efficiency.

3.7 Shape and Taste

In dry product shelf life studies, sensory evaluation analysis was made in terms of shape and taste on the 32., 48. and 64. days of the dried and stored samples. 10 trained panelists took part in the evaluation of these features. Scoring from 1 to 9 was made. 1 point was used as the worst value and 9 points as the best value.

3.8 Color Measurements

Color values were measured using a Spektropen hand-held colorimeter according to the CIE (International Commission on Illumination) color system. Luminosity value (L*); It ranges from 0-100, a value of 0 (black) and a value of 100 (white). Redness (a*) and greenness (-a) values; It varies between -90 and +90; A value of -90 (green) and a value of +90 (red). Yellowness (b*) and blueness (-b) values; It varies between -90 and +90; It is expressed as -90 value (blue) and +90 value (yellow) (McGuire 1992).

3.9 Sensory Evaluations

Finally, sensory evaluation tests were carried out in terms of color, juiciness, crispness, flavor and general acceptability of the dried products. In the sensory evaluation test studies, help was received from 10 panelists who were trained, experienced and knowledgeable on this subject. While evaluations were made on a 1-9 scale, the lowest score was scored as 1 point as the worst and 9 points as the best value.

Results and Discussion

In the study, populations were collected from the regions where dried local eggplant genotypes were grown in our country, and haploid pure lines folded by anther culture were obtained from them. More than 200 eggplant pure lines were examined in terms of yield, fruit characteristics and growth strengths and 44 of them were selected. Fruit samples dried on 44 DH eggplant lines were taken to drying tests. The values of parameters such as moisture, ash, oil, pH, process efficiency, sensory evaluations (color, juiciness, crispness, flavor, general acceptability) and dry product shelf life were calculated separately for both sun drying and oven drying methods. For evaluation in dry product shelf life studies, the samples dried in the sun and in the oven were stored in vacuum and non-vacuum packages and at room conditions (24°C). On the 32nd, 48th and 64th days, the weights, color parameters (L*(brightness), a*(redness), b*(blueness)), shape and taste properties of the products were evaluated. At the end of the study, the prominent dried eggplant DH lines were determined to be used in test hybridizations.

Post-Drying WSDM, Moisture, Ash, Oil, pH and Process Efficiency Parameters in Eggplant

Amount of Water-Soluble Dry Matter (%)

Before drying, the amount of water-soluble dry matter was determined with the “Milwaukee MA871” refractometer device. When the data obtained as a result of fruit observations were examined, the highest dry matter amount was obtained from the genotype D-650 with 4.9%. The lowest dry matter amount was determined as 3.2% in genotypes D-048 and D-580 (Table 1). The dry matter content of the eggplants to be used in the drying experiments was found to be 6.02% (wet) as a result of the dry matter determination (Doymaz and Aktas, 2018). There is a relatively low difference between the mean value reported by Doymaz and the data in this study.

Moisture

The lowest humidity rate was 4.83% (Topan 374) and the highest value was 7.93% (D-580) in the sun-dried samples (Table 1). The lowest moisture content of the samples dried in the oven was 5.93% (Adana dolma) and the highest humidity was 9.33% (D-590). When the drying methods are evaluated, it is seen that the samples dried in the oven contain an average of 21% higher moisture than those dried in the sun. The lowest increase was observed in the D580 genotype with 12%, and the highest difference was observed in the genotypes D-581 and D-655 with 36%. As the temperature increases during the drying process, the drying time of the samples becomes shorter. The reason for this is that as the temperature increases, the existing moisture in the eggplant samples is removed faster.

In the oven drying method, there is a higher temperature treatment compared to the sun drying method. Rozykulova (2021) determined the moisture values of eggplants dried at different temperature values in her study and she reported that the moisture content of eggplants dried at 60°C was 23.07%, and that of eggplant dried at 80°C as 17.07%.

Ash (%)

The highest ash values were 8.85% (D-580) and 8.55% (D-571, D-582) in sun-dried samples. The lowest value was determined in genotype D-048 with 5.48%. Among the samples dried by oven drying method, genotype D-571 increased by 17% compared to sun drying method. It contains the highest ash ratio with a value of 10.05%. Genotype D-048, which has the lowest ash ratio in the sun drying method, showed an increase of 46% in the oven drying method and the ash ratio was determined at the level of 8.05% (Table 1). According to the data in Table 1, the products dried with the oven drying method were represented with higher ash values than the sun drying method.

Oil (%)

The highest oil content was determined as 1.76% (D-654) and the lowest oil ratio was determined as 0.16% (D-051) in the sun-dried samples. The average oil content of products dried in the sun is 0.5%. D-654 and D-580 genotypes, which have the highest oil content in the sun drying method, showed a 3% decrease in oil ratios when they were dried in the oven (Table 1). Contrary to these two genotypes, an average increase of 17% was detected in the oil ratio of the other samples. Nisha et al., (2009) determined the oil content of eggplant as 0.88%, 0.66%, 0.50% and 0.72% in four different samples, respectively. These values were found to be compatible with the research results.

pH (%)

The average pH value of eggplant samples was 4.82 in the sun drying method, and this value was determined as 5.06 with an increase of 5% in the oven drying method. The highest pH value was 5.15 (D-580) and the lowest pH value was 4.47 (D-586) in the sun-dried samples. Genotype D-580 supports an average increase of 5% with a pH value of 5.42 in the oven drying method (Table 1). Akcelik et al., (2000) reported the pH value of eggplants as 4.5 in his study and this value supports our study data.

Process Efficiency (%)

To determine the process efficiency (Total dried fruit (kg) / Total fresh fruit (kg) x100) formulation was used. The most significant difference between the "post-drying processes" examined in sun and oven drying methods was observed in the process efficiency. It was determined that the process efficiency of the samples dried with the oven drying method was 93% higher on average compared to the sun drying method. In the samples dried in the oven, the lowest increase was observed in the genotype D-590 with 17% compared to the sun drying, and the value of 7.2% increased to 8.4% in the oven drying method. The highest increase was observed in the genotype D-584, which has 1.6% treatment efficiency, and the process efficiency was determined as 6.5% with an increase of 305% compared to the sun drying method (Table 1).

Dry Product Shelf Life Evaluations in Eggplant Weight

On the 32nd, 48th and 64th days of the dry product shelf life evaluations, the dried weights of the products were determined by weighing them with precision scales. The samples were dried using sun and oven drying methods, and in addition to this, the weight values were measured according to whether the products were stored in vacuum and non-vacuum packages (Table 2a, 2b and 2c).

In the weight measurements of both drying methods on the 32nd, 48th and 64th days, the weight values of the samples in non-vacuum packages were found to be lower than the samples in vacuum packages. According to the average of the values, it was found that the products that were dried in the sun and in vacuum packages had 70-75% higher weight than those in the non-vacuum package. This rate is 30-35% in oven drying method. These data show the importance of the experimental group using vacuum packs. Trials using both non-vacuum and vacuum packs were also evaluated among themselves. In the evaluations of the 32nd day, the weight values of the samples stored in non-vacuum packages were measured 80-90% higher in the oven-drying method compared to those

that were dried in the sun (Table 2a). Although this difference decreased relatively in the 48th and 64th day evaluations, it was determined that the samples dried in the oven had higher values. The products stored in vacuum packages were also evaluated according to the drying method, 20-30% higher values were observed in the oven drying method compared to the sun drying method. It was determined that the weight values on the 32nd day measured in all experimental groups (Sun-dried – vacuum/non-vacuum; Oven-dried – vacuum/non-vacuum) decreased by 5-8% in the measurements made on both 48th and 64th days. While the weight value of the genotype D-640, which was dried in the sun and stored in non-vacuum packages, was 0.044 on the 32nd day, this value was calculated as 0.040 on the 48th day and 0.034 on the 64th day (Table 2a, 2b and 2c). It is expected that the weight of the products will decrease depending on the parameters such as the time spent in the drying process, moisture loss and shrinkage.

Shape

In the evaluations made on day 32, samples dried in the sun and stored in non-vacuum packages had a lower score range. 16 samples kept in non-vacuum packages were evaluated in the range of 5-6 points, and 17 samples were evaluated in the range of 8-9 points. In the 48th and 64th day evaluations, it was determined that the sun-dried samples stored in vacuum packages had higher shape values compared to the ones without vacuum. In the oven drying method, both vacuum and non-vacuum experimental groups are represented by high shape values in general. Only 2-3 samples received 6 points.

Major changes occur in the structure of vegetables due to the removal of moisture during and after the drying process. This causes shrinkage and change in the porosity of the dried product (Jangam et al., 2010). The removal of the water content of the products during the drying process creates a pressure difference. This often causes cracking (also known as surface cracking) and shrinkage events inside and outside the product. Shrinkage increases in proportion to the volume of water removed during drying. When the internal volume of the product becomes smaller after removal of the moisture content, the outer surfaces of the product will cause shrinkage.

This situation negatively affects the quality of the product, increases the hardness of the product and adversely affects customer preferences due to shape and texture defects (Jangam et al., 2010).

Especially the genotypes D-582 and D-584 were scored in the range of 4-5 points in terms of shape characteristics after drying (Table 2b). These genotypes need to be evaluated for suitability for drying.

Taste

During the drying process, certain rates of deterioration occur in color, aroma and texture (Colak Gunes, 2009). Since volatile compounds that provide aroma and taste have a lower boiling point than water, they can be removed from the product by evaporation during drying (Bingol and Devres, 2010). Volatile compounds in foods can evaporate at high temperatures and long drying processes, and these losses, which occur together with water vapor, can cause significant losses in the taste and aroma of the dried product (Konak et al., 2009). In the taste evaluations on the 32nd day, only 2-3 genotypes were scored low in the samples that were dried in the sun and stored in both non-vacuum and vacuum packages. Sample D-584 received 6 points in both the vacuum and non-vacuum experimental groups in the taste evaluations. D-584 was represented by low scores in figure evaluations. The lowest score was 5 (D-582 and D-047) in the samples dried in the oven and stored in non-vacuum packages, and the value observed in the 10 samples was 6 (Table 2a).

Generally, high values (8-9) were observed in the samples stored in vacuum packages. In the 48th and 64th day evaluations, a significant decrease was observed in the taste values of the samples that were stored in non-vacuum packages, both in the sun and in the oven. Samples stored in vacuum packages were represented with high scores in terms of taste characteristics. In line with these data, we can said that in both drying methods, the taste properties of the samples stored in vacuum packages are preserved compared to the samples stored in non-vacuum packages, and there is no loss of value.

Color L*

Color values were measured using a Spectropen colorimeter. In the evaluations of the 32nd day, it was determined that the samples stored in vacuum packages in both drying methods had 5-8% higher L* values compared to those stored in non-vacuum packages (Table 3a). This situation is also valid in the analyzes performed on the 48th and 64th days. The L* values of the sun-dried samples were lower than the oven-dried samples in all three different evaluation stages. The decrease in the L* value is important as it indicates that the color of the product changes towards black. Bayraktaroglu (2015) found the lowest L values averages in eggplant samples dried by traditional sun drying method in his study. However, he reported that the L values of the samples dried by the convective and infrared-convective combined method were higher than the sun drying method. Bayraktaroglu's study and the findings of this study support each other.

Color (a*)

Samples dried in the sun and stored in vacuum packages have an average of 50-55% higher a* values than samples stored in non-vacuum packages. An average increase of 17-20% was observed in the oven drying method. D-650 genotype had the highest a* value with 14.70 on the 64th day evaluations (Table 3c). In addition, D-650 was represented with the highest average a* values in the measurements made in 3 different time periods in all variations. The average a* value of the genotype D-650, which was dried in the sun and stored in non-vacuum packages, measured at 3 different times, was calculated as 8.25, and this value was calculated as 10.60 in vacuum packages. While the a* value average was 10.71 in the oven-dried and non-vacuum packaged samples, this value was calculated as 12.60 in vacuum packages. The increase in a* values in the CIE color space represents the change from green to red (Anonymous 2002). In general, it was determined that a* values increased in all variations in the drying process, that is, a change towards red color occurred.

Bayraktaroglu (2015) reported that the a* values of the samples increased as the drying temperature increased in the products dried with hot air. It is thought that the oven drying method has higher a* values because it allows drying at a certain constant temperature value (60°C) and in more optimum conditions. The data in this study agree with the outputs of Bayraktaroglu's study in 2015.

Color (b*)

As with the other color parameters evaluated, higher values were observed in the oven-dried samples compared to the sun-dried samples in terms of b* value. When the 32nd day data were examined, the average color values of the samples dried in the oven were found to be 30-40% higher. This situation is also observed on the 48th and 64th days (Table 3b and 3c). On average, the lowest b* value was obtained in sun-dried samples (Bayraktaroglu 2015). However, when the 32, 48 and 64 days values were examined, a gradual decrease was observed in the average b* values. In Soltani and Kulcu, MB's study in 2021, an increase was observed in b* values, as well as L* and a* values, after drying processes. The observed and unexpected gradual decrease in b* values over time in this study needs to be evaluated and clarified.

Sensory Evaluations in Eggplant

Finally, sensory evaluation tests were carried out in terms of color, juiciness, crispness, flavor and general acceptability of the dried products. In the sensory evaluation test studies, assistance was received from 10 panelists who were trained and knowledgeable on this subject. While evaluations were made on a 1-9 scale, the lowest score was scored as 1 and the highest score as 9.

In terms of color, juiciness, crispness and general acceptability, a partial height was determined in the scores of the products dried in the oven compared to the sun drying method. Especially in the sun-dried genotypes D-582 and D584, low scores were made regarding these parameters and their suitability for drying was reviewed. Both genotypes were scored in the range of 5-6 points in sensory evaluations. Some eggplant samples dried by the sun drying method had higher or equivalent scores in terms of flavor compared to those dried in the oven. D-628 sample, which was dried in the oven, was determined as the genotype with the lowest value with 4 points in terms of flavor (Table 4).

Conclusions

In our country, most of the products are dried in the open air under the sun. Traditional sun drying method is an economical method, but it can cause negative situations such as toxic risks caused by air pollution, inability to dry the product homogeneously and direct contact of sun rays with the dried product. These negativities cause both the prolongation of the drying process and the loss of quality in the product and thus economic damage.

For these reasons, considering the need for alternative drying technologies and storage methods, the most suitable drying method for the energy consumption, nutritional value and quality characteristics of the eggplant samples dried with the traditional method and oven drying method was investigated. In addition, ideal genotypes suitable for the drying sector were determined based on the plant and fruit observations and analysis results after drying (high dry matter content in eggplant, low moisture, high ash, low oil, ideal dry product shelf life). D-644 and D-632 coded genotypes were found to be suitable for stuffed drying studies, and D-654 and D-581 coded genotypes were found to be suitable for slicing drying studies.

With this study, an important step has been achieved in the development of new qualified hybrid varieties by using accelerated breeding techniques from local Turkish eggplant populations. The data obtained reveal the importance of alternative drying technologies for the sector, the convenience and advantages they provide in practice compared to the sun drying method. In addition, the data obtained on the storage methods of dried products also show the advantages of the storage method in vacuum or non-vacuum packages.

We believe that the outputs of these studies will be an important source and guide for possible studies and researches on the drying sector in the future.

Figure 1. Examples of DH breeding lines used in the study. (Original)

Figure 2. Prewash process. (Original)

Figure 3. Sun drying process. (Original)

Figure 4. Oven and sun dried samples. Products stored in vacuum and non-vacuum packages were used in dry product shelf life analyses. (Original)

Figure 5. Equipment for analysis. A. used for oil determination; B. Spectropen colorimeter; C. Milwaukee MA871 refractometer device; D. Drying oven; E. pH meter. (Original)

Table 1. Post-Drying Water-Soluble Dry Matter, Moisture, Ash, Oil, pH and Process Efficiency Parameters.

Origin Location	Open Field Code	Water Soluble Dry Matter %	Moisture %		Ash %		Oil %		pH %		Process Efficiency %	
			Sun Drying	Oven Drying	Sun Drying	Oven Drying	Sun Drying	Oven Drying	Sun Drying	Oven Drying	Sun Drying	Oven Drying
O.P. Variety	Adana dolmalık	3,3	4,93	5,93	6,25	7,95	0,35	0,43	4,75	4,99	1,9	3,0
O.P. Variety	Topan 374	3,5	4,83	6,03	6,35	7,87	0,26	0,33	4,68	4,94	2,0	3,5
O.P. Variety	Antep Dolmalık	4,1	5,03	6,33	6,55	7,25	0,37	0,44	4,95	5,29	1,7	4,7
Manisa / Turgutlu	D-048	3,2	5,63	7,13	5,48	8,05	0,25	0,31	5,01	5,26	2,9	5,8
Manisa / Turgutlu	D-051	3,5	5,43	6,53	6,35	7,45	0,16	0,29	5,15	5,38	2,7	7,1
Manisa / Turgutlu	D-057	3,4	4,93	6,13	5,85	7,05	0,47	0,54	4,65	4,86	2,1	5,1
Manisa / Turgutlu	D-0146	3,9	5,93	7,13	6,85	8,05	0,35	0,41	4,58	4,84	2,9	6,5
Adana Topan Patlıcan	D-055A	3,7	5,43	6,93	6,35	7,85	0,36	0,46	4,89	5,13	2,5	6,0
Adana Topan Patlıcan	D-074A	4,2	5,63	6,53	6,55	7,45	0,37	0,49	4,52	4,77	2,9	6,7
Adana Topan Patlıcan	D-079A	4,3	5,23	6,23	6,15	7,25	0,45	0,46	5,14	5,37	2,7	6,1
Adana Topan Patlıcan	D-A89	4,5	5,43	6,63	6,35	7,55	0,36	0,38	4,78	4,92	2,2	4,3
Adana Topan Patlıcan	D-A90	3,5	6,03	7,33	6,95	8,25	0,37	0,45	4,69	4,93	2,7	4,5
Aydın / Nazilli	D-114	4,2	6,13	7,63	7,05	8,55	0,35	0,42	4,85	5,07	1,8	3,6
Aydın / Nazilli	D-234	4,5	6,53	7,63	7,45	8,55	0,46	0,53	4,79	5,00	5,7	7,3
Aydın / Nazilli	D-235	4,1	5,73	6,93	6,65	7,85	0,37	0,43	5,10	5,32	2,0	4,0
Manisa / Salihli	D-570	4,6	7,41	8,61	7,85	9,05	0,45	0,50	5,14	5,42	6,9	8,8
Manisa / Salihli	D-571	4,5	7,63	9,13	8,55	10,05	0,46	0,53	4,75	4,99	6,6	9,1
Manisa / Salihli	D-576	4,2	7,03	7,93	7,95	8,85	0,37	0,43	4,98	5,24	1,6	4,7
Burdur / Merkez	D-580	3,2	7,93	8,93	8,85	9,95	1,74	1,69	5,15	5,41	6,5	8,2
Burdur / Merkez	D-581	4,8	5,12	6,98	8,55	9,75	1,73	1,75	5,11	5,36	2,8	6,7
Gaziantep / Oğuzeli	D-582	3,6	7,63	8,93	8,55	9,85	0,37	0,38	4,78	5,12	1,7	4,4
Gaziantep / Oğuzeli	D-584	3,4	5,63	7,13	6,55	8,05	0,45	0,47	4,85	5,06	1,6	6,5
Gaziantep / Oğuzeli	D-586	4,2	5,63	6,73	6,55	7,65	1,62	1,74	4,47	4,73	4,5	6,9
Gaziantep / Oğuzeli	D-587	4,3	5,43	6,63	6,35	7,55	0,37	0,44	4,58	4,82	1,6	3,7
Gaziantep / Oğuzeli	D-588	4,1	5,73	6,93	6,65	7,85	0,35	0,42	4,67	4,92	1,8	3,0
Gaziantep / Oğuzeli	D-590	4,2	7,83	9,33	8,75	9,25	1,67	1,71	4,85	5,08	7,2	8,4
Artvin / Hopa	D-628	3,6	6,33	7,23	7,25	8,15	0,37	0,42	5,01	5,15	1,3	2,4
Artvin / Hopa	D-630	4,1	6,43	7,43	7,35	8,45	0,25	0,32	4,95	5,19	4,8	6,3
Adana / Akkapı	D-632	4,6	5,33	6,53	6,25	7,45	0,36	0,42	4,87	5,09	2,2	3,7
Adana / Akkapı	D-634	4,6	5,63	6,93	6,55	7,85	0,47	0,57	4,52	4,73	2,2	3,5
Doğal Topan Patlıcan	D-635	4,4	5,43	6,93	6,35	7,85	0,35	0,47	4,73	4,95	2,3	3,9
Doğal Topan Patlıcan	D-637	4,5	5,03	6,13	5,95	7,05	0,46	0,47	4,52	4,80	1,7	3,2
Doğal Topan Patlıcan	D-638	4,1	5,43	6,63	6,35	7,55	0,47	0,49	5,12	5,36	2,3	3,8
Doğal Topan Patlıcan	D-639	4,2	5,23	6,43	6,15	7,35	0,35	0,43	4,83	5,09	2,4	4,9
Adana / Sarıçam	D-640	4,6	5,33	6,83	6,25	7,75	0,21	0,28	4,76	5,10	1,7	3,5
Adana / Sarıçam	D-641	4,5	6,33	7,23	7,25	8,15	0,27	0,34	4,98	5,23	2,2	4,1
Adana / Sarıçam	D-644	4,2	5,33	6,33	6,25	7,35	0,35	0,41	4,91	5,25	2,0	2,8
Adana / Sarıçam	D-645	4,1	5,43	6,63	6,35	7,55	0,46	0,51	4,81	5,02	2,3	3,9
Adana / Sarıçam	D-646	3,7	5,83	7,13	6,75	8,05	0,37	0,44	4,76	5,02	2,3	4,1
Adana / Sarıçam	D-647	4,6	5,73	7,23	6,65	8,15	0,35	0,41	4,65	4,89	2,4	4,2
Adana / Sarıçam	D-648	4,8	5,63	6,73	6,55	7,65	0,36	0,46	4,66	4,91	2,3	4,2
Balıkesir / Bandırma	D-650	4,9	5,43	6,63	6,35	7,55	0,37	0,49	4,68	4,91	1,7	4,3
Urfa / Mezra	D-654	4,5	5,86	7,85	7,65	8,85	1,76	1,69	4,71	4,85	7,2	9,8
Urfa / Mezra	D-655	4,7	5,98	8,14	7,85	9,35	1,65	1,78	4,69	4,93	7,7	10,4

Table 2a. Shelf Life Evaluations of 32nd Days (Weight, Shape, Taste).

Origin Location	Open Field Code	Dry Product Shelf Life											
		32nd Day											
		Weight (kg)				Shape				Taste			
		Sun Drying		Oven Drying		Sun Drying		Oven Drying		Sun Drying		Oven Drying	
		Non Vacuum Packed	Vacuum Packed	Non Vacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed
O.P. Variety	Adana Dolmalık	0,044	0,074	0,069	0,099	7	8	7	7	8	8	7	8
O.P. Variety	Topan 374	0,046	0,081	0,080	0,115	9	8	8	9	9	7	8	7
O.P. Variety	Antep Dolmalık	0,022	0,047	0,062	0,087	6	7	6	6	7	8	6	8
Manisa / Turgutlu	D-048	0,036	0,064	0,072	0,100	7	8	7	7	8	7	7	9
Manisa / Turgutlu	D-051	0,028	0,077	0,073	0,122	8	7	7	8	8	7	7	7
Manisa / Turgutlu	D-057	0,028	0,057	0,066	0,095	7	6	7	7	8	8	7	8
Manisa / Turgutlu	D-0146	0,031	0,069	0,070	0,108	8	9	8	8	9	8	8	9
Adana Topan Patlıcan	D-055A	0,034	0,083	0,081	0,130	8	9	6	8	7	8	6	7
Adana Topan Patlıcan	D-074A	0,038	0,099	0,089	0,150	7	6	5	7	6	8	5	9
Adana Topan Patlıcan	D-079A	0,048	0,064	0,109	0,125	6	7	6	6	7	7	6	8
Adana Topan Patlıcan	D-A89	0,048	0,078	0,095	0,125	9	8	7	9	8	8	7	7
Adana Topan Patlıcan	D-A90	0,066	0,101	0,111	0,146	6	7	6	6	7	7	6	8
Aydın / Nazilli	D-114	0,026	0,051	0,051	0,076	9	8	8	9	9	8	8	9
Aydın / Nazilli	D-234	0,122	0,150	0,156	0,184	8	7	7	8	8	7	7	7
Aydın / Nazilli	D-235	0,038	0,087	0,078	0,127	7	8	7	7	8	8	7	8
Manisa / Salihli	D-570	0,128	0,157	0,164	0,193	8	7	7	8	8	7	7	6
Manisa / Salihli	D-571	0,120	0,158	0,165	0,203	7	8	7	7	8	7	7	7
Manisa / Salihli	D-576	0,020	0,069	0,058	0,107	6	8	6	6	7	8	6	8
Burdur / Merkez	D-580	0,152	0,213	0,191	0,252	6	8	7	6	8	7	7	9
Burdur / Merkez	D-581	0,034	0,050	0,081	0,097	7	7	8	7	9	8	8	7
Gaziantep / Oğuzeli	D-582	0,032	0,062	0,083	0,113	5	7	6	5	7	9	6	7
Gaziantep / Oğuzeli	D-584	0,020	0,055	0,081	0,116	5	7	5	5	6	6	5	8
Gaziantep / Oğuzeli	D-586	0,088	0,113	0,135	0,160	6	7	7	6	8	7	7	8
Gaziantep / Oğuzeli	D-587	0,034	0,062	0,079	0,107	6	8	7	6	8	8	7	7
Gaziantep / Oğuzeli	D-588	0,040	0,089	0,065	0,114	6	8	6	6	7	6	6	7
Gaziantep / Oğuzeli	D-590	0,200	0,229	0,234	0,263	7	7	7	7	8	7	7	8
Artvin / Hopa	D-628	0,050	0,088	0,090	0,128	6	8	7	6	8	8	7	9
Artvin / Hopa	D-630	0,120	0,169	0,156	0,205	8	7	8	8	9	7	8	8
Adana / Akkapı	D-632	0,064	0,125	0,109	0,170	7	8	6	7	7	8	6	7
Adana / Akkapı	D-634	0,062	0,078	0,100	0,116	6	6	7	6	8	9	7	8
Doğal Topan Patlıcan	D-635	0,056	0,086	0,095	0,125	7	8	7	7	8	9	7	9
Doğal Topan Patlıcan	D-637	0,054	0,089	0,101	0,136	8	7	8	8	9	9	8	8
Doğal Topan Patlıcan	D-638	0,080	0,105	0,131	0,156	6	8	7	6	8	7	7	7
Doğal Topan Patlıcan	D-639	0,056	0,084	0,117	0,145	6	8	6	6	7	8	6	8
Adana / Sarıçam	D-640	0,044	0,093	0,091	0,140	8	6	7	8	8	7	7	9
Adana / Sarıçam	D-641	0,052	0,081	0,097	0,126	6	7	6	6	7	9	6	9
Adana / Sarıçam	D-644	0,064	0,102	0,089	0,127	8	6	8	8	9	7	8	8
Adana / Sarıçam	D-645	0,050	0,099	0,084	0,133	8	8	7	8	8	8	7	9
Adana / Sarıçam	D-646	0,052	0,113	0,092	0,153	9	8	8	9	9	9	8	9
Adana / Sarıçam	D-647	0,050	0,066	0,086	0,102	8	9	8	8	9	9	8	9
Adana / Sarıçam	D-648	0,054	0,084	0,099	0,129	7	8	7	7	8	7	7	8
Balıkesir / Bandırma	D-650	0,026	0,061	0,064	0,099	6	7	7	6	8	8	7	7
Urfa / Mezra	D-654	0,112	0,137	0,151	0,176	8	8	8	8	9	9	8	8
Urfa / Mezra	D-655	0,134	0,162	0,181	0,209	8	8	8	8	9	8	8	9

Table 2b. Shelf Life Evaluations of 48th Days (Weight, Shape, Taste).

Origin Location	Open Field Code	Dry Product Shelf Life											
		48th Day											
		Weight (kg)				Shape				Taste			
		Sun Drying		Oven Drying		Sun Drying		Oven Drying		Sun Drying		Oven Drying	
		Non Vacuum Packed	Vacuum Packed	Non Vacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed
O.P. Variety	Adana Dolmalık	0,041	0,067	0,054	0,080	6	8	7	8	7	8	7	8
O.P. Variety	Topan 374	0,043	0,088	0,056	0,101	8	8	9	7	8	7	9	8
O.P. Variety	Antep Dolmalık	0,018	0,053	0,032	0,067	5	7	7	8	6	8	6	7
Manisa / Turgutlu	D-048	0,032	0,067	0,046	0,081	6	8	8	7	7	9	7	8
Manisa / Turgutlu	D-051	0,023	0,058	0,038	0,073	7	7	8	7	7	7	8	7
Manisa / Turgutlu	D-057	0,023	0,058	0,038	0,073	6	6	8	8	7	8	7	8
Manisa / Turgutlu	D-0146	0,025	0,060	0,041	0,076	7	9	9	8	8	9	8	8
Adana Topan Patlıcan	D-055A	0,028	0,075	0,044	0,091	7	9	7	8	6	7	8	8
Adana Topan Patlıcan	D-074A	0,035	0,084	0,048	0,097	6	7	6	8	5	9	7	8
Adana Topan Patlıcan	D-079A	0,045	0,102	0,058	0,115	5	7	7	7	6	8	6	7
Adana Topan Patlıcan	D-A89	0,044	0,112	0,058	0,126	8	8	8	8	7	7	9	8
Adana Topan Patlıcan	D-A90	0,062	0,088	0,076	0,102	5	7	7	7	6	8	6	8
Aydın / Nazilli	D-114	0,021	0,066	0,036	0,081	8	8	9	8	8	9	9	7
Aydın / Nazilli	D-234	0,117	0,152	0,132	0,167	7	7	8	7	7	7	8	8
Aydın / Nazilli	D-235	0,032	0,067	0,048	0,083	6	8	8	8	7	8	7	8
Manisa / Salihli	D-570	0,122	0,157	0,138	0,173	7	7	7	7	7	6	8	8
Manisa / Salihli	D-571	0,117	0,152	0,130	0,165	6	8	8	7	7	7	7	8
Manisa / Salihli	D-576	0,017	0,052	0,030	0,065	5	8	7	8	6	8	6	8
Burdur / Merkez	D-580	0,148	0,195	0,162	0,209	5	8	8	7	7	9	6	9
Burdur / Merkez	D-581	0,030	0,079	0,044	0,093	6	7	9	8	8	7	7	9
Gaziantep / Oğuzeli	D-582	0,027	0,084	0,042	0,099	4	7	6	9	6	7	5	9
Gaziantep / Oğuzeli	D-584	0,015	0,083	0,030	0,098	4	7	6	6	5	8	5	8
Gaziantep / Oğuzeli	D-586	0,082	0,108	0,098	0,124	5	7	7	6	7	8	6	8
Gaziantep / Oğuzeli	D-587	0,028	0,073	0,044	0,089	5	8	8	8	7	7	6	8
Gaziantep / Oğuzeli	D-588	0,037	0,072	0,050	0,085	5	8	7	7	6	7	6	7
Gaziantep / Oğuzeli	D-590	0,197	0,232	0,210	0,245	6	7	8	7	7	8	7	8
Artvin / Hopa	D-628	0,046	0,081	0,060	0,095	5	8	7	8	7	9	6	8
Artvin / Hopa	D-630	0,116	0,151	0,130	0,165	7	7	9	7	8	8	8	7
Adana / Akkapı	D-632	0,059	0,094	0,074	0,109	6	8	7	8	6	7	7	8
Adana / Akkapı	D-634	0,057	0,104	0,072	0,119	5	7	8	9	7	8	6	7
Doğal Topan Patlıcan	D-635	0,050	0,099	0,066	0,115	6	8	7	9	7	9	7	8
Doğal Topan Patlıcan	D-637	0,048	0,105	0,064	0,121	7	7	9	9	8	8	8	9
Doğal Topan Patlıcan	D-638	0,077	0,145	0,090	0,158	5	8	8	7	7	7	6	8
Doğal Topan Patlıcan	D-639	0,053	0,079	0,066	0,092	5	8	7	8	6	8	6	9
Adana / Sarıçam	D-640	0,040	0,085	0,054	0,099	7	6	9	7	7	9	8	8
Adana / Sarıçam	D-641	0,048	0,083	0,062	0,097	5	7	7	9	6	9	6	7
Adana / Sarıçam	D-644	0,059	0,094	0,074	0,109	7	6	9	7	8	8	8	8
Adana / Sarıçam	D-645	0,045	0,080	0,060	0,095	7	8	8	8	7	9	8	9
Adana / Sarıçam	D-646	0,046	0,081	0,062	0,097	8	8	9	9	8	9	9	8
Adana / Sarıçam	D-647	0,044	0,079	0,060	0,095	7	9	9	9	8	9	8	9
Adana / Sarıçam	D-648	0,051	0,098	0,064	0,111	6	8	7	7	7	8	7	9
Balıkesir / Bandırma	D-650	0,022	0,071	0,036	0,085	5	7	7	8	7	7	6	8
Urfa / Mezra	D-654	0,108	0,165	0,122	0,179	7	8	9	9	8	8	8	8
Urfa / Mezra	D-655	0,129	0,197	0,144	0,212	7	8	9	8	8	9	8	8

Table 2c. Shelf Life Evaluations of 64th Days (Weight, Shape, Taste).

Origin Location	Open Field Code	Dry Product Shelf Life											
		64th Day											
		Weight (kg)				Shape				Taste			
		Sun Drying		Oven Drying		Sun Drying		Oven Drying		Sun Drying		Oven Drying	
		Non Vacuum Packed	Vacuum Packed	Non Vacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed
O.P. Variety	Adana Dolmalık	0,036	0,061	0,058	0,083	7	8	7	8	8	9	7	7
O.P. Variety	Topan 374	0,038	0,063	0,051	0,076	9	7	8	7	9	8	8	8
O.P. Variety	Antep Dolmalık	0,012	0,038	0,021	0,047	6	7	7	9	7	7	6	9
Manisa / Turgutlu	D-048	0,026	0,049	0,039	0,062	7	8	7	8	8	8	7	8
Manisa / Turgutlu	D-051	0,020	0,043	0,022	0,045	8	7	8	7	8	9	7	7
Manisa / Turgutlu	D-057	0,020	0,050	0,029	0,059	7	7	7	8	8	8	7	7
Manisa / Turgutlu	D-0146	0,021	0,048	0,031	0,058	8	7	7	9	9	7	8	7
Adana Topan Patlıcan	D-055A	0,024	0,049	0,026	0,051	7	7	8	7	7	8	6	8
Adana Topan Patlıcan	D-074A	0,030	0,054	0,026	0,050	6	8	7	8	6	9	5	7
Adana Topan Patlıcan	D-079A	0,040	0,061	0,026	0,047	6	6	7	7	7	8	6	8
Adana Topan Patlıcan	D-A89	0,038	0,063	0,040	0,065	8	8	8	8	8	8	7	8
Adana Topan Patlıcan	D-A90	0,056	0,082	0,060	0,086	6	7	7	9	7	8	6	8
Aydın / Nazilli	D-114	0,018	0,042	0,040	0,064	9	8	9	8	9	8	8	7
Aydın / Nazilli	D-234	0,114	0,135	0,127	0,148	8	9	8	7	8	8	7	8
Aydın / Nazilli	D-235	0,028	0,053	0,037	0,062	7	9	7	8	8	9	7	8
Manisa / Salihli	D-570	0,118	0,143	0,131	0,156	8	8	7	9	8	9	7	9
Manisa / Salihli	D-571	0,112	0,138	0,114	0,140	7	7	8	8	8	9	7	8
Manisa / Salihli	D-576	0,012	0,035	0,021	0,044	6	8	6	7	7	8	6	7
Burdur / Merkez	D-580	0,142	0,165	0,152	0,175	7	9	8	8	8	8	7	8
Burdur / Merkez	D-581	0,024	0,054	0,026	0,056	8	8	8	9	9	7	8	9
Gaziantep / Oğuzeli	D-582	0,024	0,051	0,020	0,047	6	7	6	7	7	8	6	8
Gaziantep / Oğuzeli	D-584	0,012	0,037	0,032	0,057	5	8	5	6	6	8	5	7
Gaziantep / Oğuzeli	D-586	0,078	0,102	0,080	0,104	7	9	7	7	8	9	7	7
Gaziantep / Oğuzeli	D-587	0,024	0,045	0,028	0,049	7	8	7	7	8	8	7	7
Gaziantep / Oğuzeli	D-588	0,032	0,057	0,054	0,079	6	8	7	8	7	7	6	8
Gaziantep / Oğuzeli	D-590	0,192	0,218	0,205	0,231	7	7	8	7	8	8	7	9
Artvin / Hopa	D-628	0,040	0,064	0,049	0,073	7	7	7	8	8	7	7	8
Artvin / Hopa	D-630	0,110	0,131	0,123	0,144	8	7	8	8	9	8	8	7
Adana / Akkapı	D-632	0,056	0,081	0,058	0,083	7	7	7	8	7	7	6	7
Adana / Akkapı	D-634	0,053	0,078	0,063	0,088	7	7	7	7	8	8	7	7
Doğal Topan Patlıcan	D-635	0,046	0,072	0,056	0,082	7	8	8	8	8	8	7	8
Doğal Topan Patlıcan	D-637	0,043	0,066	0,046	0,069	8	8	8	7	9	8	8	8
Doğal Topan Patlıcan	D-638	0,072	0,095	0,068	0,091	7	8	7	7	8	8	7	9
Doğal Topan Patlıcan	D-639	0,047	0,077	0,034	0,064	6	7	7	8	7	8	6	8
Adana / Sarıçam	D-640	0,034	0,061	0,036	0,063	8	7	8	7	8	8	7	7
Adana / Sarıçam	D-641	0,045	0,070	0,046	0,071	6	8	6	8	7	7	6	8
Adana / Sarıçam	D-644	0,056	0,080	0,078	0,102	8	8	8	9	9	7	8	8
Adana / Sarıçam	D-645	0,041	0,062	0,055	0,076	8	7	8	8	8	7	7	7
Adana / Sarıçam	D-646	0,042	0,067	0,051	0,076	9	8	8	7	9	7	8	8
Adana / Sarıçam	D-647	0,039	0,065	0,053	0,079	8	8	8	8	9	7	8	9
Adana / Sarıçam	D-648	0,046	0,070	0,048	0,072	7	8	8	9	8	7	7	7
Balıkesir / Bandırma	D-650	0,016	0,037	0,027	0,048	7	8	8	9	8	7	7	8
Urfa / Mezra	D-654	0,102	0,121	0,112	0,131	8	9	8	9	9	7	8	7
Urfa / Mezra	D-655	0,126	0,142	0,136	0,152	8	9	8	8	9	7	8	7

Table 3a. Dry Product Shelf Life Evaluations of 32nd Days (Color; L*, a*, b*).

Origin Location	Open Field Code	Dry Product Shelf Life											
		32nd Day											
		L*				a*				b*			
		Sun Drying		Oven Drying		Sun Drying		Oven Drying		Sun Drying		Oven Drying	
		Non Vacuum Packed	Vacuum Packed	Non Vacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed
O.P. Variety	Adana Dolmalık	30,54	32,69	32,95	35,10	5,88	7,98	8,29	9,44	5,75	6,90	8,16	9,31
O.P. Variety	Topan 374	23,08	25,22	25,18	27,32	3,97	6,17	6,07	7,21	1,14	2,28	3,24	4,38
O.P. Variety	Antep Dolmalık	31,39	33,66	33,93	36,20	5,01	7,11	7,55	8,82	-0,06	1,21	2,48	3,75
Manisa / Turgutlu	D-048	22,82	24,92	25,43	27,53	6,54	8,84	9,15	10,25	8,95	10,05	11,56	12,66
Manisa / Turgutlu	D-051	28,00	30,10	30,71	32,81	5,87	7,87	8,58	9,68	1,81	2,91	4,52	5,62
Manisa / Turgutlu	D-057	31,05	33,35	33,16	35,46	5,61	7,61	7,72	9,02	1,48	2,78	3,59	4,89
Manisa / Turgutlu	D-0146	29,35	32,25	31,55	34,45	6,02	8,12	8,22	10,12	4,75	6,65	6,95	8,85
Adana Topan Patlıcan	D-055A	24,68	27,48	26,68	29,48	5,47	7,77	7,47	9,27	7,41	9,21	9,41	11,21
Adana Topan Patlıcan	D-074A	31,25	33,65	33,55	35,95	3,24	5,74	5,54	6,94	5,61	7,01	7,91	9,31
Adana Topan Patlıcan	D-079A	35,18	37,28	37,28	39,38	4,57	6,67	6,67	7,77	7,31	8,41	9,41	10,51
Adana Topan Patlıcan	D-A89	29,34	31,54	31,56	33,76	5,09	7,29	7,31	8,51	3,66	4,86	5,88	7,08
Adana Topan Patlıcan	D-A90	19,96	22,26	21,85	24,15	4,82	7,12	6,71	8,01	7,62	8,92	9,51	10,81
Aydın / Nazilli	D-114	26,84	29,04	28,62	30,82	4,46	6,78	6,24	7,44	-1,57	-0,37	0,21	1,41
Aydın / Nazilli	D-234	21,22	23,22	23,20	25,20	2,94	5,34	4,92	5,92	5,19	6,19	7,17	8,17
Aydın / Nazilli	D-235	32,89	35,09	35,30	37,50	3,78	6,18	6,19	7,39	4,79	5,99	7,20	8,40
Manisa / Salihli	D-570	47,60	49,80	49,70	51,90	5,47	8,01	7,57	8,77	16,20	17,40	18,30	19,50
Manisa / Salihli	D-571	49,05	51,35	51,59	53,89	4,40	7,09	6,94	8,24	15,70	17,00	18,24	19,54
Manisa / Salihli	D-576	34,78	37,08	37,39	39,69	2,81	5,35	5,42	6,72	4,76	6,06	7,37	8,67
Burdur / Merkez	D-580	19,47	21,62	22,18	24,33	2,94	5,45	5,65	6,80	5,19	6,34	7,90	9,05
Burdur / Merkez	D-581	25,41	27,55	27,52	29,66	3,78	5,88	5,89	7,03	4,79	5,93	6,90	8,04
Gaziantep / Oğuzeli	D-582	24,41	26,68	26,61	28,88	3,83	6,03	6,03	7,30	4,74	6,01	6,94	8,21
Gaziantep / Oğuzeli	D-584	25,81	27,91	27,81	29,91	6,21	8,31	8,21	9,31	1,24	2,34	3,24	4,34
Gaziantep / Oğuzeli	D-586	21,79	23,89	24,09	26,19	4,89	7,19	7,19	8,29	2,78	3,88	5,08	6,18
Gaziantep / Oğuzeli	D-587	34,21	36,51	36,31	38,61	5,78	7,78	7,88	9,18	-0,04	1,26	2,06	3,36
Gaziantep / Oğuzeli	D-588	27,24	30,14	29,46	32,36	4,98	6,98	7,20	9,10	0,98	2,88	3,20	5,10
Gaziantep / Oğuzeli	D-590	51,47	54,27	53,36	56,16	3,58	5,68	5,47	7,27	8,77	10,57	10,66	12,46
Artvin / Hopa	D-628	29,35	31,75	31,13	33,53	4,89	7,19	6,67	8,07	2,78	4,18	4,56	5,96
Artvin / Hopa	D-630	30,54	32,64	32,52	34,62	2,81	5,31	4,79	5,89	4,76	5,86	6,74	7,84
Adana / Akkapı	D-632	30,21	32,41	32,62	34,82	2,98	5,08	5,39	6,59	3,86	5,06	6,27	7,47
Adana / Akkapı	D-634	35,21	37,51	37,31	39,61	3,81	6,01	5,91	7,21	5,41	6,71	7,51	8,81
Doğal Topan Patlıcan	D-635	23,43	25,63	25,97	28,17	4,83	7,13	7,37	8,57	4,49	5,69	7,03	8,23
Doğal Topan Patlıcan	D-637	30,24	32,24	32,85	34,85	5,87	8,19	8,48	9,48	3,74	4,74	6,35	7,35
Doğal Topan Patlıcan	D-638	26,69	28,89	29,40	31,60	6,60	9,00	9,31	10,51	4,96	6,16	7,67	8,87
Doğal Topan Patlıcan	D-639	28,90	31,10	31,01	33,21	4,07	6,47	6,18	7,38	4,79	5,99	6,90	8,10
Adana / Sarıçam	D-640	31,39	33,69	33,59	35,89	3,47	6,01	5,67	6,97	2,78	4,08	4,98	6,28
Adana / Sarıçam	D-641	25,81	28,11	27,81	30,11	5,88	8,57	7,88	9,18	4,76	6,06	6,76	8,06
Adana / Sarıçam	D-644	24,57	26,72	26,87	29,02	4,07	6,61	6,37	7,52	6,98	8,13	9,28	10,43
Adana / Sarıçam	D-645	23,08	25,22	25,18	27,32	4,83	7,34	6,93	8,07	4,74	5,88	6,84	7,98
Adana / Sarıçam	D-646	20,13	22,40	22,35	24,62	3,06	5,46	5,28	6,55	7,72	8,99	9,94	11,21
Adana / Sarıçam	D-647	21,22	23,32	23,11	25,21	4,07	6,47	5,96	7,06	8,24	9,34	10,13	11,23
Adana / Sarıçam	D-648	32,89	34,99	34,67	36,77	3,47	6,01	5,25	6,35	8,52	9,62	10,30	11,40
Balıkesir / Bandırma	D-650	28,90	31,20	30,88	33,18	7,19	9,88	9,17	10,47	12,71	14,01	14,69	15,99
Urfa / Mezra	D-654	49,83	52,73	51,93	54,83	2,11	4,65	4,21	6,11	9,88	11,78	11,98	13,88
Urfa / Mezra	D-655	56,84	59,64	59,06	61,86	4,52	7,03	6,74	8,54	8,00	9,80	10,22	12,02

Table 3b. Dry Product Shelf Life Evaluations of 48th Days (Color; L*, a*, b*).

Origin Location	Open Field Code	Dry Product Shelf Life											
		48th Day											
		L*				a*				b*			
		Sun Drying		Oven Drying		Sun Drying		Oven Drying		Sun Drying		Oven Drying	
		Non Vacuum Packed	Vacuum Packed	Non Vacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed
O.P. Variety	Adana Dolmalık	31,85	34,06	34,42	36,63	7,19	8,40	9,76	10,97	4,44	5,65	6,69	5,48
O.P. Variety	Topan 374	24,32	26,57	26,87	29,12	5,21	6,46	7,76	9,01	-0,10	1,15	1,55	0,30
O.P. Variety	Antep Dolmalık	32,76	34,76	35,80	37,80	6,38	7,38	9,42	10,42	-1,43	-0,43	0,61	-0,39
Manisa / Turgutlu	D-048	24,34	26,70	27,01	29,37	8,06	9,42	10,73	12,09	7,43	8,79	9,98	8,62
Manisa / Turgutlu	D-051	29,41	31,98	32,36	34,93	7,28	8,85	10,23	11,80	0,40	1,97	2,87	1,30
Manisa / Turgutlu	D-057	32,30	34,71	34,46	36,87	6,86	8,27	9,02	10,43	0,23	1,64	2,29	0,88
Manisa / Turgutlu	D-0146	30,59	33,13	33,05	35,59	7,26	8,80	9,72	11,26	3,51	5,05	5,45	3,91
Adana Topan Patlıcan	D-055A	25,93	28,51	28,18	30,76	6,72	8,30	8,97	10,55	6,16	7,74	7,91	6,33
Adana Topan Patlıcan	D-074A	32,86	35,55	35,20	37,89	4,85	6,54	7,19	8,88	4,00	5,69	6,26	4,57
Adana Topan Patlıcan	D-079A	36,49	38,96	39,07	41,54	5,88	7,35	8,46	9,93	6,00	7,47	7,62	6,15
Adana Topan Patlıcan	D-A89	30,58	32,73	33,43	35,58	6,33	7,48	9,18	10,33	2,42	3,57	4,01	2,86
Adana Topan Patlıcan	D-A90	21,33	23,47	23,21	25,35	6,19	7,33	8,07	9,21	6,25	7,39	8,15	7,01
Aydın / Nazilli	D-114	28,36	30,49	30,14	32,27	5,98	7,11	7,76	8,89	-3,09	-1,96	-1,31	-2,44
Aydın / Nazilli	D-234	22,63	24,78	24,67	26,82	4,35	5,50	6,39	7,54	3,78	4,93	5,70	4,55
Aydın / Nazilli	D-235	34,14	36,30	36,99	39,15	5,03	6,19	7,88	9,04	3,54	4,70	5,51	4,35
Manisa / Salihli	D-570	48,84	51,14	51,57	53,87	6,71	8,01	9,44	10,74	14,96	16,26	16,43	15,13
Manisa / Salihli	D-571	50,30	52,80	53,17	55,67	5,65	7,15	8,52	10,02	14,45	15,95	16,66	15,16
Manisa / Salihli	D-576	36,39	38,60	39,04	41,25	4,42	5,63	7,07	8,28	3,15	4,36	5,72	4,51
Burdur / Merkez	D-580	20,78	23,03	23,48	25,73	4,25	5,50	6,95	8,20	3,88	5,13	6,60	5,35
Burdur / Merkez	D-581	26,65	28,65	29,02	31,02	5,02	6,02	7,39	8,39	3,55	4,55	5,40	4,40
Gaziantep / Oğuzeli	D-582	25,78	28,14	28,11	30,47	5,20	6,56	7,53	8,89	3,37	4,73	5,44	4,08
Gaziantep / Oğuzeli	D-584	27,33	29,90	29,46	32,03	7,73	9,30	9,86	11,43	-0,28	1,29	1,59	0,02
Gaziantep / Oğuzeli	D-586	23,20	25,61	25,88	28,29	6,30	7,71	8,98	10,39	1,37	2,78	3,29	1,88
Gaziantep / Oğuzeli	D-587	35,46	38,00	38,18	40,72	7,03	8,57	9,75	11,29	-1,29	0,25	0,19	-1,35
Gaziantep / Oğuzeli	D-588	28,48	31,06	30,82	33,40	6,22	7,80	8,56	10,14	-0,26	1,32	1,84	0,26
Gaziantep / Oğuzeli	D-590	52,72	55,41	54,88	57,57	4,83	6,52	6,99	8,68	7,52	9,21	9,14	7,45
Artvin / Hopa	D-628	30,96	33,43	32,60	35,07	6,50	7,97	8,14	9,61	1,17	2,64	3,09	1,62
Artvin / Hopa	D-630	31,85	34,00	34,21	36,36	4,12	5,27	6,48	7,63	3,45	4,60	5,05	3,90
Adana / Akkapı	D-632	31,45	33,59	34,49	36,63	4,22	5,36	7,26	8,40	2,62	3,76	4,40	3,26
Adana / Akkapı	D-634	36,58	38,71	38,89	41,02	5,18	6,31	7,49	8,62	4,04	5,17	5,93	4,80
Doğal Topan Patlıcan	D-635	24,95	27,10	27,62	29,77	6,35	7,50	9,02	10,17	2,97	4,12	5,38	4,23
Doğal Topan Patlıcan	D-637	31,65	33,81	34,15	36,31	7,28	8,44	9,78	10,94	2,33	3,49	5,05	3,89
Doğal Topan Patlıcan	D-638	27,94	30,24	30,90	33,20	7,85	9,15	10,81	12,11	3,71	5,01	6,17	4,87
Doğal Topan Patlıcan	D-639	30,14	32,64	32,51	35,01	5,31	6,81	7,68	9,18	3,55	5,05	5,40	3,90
Adana / Sarıçam	D-640	32,64	34,85	35,24	37,45	4,72	5,93	7,32	8,53	1,53	2,74	3,33	2,12
Adana / Sarıçam	D-641	27,42	29,67	29,60	31,85	7,49	8,74	9,67	10,92	3,15	4,40	4,97	3,72
Adana / Sarıçam	D-644	25,88	27,88	28,74	30,74	5,38	6,38	8,24	9,24	5,67	6,67	7,41	6,41
Adana / Sarıçam	D-645	24,32	26,68	26,54	28,90	6,07	7,43	8,29	9,65	3,50	4,86	5,48	4,12
Adana / Sarıçam	D-646	21,50	24,07	23,87	26,44	4,43	6,00	6,80	8,37	6,35	7,92	8,42	6,85
Adana / Sarıçam	D-647	22,74	25,15	24,58	26,99	5,59	7,00	7,43	8,84	6,72	8,13	8,66	7,25
Adana / Sarıçam	D-648	34,30	36,84	36,36	38,90	4,88	6,42	6,94	8,48	7,11	8,65	8,61	7,07
Balıkesir / Bandırma	D-650	30,15	32,73	32,75	35,33	8,44	10,02	11,04	12,62	11,46	13,04	12,82	11,24
Urfa / Mezra	D-654	51,07	53,76	53,51	56,20	3,35	5,04	5,79	7,48	8,64	10,33	10,40	8,71
Urfa / Mezra	D-655	58,09	60,56	60,71	63,18	5,77	7,24	8,39	9,86	6,75	8,22	8,57	7,10

Table 3c. Dry Product Shelf Life Evaluations of 64th Days (Color; L*, a*, b*).

Origin Location	Open Field Code	Dry Product Shelf Life											
		64th Day											
		L*				a*				b*			
		Sun Drying		Oven Drying		Sun Drying		Oven Drying		Sun Drying		Oven Drying	
		Non Vacuum Packed	Vacuum Packed	Non Vacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed	NonVacuum Packed	Vacuum Packed
O.P. Variety	Adana Dolmalık	32,59	42,67	35,89	45,97	7,93	10,08	10,23	12,38	5,18	6,13	6,22	5,27
O.P. Variety	Topan 374	24,96	33,07	28,56	36,67	5,85	8,11	8,45	10,71	0,54	1,60	0,86	-0,20
O.P. Variety	Antep Dolmalık	33,33	42,76	37,67	47,10	6,95	9,43	10,29	12,77	-0,86	0,42	-0,26	-1,54
Manisa / Turgutlu	D-048	25,02	36,61	28,59	40,18	8,74	11,59	11,31	14,16	8,11	9,76	9,40	7,75
Manisa / Turgutlu	D-051	30,09	40,42	34,01	44,34	7,96	10,33	10,88	13,25	1,08	2,25	2,22	1,05
Manisa / Turgutlu	D-057	32,54	42,11	35,76	45,33	7,10	9,57	9,32	11,79	0,47	1,74	1,99	0,72
Manisa / Turgutlu	D-0146	31,17	41,60	34,55	44,98	7,84	10,43	10,22	12,81	4,09	5,48	4,95	3,56
Adana Topan Patlıcan	D-055A	26,61	36,16	29,68	39,23	7,40	9,55	9,47	11,62	6,84	7,79	7,41	6,46
Adana Topan Patlıcan	D-074A	33,54	41,18	36,85	44,49	5,53	7,64	7,84	9,95	4,68	5,59	5,61	4,70
Adana Topan Patlıcan	D-079A	37,06	46,30	40,86	50,10	6,45	9,24	9,25	12,04	6,57	8,16	6,83	5,24
Adana Topan Patlıcan	D-A89	31,27	39,19	35,30	43,22	7,02	7,92	10,05	10,95	3,11	2,81	3,14	3,44
Adana Topan Patlıcan	D-A90	22,01	30,76	24,57	33,32	6,87	8,75	8,43	10,31	6,93	7,61	7,79	7,11
Aydın / Nazilli	D-114	28,93	37,36	31,66	40,09	6,55	8,43	8,28	10,16	-2,52	-1,84	-1,83	-2,51
Aydın / Nazilli	D-234	23,31	30,22	26,14	33,05	5,03	6,91	6,86	8,74	4,46	5,14	5,23	4,55
Aydın / Nazilli	D-235	34,88	42,44	38,68	46,24	5,77	7,56	8,57	10,36	4,28	4,87	4,82	4,23
Manisa / Salihli	D-570	49,48	59,07	53,44	63,03	7,35	9,59	10,31	12,55	15,60	16,64	15,56	14,52
Manisa / Salihli	D-571	50,87	59,24	54,75	63,12	6,22	8,37	9,10	11,25	15,02	15,97	16,08	15,13
Manisa / Salihli	D-576	37,07	44,43	40,69	48,05	5,10	7,36	7,72	9,98	3,83	4,89	5,07	4,01
Burdur / Merkez	D-580	21,46	28,87	24,78	32,19	4,93	7,41	7,25	9,73	4,56	5,84	6,30	5,02
Burdur / Merkez	D-581	26,89	35,00	30,52	38,63	5,26	8,11	7,89	10,74	3,79	5,44	4,90	3,25
Gaziantep / Oğuzeli	D-582	26,36	34,51	29,61	37,76	5,78	8,15	8,03	10,40	3,95	5,12	4,94	3,77
Gaziantep / Oğuzeli	D-584	28,01	38,89	31,11	41,99	8,41	10,88	10,51	12,98	0,40	1,67	0,94	-0,33
Gaziantep / Oğuzeli	D-586	23,88	33,45	27,67	37,24	6,98	9,57	9,77	12,36	2,05	3,44	2,50	1,11
Gaziantep / Oğuzeli	D-587	36,03	45,78	40,05	49,80	7,60	9,75	10,62	12,77	-0,72	0,23	-0,68	-1,63
Gaziantep / Oğuzeli	D-588	29,17	38,19	32,18	41,20	6,91	9,02	8,92	11,03	0,43	1,34	1,48	0,57
Gaziantep / Oğuzeli	D-590	53,40	61,70	56,40	64,70	5,51	8,30	7,51	10,30	8,20	9,79	8,62	7,03
Artvin / Hopa	D-628	31,53	39,50	34,07	42,04	7,07	7,97	8,61	9,51	1,74	1,44	2,62	2,92
Artvin / Hopa	D-630	32,53	39,21	35,90	42,58	4,80	6,68	7,17	9,05	4,13	4,81	4,36	3,68
Adana / Akkapı	D-632	32,19	39,03	36,36	43,20	4,96	6,84	8,13	10,01	3,36	4,04	3,53	2,85
Adana / Akkapı	D-634	37,22	44,92	40,47	48,17	5,82	7,70	8,07	9,95	4,68	5,36	5,35	4,67
Doğal Topan Patlıcan	D-635	25,52	34,23	29,27	37,98	6,92	8,71	9,67	11,46	3,54	4,13	4,73	4,14
Doğal Topan Patlıcan	D-637	32,33	42,53	35,45	45,65	7,96	10,20	10,08	12,32	3,01	4,05	4,75	3,71
Doğal Topan Patlıcan	D-638	28,62	39,30	32,40	43,08	8,53	10,68	11,31	13,46	4,39	5,34	5,67	4,72
Doğal Topan Patlıcan	D-639	30,38	38,19	34,01	41,82	5,55	7,81	8,18	10,44	3,79	4,85	4,90	3,84
Adana / Sarıçam	D-640	33,22	41,00	36,89	44,67	5,30	7,78	7,97	10,45	2,11	3,39	2,68	1,40
Adana / Sarıçam	D-641	28,10	39,12	31,39	42,41	8,17	11,02	10,46	13,31	3,83	5,48	4,18	2,53
Adana / Sarıçam	D-644	26,56	34,99	30,61	39,04	6,06	8,43	9,11	11,48	6,35	7,52	6,54	5,37
Adana / Sarıçam	D-645	24,89	34,00	27,90	37,01	6,64	9,11	8,65	11,12	4,07	5,34	5,12	3,85
Adana / Sarıçam	D-646	22,19	29,90	25,39	33,10	5,12	7,71	7,32	9,91	7,04	8,43	7,90	6,51
Adana / Sarıçam	D-647	23,42	31,84	26,05	34,47	6,27	8,42	7,90	10,05	7,40	8,35	8,19	7,24
Adana / Sarıçam	D-648	34,87	42,43	38,05	45,61	5,45	7,56	7,63	9,74	7,68	8,59	7,92	7,01
Balıkesir / Bandırma	D-650	30,83	42,74	34,62	46,53	9,12	11,91	11,91	14,70	12,14	13,73	11,95	10,36
Urfa / Mezra	D-654	51,64	56,46	55,09	59,91	3,92	4,82	6,37	7,27	9,21	8,91	9,82	10,12
Urfa / Mezra	D-655	58,77	67,10	62,36	70,69	6,45	8,33	9,04	10,92	7,43	8,11	7,92	7,24

Table 4. Sensory evaluations (Scored from 1 to 9; 1: lowest score, 9: highest score).

Origin Location	Open Field Code	Sensory Evaluation (1-9) points									
		Colour		Juiciness		Crispness		Taste		General Acceptability	
		Sun Drying	Oven Drying	Sun Drying	Oven Drying	Sun Drying	Oven Drying	Sun Drying	Oven Drying	Sun Drying	Oven Drying
O.P. Variety	Adana dolmalık	7	8	7	8	7	8	8	8	7	8
O.P. Variety	Topan 374	9	8	8	9	9	9	9	8	9	9
O.P. Variety	Antep Dolmalık	6	7	7	8	7	8	7	7	7	8
Manisa / Turgutlu	D-048	7	8	7	9	8	8	8	8	8	8
Manisa / Turgutlu	D-051	8	8	8	8	8	8	8	8	8	8
Manisa / Turgutlu	D-057	7	7	7	7	8	9	8	7	8	8
Manisa / Turgutlu	D-0146	8	8	7	8	9	9	9	8	8	8
Adana Topan Patlıcan	D-055A	8	9	8	9	7	8	7	9	8	9
Adana Topan Patlıcan	D-074A	7	8	7	8	6	8	6	8	7	8
Adana Topan Patlıcan	D-079A	6	8	7	7	7	9	7	8	7	8
Adana Topan Patlıcan	D-A89	9	8	8	8	8	8	8	8	8	8
Adana Topan Patlıcan	D-A90	6	7	7	9	7	9	7	7	7	8
Aydın / Nazilli	D-114	9	8	9	8	9	9	9	8	9	8
Aydın / Nazilli	D-234	8	9	8	7	8	8	8	9	8	8
Aydın / Nazilli	D-235	7	8	7	8	8	8	8	8	8	8
Manisa / Salihli	D-570	8	7	7	9	7	9	8	7	8	8
Manisa / Salihli	D-571	7	9	8	8	8	8	8	9	8	9
Manisa / Salihli	D-576	6	8	6	7	7	9	7	8	7	8
Burdur / Merkez	D-580	6	7	8	8	8	8	8	7	8	8
Burdur / Merkez	D-581	7	8	8	9	9	9	9	8	8	9
Gaziantep / Oğuzeli	D-582	5	7	6	8	6	8	7	7	6	8
Gaziantep / Oğuzeli	D-584	5	6	5	8	6	7	6	6	6	7
Gaziantep / Oğuzeli	D-586	6	7	7	9	7	9	8	7	7	8
Gaziantep / Oğuzeli	D-587	6	7	7	9	8	8	8	7	7	8
Gaziantep / Oğuzeli	D-588	6	8	7	9	7	7	7	8	7	8
Gaziantep / Oğuzeli	D-590	7	7	8	8	8	8	8	7	8	8
Artvin / Hopa	D-628	6	4	7	7	7	9	8	4	7	6
Artvin / Hopa	D-630	8	7	8	8	9	8	9	7	9	8
Adana / Akkapı	D-632	7	8	7	9	7	7	7	8	7	8
Adana / Akkapı	D-634	6	7	7	8	8	8	8	7	7	8
Doğal Topan Patlıcan	D-635	7	9	8	7	7	7	8	9	8	8
Doğal Topan Patlıcan	D-637	8	9	8	8	9	8	9	9	9	9
Doğal Topan Patlıcan	D-638	6	8	7	9	8	8	8	8	7	8
Doğal Topan Patlıcan	D-639	6	8	7	8	7	8	7	8	7	8
Adana / Sarıçam	D-640	8	7	8	7	9	7	8	7	8	7
Adana / Sarıçam	D-641	6	8	6	9	7	8	7	8	7	8
Adana / Sarıçam	D-644	8	7	8	8	9	7	9	7	9	7
Adana / Sarıçam	D-645	8	8	8	7	8	9	8	8	8	8
Adana / Sarıçam	D-646	9	9	8	8	9	8	9	9	9	9
Adana / Sarıçam	D-647	8	8	8	9	9	7	9	8	9	8
Adana / Sarıçam	D-648	7	7	8	8	7	8	8	7	8	8
Balıkesir / Bandırma	D-650	6	8	8	7	7	9	8	8	7	8
Urfa / Mezra	D-654	8	7	8	8	9	8	9	7	9	8
Urfa / Mezra	D-655	8	8	8	9	9	9	9	8	9	9

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