Academic Journal of Science and Technology
ISSN: 2771-3032 | Vol. 19, No. 1, 2026

Research Progress on Drying and Processing Technologies of Apricot Fruits

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Abstract: Apricot is an important traditional fruit tree in China, with fruits rich in bioactive compounds such as carotenoids, phenolics, and flavonoids, offering antioxidant, anti-inflammatory, and chronic disease prevention properties. However, apricots exhibit high postharvest respiration rates, are prone to softening and decay, have a short storage life, and suffer from fresh fruit loss rates as high as 30%–50%, which severely restricts industrial development. Drying, as a key processing method for apricot fruits, can significantly extend shelf life, enhance added value, and promote sustainable development of the apricot industry. This paper systematically reviews research progress in apricot drying technologies, focusing on the process characteristics, drying effects, and limitations of methods such as natural sun drying, solar drying, hot-air drying, infrared drying, microwave drying, vacuum freeze-drying, and gas jet impingement drying. Currently, apricot drying still faces challenges including inconsistent product quality due to non-uniform maturity and size of raw materials, a lack of efficient quality-preserving drying technologies and equipment, and food safety and environmental risks associated with chemical pretreatments. Looking ahead, it is essential to develop efficient quality-preserving drying processes and intelligent equipment that eliminate the need for chemical pretreatments, tailored to the material characteristics of apricot fruits, thereby driving the apricot drying industry toward greener, safer, and higher-quality transformation and upgrading.

Keywords: Apricot Fruits; Drying Technology; Quality Preservation; Food Dehydration.

1. Overview of Apricot Fruit

The apricot (*Prunus armeniaca* L.) is a deciduous tree belonging to the genus *Prunus* within the family Rosaceae. Originating from the Xinjiang region of China [1], it is one of the fruit trees with a long history of cultivation in China [2]. Historical records indicate [3] that apricot cultivation in China dates back approximately 4000 years, with cultivation techniques spreading to Central Asia and the Roman Empire by the Western Han Dynasty. Currently, global apricot production is primarily concentrated in countries along the Mediterranean coast, such as Turkey, Spain, Italy, and France [4]. According to incomplete statistics [5], there are over 3,000 apricot cultivars worldwide, of which more than 2,000, accounting for about 66.67%, are found in China. While cultivated in Xinjiang, apricot trees are also widely grown in northern, northwestern, and eastern China. It is reported [6] that in 2022, the national apricot cultivation area reached approximately 225,800 hectares with a total production of 1.381 million tons. In the same year, Xinjiang's apricot cultivation area was about 118,300 hectares, yielding approximately 781,000 tons, representing 52.4% of the national area and 56.6% of the national production. The cultivation area and production of apricots across China in 2022 [6] are presented in Table 1.

Table 1. Apricot Planting Area and Yield across China in 2022

serial number	Region	Cultivation Area (10,000 hectares)	Proportion of National Area (%)	Production (10,000 tons)	Proportion of National Production (%)
1	Xinjiang	11.83	52.4	78.1	56.6
2	Hebei	1.54	6.8	10.5	7.6
3	Shanxi	1.07	4.7	7.3	5.3
4	Inner Mongolia	0.96	4.3	5.4	3.9
5	Shanxi	0.85	3.8	6.2	4.5
6	Gansu	0.72	3.2	4.6	3.3
7	Shandong	0.61	2.7	4.1	3.0
8	Henan	0.58	2.6	3.9	2.8
9	Liaoning	0.43	1.9	2.8	2.0
10	Jilin	0.35	1.6	1.9	1.4
11	Other Regions	3.64	16.1	13.3	9.6
12	National Total	22.58	100	138.1	100

The dried apricot (*Prunus armeniaca* 'Diao Gan'), also known as tree-dried apricot, is widely cultivated in the Ili and Aksu regions of Xinjiang [7]. The fruit is round in shape with a smooth and glossy surface, and its flesh exhibits a yellowish-red color, as illustrated in Figure 1. The apricot fruit possesses a sweet and sour taste, along with a distinctive aroma and flavor, making it highly favored by consumers and recognized as a high-quality fruit with unique characteristics [7]. The fresh fruit contains over 85% water, along with various nutrients such as carbohydrates, proteins, dietary fiber, vitamins, and minerals [8]. Additionally, it is rich in bioactive compounds, including carotenoids, phenolics, and flavonoids [9], all of which exhibit antioxidant properties [10]. Phenolic compounds can effectively scavenge excess free radicals in the human body, prevent excessive oxidative stress, and slow down cellular aging, contributing to human health through effects such as anti-tumor, antibacterial, and anti-inflammatory activities [11]. Flavonoids possess significant medicinal value, demonstrating notable efficacy in the treatment of cardiovascular and cerebrovascular diseases, hypertension, hyperlipidemia, diarrhea, cough, and phlegm [12]. Carotenoids serve as the primary source of vitamin A in the human body and help prevent various diseases, including cataracts, skin disorders, and tumors [13]. Furthermore, apricots contain multiple amino acids, such as aspartic acid, glutamic acid, and alanine, which contribute to their high edible value and unique flavor [14]. Beyond the aforementioned functions, research has also explored their potential applications in areas such as antioxidant activity and the prevention of degenerative diseases, Parkinson's disease, and Alzheimer's disease [8,10].

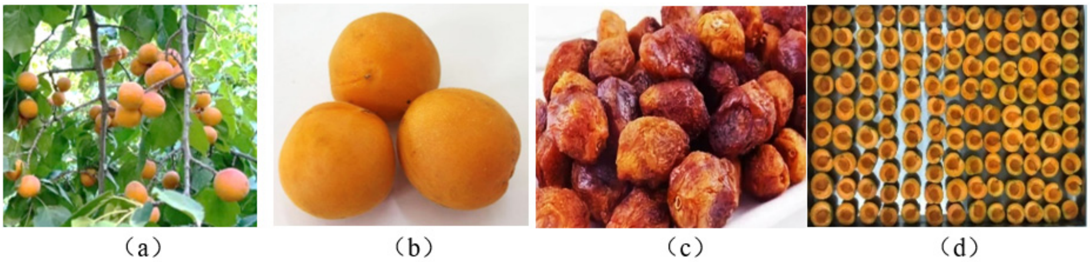

Figure 1. Diaogan apricot trees (a), fresh Diaogan apricots (b), dried apricots (c), and dried apricot slices (d)

The maturation period of apricots primarily occurs during the summer, which imposes seasonal constraints. Due to their high respiration rate and vigorous physiological metabolism, apricots are highly susceptible to softening and spoilage during storage [15]. Under ambient conditions, the storage duration of apricots is typically limited to 3-5 days [16], while cold storage extends this period to only 2-3 weeks [17], presenting significant challenges for long-term quality preservation. According to incomplete statistics [18], the annual postharvest loss rate of fresh apricots ranges between 30% and 50%. The inherently high moisture content of fresh apricots prevents extended storage, severely compromising their quality and shelf life, and thus restricting both the application and industrial development of apricots. Moreover, the remote and arid geographical conditions of Xinjiang further limit the feasibility of long-distance transportation of fresh apricots, thereby hindering sustainable local economic development.

Following harvest, apricots can not only be consumed fresh but also be processed into various products such as dried apricots, apricot kernels, and apricot jam [19]. In early summer, fresh apricots hold a significant position in the fruit market, effectively regulating supply and demand during this season. However, the limited demand for fresh consumption often leads to seasonal oversupply, compounded by substantial postharvest losses, which severely constrains the sustainable development of the apricot industry. Drying, as a common agricultural processing method [20], effectively removes internal moisture from agricultural products, achieving water activity levels safe for storage, extending shelf life, and reducing the risk of spoilage [21]. This process significantly enhances the economic value of apricots, mitigates economic losses and resource waste, and contributes to the sustainable development of agricultural products [22,23].

2. Drying is an Important Processing Method for Apricot Fruits

Drying is an effective technique for reducing the internal moisture content of materials to achieve a safe water activity level for storage. This process effectively inhibits bacterial growth and microbial proliferation, ensuring food production safety [23]. Drying facilitates the conversion of fresh apricots into value-added products such as dried apricots, preserved apricots, apricot jam, and others. This promotes the development of apricot-based products, improves resource utilization, and supports the growth of the apricot industry [19]. Within the global dried fruit trade system, dried apricots hold a significant position, with market demand in countries such as the United States, the United Kingdom, Germany, and Australia showing a continuous upward trend [24]. Currently, Xinjiang serves as the primary production region for dried apricots, where approximately 70% of the fresh apricot harvest is utilized for drying and processing [25]. Dried apricots represent a traditional export product with global influence from China, exhibiting strong and widespread demand across the Asia-Pacific market.

However, apricots are seasonal fruits. To avoid nutritional deficiencies caused by premature or delayed harvesting, the typical harvest period generally spans from late June to late July. Due to the high susceptibility of fresh apricots to decay and spoilage post-harvest, initial processing at the production site is essential to enhance their utilization. The primary processing methods for dried apricots (Diao Gan) at origin involve either whole-fruit processing or pitting and slicing, as illustrated in Figure 2. Pitting and slicing are labor-intensive and time-consuming, whereas whole-fruit processing is relatively simpler. Consequently, whole-fruit processing currently dominates both production sites and markets. The specific workflow includes picking, sun-drying, grading, cleaning, and packaging, as shown in Figure 3. Natural drying is a critical step in the initial processing of dried apricots at their origin. The dried apricots undergo weight reduction, which facilitates storage and transportation, extends shelf life, and ultimately increases the economic income for fruit farmers in remote areas.

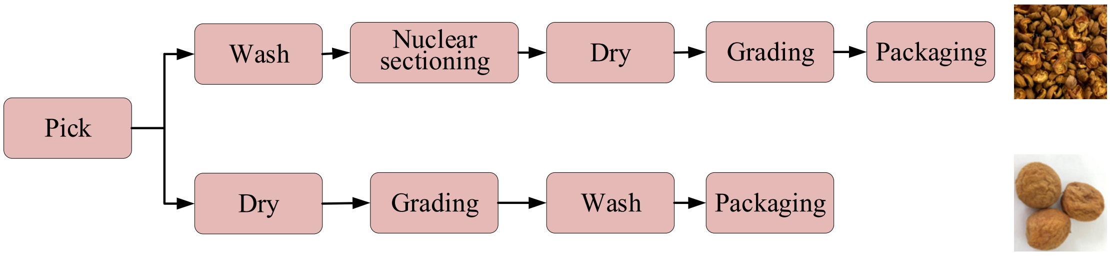

Figure 2. Processing flow of Diaogan apricots in their place of origin

(a) (b) (c)

Figure 3. Natural drying site (a), Classification (b), Cleaning (c)

3. Modern Mechanical Drying Technologies

Dried apricot represents the primary deep-processing product of fresh apricots. Scholars both domestically and internationally have conducted extensive research on apricot drying techniques [25-27]. With "drying rate - quality preservation" serving as the core constraint for process optimization, existing drying methods (such as natural sun-drying on the Gobi Desert, shaded ventilation drying, and hot-air drying) commonly face issues including low drying efficiency, prolonged drying time, degradation of nutritional activity under high temperatures, and poor product color. To effectively elucidate the impact of low-temperature pulsed low-humidity controlled drying versus other conventional natural and mechanical drying methods on the drying quality of fresh apricots, clarifying the physical properties of apricots, drying processes, and product parameters is essential.

Table 2. Drying Methods of Apricot Fruits

Drying Method	Process Parameters	Key Findings	Reference
Natural Sun Drying	Daytime max. temperature: 38 °C; Nighttime min. temperature: 18 °C	Drying time: 11 days; β-carotene content decreased by 49%–59%.	[29]
Solar Drying	Utilized the 5HT-2 solar dryer (developed by Xinjiang Academy of Agricultural Sciences); Drying period: 10:00–22:00	Effectively shortened drying time, energy-efficient and environmentally friendly; better preserved sensory qualities (color, texture) of apricots.	[30]
Hot Air Drying	Different drying temperatures (40, 50, 60 °C) and air velocities (2, 3, 4 m/s)	Drying temperature significantly influenced drying time and product quality; noticeable color changes occurred under different temperature and velocity conditions.	[16]
Infrared Drying	Infrared power: 62–104 W	Drying time: 330–690 min; Effective diffusivity (*D*_{eff}): 2.37×10^{-9} – 6.23×10^{-9} m^2/s.	[31]
Microwave Drying	Drying temperatures: 60 and 70 °C	Drying time: 18 h (60 °C) and 12 h (70 °C); L* value decreased by 24.4% and 20.1%, respectively; β-carotene content reduced by approximately 50%.	[32]
Vacuum Freeze-Drying	Apricot slices pretreated with ultrasound were frozen for 8 h and dried in a freeze-dryer (shelf temperature: –25 °C, cold trap: –40 °C, vacuum <100 Pa, drying time: 6 h)	Ultrasonic pretreatment improved processing efficiency; resulted in better texture retention, moderate hardness, and enhanced chewability.	[33]
Jet Impingement Drying	Blanched with superheated steam at 110 °C for 120 s to inactivate PPO and POD; followed by drying at different temperatures and air velocities	Dried apricots under all tested conditions showed acceptable sensory quality, but variations in color and texture were observed. Further research on quality dynamics during drying is recommended.	[34]

In recent years, to enhance drying rates, reduce energy consumption, and improve product quality, researchers both domestically and internationally have developed various novel drying methods and equipment. Representative new drying approaches include vacuum-pulsed drying, infrared radiation drying, heat pump dehumidification drying, and various combined drying processes (such as microwave-vacuum drying and heat pump-hot air combined drying) [28].

Each of these technologies has distinct characteristics, and their application in the processing of agricultural products (e.g., dried apricots, apple slices, and rice) has made significant progress. Apart from natural drying [29], solar drying [30], and hot air drying [16], other common drying methods for apricot fruits include infrared drying [31], microwave drying 32], vacuum freeze-drying [33], and gas jet impingement drying [34]. Specific details of these methods are presented in Table 2.

4. Challenges in the Drying and Processing of Apricot Fruits

4.1. Quality Degradation Caused by Inconsistent Raw Material Characteristics

The inconsistent maturity of harvested apricots significantly impacts product quality. Underripe apricots tend to be overly sour, exhibit poor color, contain lower levels of nutrients, and possess a weaker aroma. Conversely, overripe apricots have reduced firmness and are prone to physical damage and microbial contamination, increasing their susceptibility to browning and mildew during drying. Furthermore, variations in apricot size lead to differing drying requirements. If the drying time is insufficient, larger apricots may not dry completely, while excessive drying can over-dry smaller apricots, causing increased skin hardness and enzymatic browning. This inconsistency ultimately results in inferior quality of the final dried product. Therefore, effective sorting of apricots by maturity and physical size prior to drying is a crucial step that must be addressed, emphasizing the need for uniformity in the raw material before processing.

4.2. Lack of Suitable High-Efficiency, Quality-Preserving Drying Technologies and Equipment

Due to Xinjiang's inland location with significant diurnal temperature variations, it possesses favorable natural drying potential. The primary method for apricot drying remains natural sun-drying on the Gobi Desert, supplemented by shaded ventilation drying [26]. However, during natural sun-drying, apricots are susceptible to sandstorms, pests, and microorganisms, leading to issues such as mildew, browning, and animal predation. These factors result in uncontrollable quality of the final dried product. During the day, excessive solar radiation can cause the apricot skin to harden and form a crust. At night, as temperatures drop, moisture migrates from the interior to the skin surface, softening it and creating a "tempering" effect, which slows the drying process. In commercial apricot processing, apricots are often dried in drying rooms, a process that is time-consuming (exceeding 96.0 hours) and increases costs. Researchers both domestically and internationally have explored modern drying techniques—such as hot air drying [27], infrared drying [35], and gas jet impingement drying [36]—for apricot processing. While these methods can improve drying efficiency, they often compromise the quality of the dried product. Currently, compared to mainstream industrial drying technologies, these methods have not demonstrated significant superiority. Therefore, it is essential to develop drying technologies tailored to apricot processing needs that enhance both drying efficiency and product quality, thereby ensuring better preservation and value addition.

4.3. Food Safety and Environmental Risks Associated with Chemical Pretreatment

Furthermore, to accelerate dehydration and preserve the bright yellow color of apricots, chemical reagents such as alkaline drying accelerants and sulfides are commonly used in production for preprocessing fresh fruits [37]. While these methods can improve drying efficiency and appearance to some extent, they also pose potential risks to food safety and environmental protection [37, 38]. Alkaline drying accelerants are prone to leaving residues in the final product, which may adversely affect the human respiratory and digestive systems [39, 40]. The combustion process of sulfides releases harmful sulfur dioxide gases, contributing to environmental pollution. Additionally, the disposal of highly corrosive waste solutions from these accelerants remains an unresolved technical challenge, further exacerbating environmental concerns.

In light of these issues, there is an urgent need to develop novel drying processes and equipment that eliminate the need for preprocessing fresh apricots. This advancement holds significant practical and strategic value for enhancing drying efficiency, improving product quality, and promoting the sustainable development of the apricot industry.

5. Conclusion

Drying and processing are crucial steps in enhancing the added value of apricot fruits, reducing postharvest losses, and extending the industrial chain. While apricot drying technologies have evolved from traditional natural sun-drying to various mechanical and combined drying methods, challenges such as low drying efficiency, inconsistent product quality, high energy consumption, and reliance on chemical pretreatment persist. The main bottlenecks hindering the modernization of the apricot drying industry include inconsistent raw material characteristics, a lack of suitable high-efficiency and quality-preserving drying equipment, and the safety and environmental risks associated with chemical additives. Future research should focus on: (1) Establishing a graded preprocessing system based on the maturity and physical characteristics of raw materials; (2) Developing novel drying processes (low-temperature pulsed low-humidity drying, combined drying) and intelligent equipment tailored to the material properties of apricot fruits; (3) Promoting green drying technologies to replace chemical pretreatment, ensuring product safety and environmental sustainability. Through technological innovation and industrial upgrading, the efficient, high-quality, and sustainable development of apricot drying and processing can be achieved. This will provide scientific and technological support for value-added apricot industries and rural revitalization in major production regions such as Xinjiang.

Acknowledgments

Funding: This research was funded by the Xinjiang Production and Construction Corps Division City Science and Technology Research Project (No. 2023Zb03), and the Xinjiang Production and Construction Corps (XPCC) Key Laboratory of Utilization and Equipment of Special Agricultural and Forestry Products in Southern Xinjiang (No. NJTS2024104).

References

[1] Li X Y, Kaisi H B J, Li C C, et al. Analysis of Quality Changes in Apricot Fruits at Different Maturity Stages under Room Temperature Storage Conditions. Xinjiang Agricultural Sciences, 2024, 61(10): 2444-2457.

[2] L S Z. Study on Changes of Endogenous Hormone Content during Growth of Tree-Dried Apricot. Urumqi: Xinjiang Agricultural University, 2019.

[3] Gu M. Apricot cultivars in china. Scientia Horticulturae, 1988, 209: 63-67.

[4] Hayran S, Dönmez R, Karabacak T, et al. The Reduction of Greenhouse Gas Emissions and Energy Optimization in Apricot Production in Turkey. Erwerbs-Obstbau, 2023, 65: 1207-1216.

[5] Yu Z, Qi Z. Apricot germplasm resources in China. Acta Hort., 2006, 701: 181-190.

[6] National Bureau of Statistics of China. China Rural Statistical Yearbook-2023. Beijing: China Statistics Press, 2023.

[7] Shi L, Huang J Y, Yu S Y, et al. Effects of Pre-harvest Ethephon Spraying on Fruit Quality and Storage Characteristics of Tree-dried Apricots. China Fruits, 2024, (12): 43-49.

[8] Ucar K, Engindeniz S, Örük G. Energy and Profitability Analysis of Dried Apricot Production in Terms of Sustainability: A Case Study for Turkey. Erwerbs-Obstbau, 2023, 65: 461-468.

[9] Fratianni F, Ombra N, Acierno M. Apricots: biochemistry and functional properties. Current Opinion in Food Science, 2018, 19: 23-29.

[10] Göttingerová M, Kumšta M, Rampáčková E, et al. Analysis of Phenolic Compounds and Some Important Analytical Properties in Selected Apricot Genotypes. Hort Science, 2021, 56(11): 1-7.

[11] Karataş N, Sengül M. Some Important Physicochemical and Bioactive Characteristics of the Main Apricot Cultivars from Turkey. Turkish Journal of Agriculture and Forestry, 2020, 44: 651-661.

[12] Bailly C. Anticancer properties of Prunus mume extracts (Chinese plum, Japanese apricot), Journal of Ethnopharmacology, 2020, 246: 112215.

[13] Yang W T, Liu Y X, Sang Y Y, et al. Influences of ice-temperature storage on cell wall metabolism and reactive oxygen metabolism in Xinjiang (Diaogan) apricot. Postharvest Biology and Technolog, 2021, 180: 111614.

[14] Luo X Y, Han A Z, Ding J, et al. Analysis of Mineral Elements and Amino Acids in Kernels of Wild Apricot (Prunus armeniaca L.) from Yili, Xinjiang. Journal of Fruit Science, 2024, 41(04): 638-650.

[15] Guo H J, Li Z Q, Li J X, et al. Effects of Different Fresh-Keeping Treatments on Storage Quality and Preservation of Xinjiang Dried Apricots. Food Industry, 2021, 42(12): 313-318.

[16] Yan S K, Li Z X, Wang Q H, et al. Color change and its kinetics of Xiaobai apricot during hot air drying. Food & Machinery, 2017, 33(02): 39-45.

[17] Mir M A, Hussain P R, Fouzia S, et al. Effect of sulphiting and drying methods on physico-chemical and sensorial quality of dried apricots during ambient storage. International Journal of Food Science and Technology, 2009, 44(6): 1157-1166.

[18] Cui K B, Zhu Z J, Yang L L, et al. Research Status and Prospects of Postharvest Storage and Preservation of Apricots in Xinjiang. Food and Fermentation Industries, 2022, 48(2): 280-286.

[19] Ge B G, Liu Z Y, Ma C, et al. Research Status and Prospects of Apricot Products Processing. China Fruit Vegetable, 2012, 32(3): 42-45.

[20] Ihns R, Diamante L M, Savage G P, et al. Effect of temperature on the drying characteristics, colour, antioxidant and beta-carotene contents of two apricot varieties. International Journal of Food Science & Technology, 2011, 46: 275-283.

[21] Zeng S Y. Development of Microwave-Infrared Vibrating Bed Drying Equipment and Study on Multi-Dimensional Quality Formation Mechanism of Ginger. Beijing: China Agricultural University, 2025.

[22] Liu Y X, Liu Y X, Guo M R, et al. Comparative elucidation of bioactive and volatile components in dry mature jujube fruit (*Ziziphus jujuba* Mill.) subjected to different drying methods. Food Chemistry: X, 2022, 14: 100311.

[23] Ren Z, Yu X, Yagoub A E A, et al. Combinative effect of cutting orientation and drying techniques (hot air, vacuum, freeze and catalytic infrared drying) on the physicochemical properties of ginger (Zingiber officinale Roscoe). LWT—Food Science and Technology, 2021, 144: 111238.

[24] Toğrul O T, Pehlivan D. Modelling of drying kinetics of single apricot. Journal of Food Engineering, 2003, 58(1): 23-32.

[25] Shi Z L, Zhang J, Zhang X J, et al. Research Status of Fresh Apricot Drying Processing Machinery in Xinjiang. Journal of Anhui Agricultural Sciences, 2014, (31): 11177-11182.

[26] Li J. Natural Drying Characteristics and Process Optimization Experiment of Dried Apricots under Low Temperature and Low Humidity Conditions. Alar: Tarim University, 2022.

[27] Guo X L. Experimental and Simulation Analysis of Variable-Temperature Hot Air Drying of Xiaobai Apricot. Urumqi: Xinjiang Agricultural University, 2015.

[28] Abdulvahitoglu A, Abdulvahitoglu A, Cengiz N. A Comprehensive Analysis of Apricot Drying Methods via Multi-Criteria Decision Making Techniques. Journal Food Process Engineering, 2024, 47: e14759.

[29] Karabulut I, Bilenler T, Sislioglu K, et al. Chemical composition of apricots affected byfruit size and drying methods. Drying Technology, 2018, 36(16): 1-12.

[30] Meng Y N, Ma Y, Zou S P, et al. Study on Solar Drying Technology of Luntai Xiaobai Apricot in Xinjiang. Science and Technology of Food Industry, 2013, 34(13): 193-196.

[31] Kayran S, Doymaz İ. Infrared drying and effective moisture diffusivity of apricot halves: Influence of pretreatment and infrared power. Journal of Food Processing and Preservation, 2016, 40(6): 1190-1198.

[32] Albanese D, Cinquanta L, Cuccurullo G, et al. Effects of microwave and hot-air dryingmethods on colour, β-carotene and radical scavenging activity of apricots. International Journal of Food Science & Technology, 2013, 48(6): 1327-1333.

[33] Jin L W, Ren G Y, Duan X, et al. Effects of Ultrasound Synergistic Treatment on Vacuum Freeze-Drying Dehydration and Quality of Apricots. Food and Fermentation Industries, 2020, 46(06): 133-139+147.

[34] Xiao H W, Zhang S X, Bai J W, et al. Drying Characteristics of Apricots by Gas Jet Impingement. Transactions of the Chinese Society of Agricultural Engineering, 2010, 26(07): 318-323.

[35] Günaydın S, Sağlam C, Çetin N. Tarımsal Ürünlerin Kurutulmasında Kullanılan Kurutma Yöntemleri. Erciyes Tarım ve Hayvan Bilimleri Dergişi, 2022, 5(1): 30-45.

[36] Wang J. Study on Drying Characteristics of Grapes at Different Maturity Stages and Mechanism of High-Temperature High-

Humidity Gas Jet Impingement Blanching for Drying Acceleration. Beijing: China Agricultural University, 2019.

[37] Salur-Can A, Türkyılmaz M, özkan M. Effects of sulfur dioxide concentration on organic acids and β carotene in dried apricots during storage. Food Chemistry, 2017, 221: 412-415.

[38] Uğur Y, Erdoğan S. The effect of hydrogen peroxide used in desulfurization of dried apricot on the antioxidant capacity and phenolic compound content of the fruit. Food Measure, 2021, 15: 3708-3719.

[39] Luo L J. Development of Tree-dried Apricot Product Series. Shihezi: Shihezi University, 2020.

[40] Deng L Z, Mujumdar A S, Zhang Q, et al. Chemical and physical pretreatments of fruits and vegetables: Effects on drying characteristics and quality attributes-a comprehensive review. Critical Reviews in Food Science and Nutrition, 2019, 9(59): 1408-1432.