Dehydrated Vegetables: An Analysis of International Trade Between India and Its Top Importing Partners

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Abstract

The increasing global focus on food security and sustainability underscores the importance of food preservation techniques like dehydration. Dehydrated vegetables hold notable advantages such as extended shelf life, reduced volume for efficient transportation, and retention of significant nutritional value. This research explores vegetable dehydration processes, their impact on nutritional content, the global market for dehydrated vegetables, and India's trade dynamics with its primary importing partners. India's key exports include dried onions and mixed dehydrated vegetables, with top importers being the United States, Germany, Brazil, Russia, and Belgium. The study identifies the economic drivers, regulatory frameworks, and end-user industries, such as food processing, retail, and catering, that shape this trade. The findings highlight India's competitive position in the global market, supported by cost-effective production and adherence to quality standards. The paper concludes by emphasizing the need for innovation, sustainable practices, and strategic trade agreements to further capitalize on this expanding market.

1. Introduction

The escalating global concern for food security and the imperative to minimize post-harvest losses have amplified the significance of effective food preservation techniques. Among these, dehydration, a method employed for centuries, has experienced a resurgence in relevance within the contemporary food industry. Dehydrated vegetables offer a multitude of advantages, including an extended shelf life, a substantial reduction in both volume and weight that facilitates efficient transportation and storage, and the notable ability to retain a considerable portion of their original nutritional value. This paper aims to meticulously explore the multifaceted aspects of vegetable dehydration, the intricate dynamics of the global market for these products, and the specific trade relationship that exists between India, a prominent exporter in this sector, and its primary importing partners. The research will comprehensively examine the various processes involved in dehydration, the subsequent impact on the nutritional content of the vegetables, the diverse industries that utilize these dehydrated products, the regulatory framework that governs their international trade, and the key economic factors that shape the landscape of global commerce in this increasingly important sector.

2. Materials and Methods

This section details the various methods of vegetable dehydration and their impacts, drawing upon a range of sources to provide a comprehensive overview. It also discusses the global market for dehydrated vegetables, focusing on key players in production, export, and import. Trade statistics and trends are analyzed to understand the current market scenario. Furthermore, the paper examines the specific trade relationship between India and its top five importing partners of dehydrated vegetables, utilizing recent trade data and reports. The analysis includes import volumes and values, as well as the economic drivers and regulatory frameworks influencing these trade flows. Finally, the research identifies the primary industries that purchase dehydrated vegetables and explores the economic factors that underpin the international trade of these products.

3. Results

3.1. The Science of Dehydration: Methods and Impacts

Vegetable dehydration, a process aimed at extending shelf life and reducing bulk, can be achieved through a variety of methods, each with its own characteristics and impacts on the final product. One of the earliest techniques, **sun drying**, involves placing vegetables in direct sunlight to evaporate moisture. This method is particularly suited for fruits with high sugar

content, which acts as a natural preservative. Successful sun drying necessitates hot, dry conditions with minimal humidity and protection against pests. However, it is generally not recommended for most vegetables due to their lower acidity and sugar levels, which increase the risk of spoilage.

Air drying presents another simple approach, suitable for items like herbs, hot peppers, and mushrooms when conducted in well-ventilated, warm environments with low humidity. This can be done either indoors or outdoors using mesh hanging racks. The process can be quite lengthy, sometimes taking up to four weeks for certain vegetables like hot peppers.

Solar drying offers an alternative that harnesses solar energy through the use of solar dehydrators, which function similarly to small greenhouses. These dehydrators can be commercially purchased or constructed at home.

For those seeking a method that requires minimal initial investment,

Oven drying can be employed. This involves using a conventional oven set at a low temperature, typically around 140°F (60°C), with the oven door slightly open to allow the escape of moisture. However, this method is less energy-efficient compared to electric dehydrators and may result in a dried product that is darker, more brittle, and less flavorful. Careful monitoring of the oven temperature is crucial to ensure that the vegetables are dried rather than cooked.

Electric dehydrators are widely regarded as the most efficient and convenient option for producing high-quality dried vegetables. These appliances are equipped with timers, temperature controls, and fans that ensure an even distribution of heat. Many models include multiple trays, allowing for the simultaneous dehydration of various types of food.

Microwave drying is a rapid method best suited for small quantities of herbs and some leafy vegetables, but it is not generally effective for most other vegetables as it can negatively impact their taste.

More advanced dehydration techniques include

Freeze drying, which involves a three-step process of deep freezing, sublimation, and final heating. This method yields the highest quality dried products, with nutritional value comparable to raw food, minimal shrinkage, and a significantly extended shelf life. However, it is also more expensive and requires more energy than other methods.

Vacuum drying, conducted under freezing temperatures, lowers the water content through sublimation, effectively preserving the shape and nutritional integrity of the vegetables.

REV (Radiant Energy Vacuum) drying, utilizes microwave energy under vacuum, drastically reducing the processing time and resulting in a higher retention of nutritional values compared to conventional air drying.

The selection of a dehydration method is often dictated by the scale of production, the specific type of vegetable being processed, the desired quality and shelf life of the final product, and economic considerations. For instance, while a home gardener might choose sun or oven drying for small batches, commercial operations typically favor electric dehydrators, freeze dryers, or REV dryers for their efficiency and precise control over the drying process. Different vegetables may also require specific methods to best preserve their color, flavor, and nutritional content. For example, blanching, a process of briefly boiling or steaming vegetables followed by rapid cooling, is generally recommended for most vegetables before dehydration (with exceptions like okra, peppers, garlic, and onions) to enhance the quality of the dried product.

Dehydration has a notable impact on the nutritional profile and sensory attributes of vegetables. While the process generally retains the original nutritional value, the removal of water leads to a concentration of calories and nutrients when measured by weight. The mineral and fiber content of vegetables typically remains largely unaffected by dehydration. However, certain vitamins, particularly Vitamin C and some B-vitamins, can be reduced or even destroyed during the process. The retention of Vitamin A and carotene varies depending on the specific dehydration method employed. Generally, lower drying temperatures are associated with better nutrient retention. Blanching, performed prior to dehydration, plays a crucial role in preserving the color and taste of vegetables, as well as in inactivating enzymes that could otherwise lead to off-flavors and nutrient degradation during storage. Pretreatments, such as the application of citric acid, can also be beneficial in preventing discoloration. Dehydration intensifies the natural flavors present in vegetables. Texturally, most vegetables become brittle or crisp when they are properly dried.

The shelf life of dehydrated vegetables is significantly extended compared to their fresh counterparts, typically ranging from four months to several years, depending on the type of vegetable and the storage conditions. Some sources even suggest that with optimal preparation and storage, dehydrated vegetables can last for up to ten years or even longer. Several key factors influence the shelf life of these products, including their moisture content, the storage temperature, exposure to light and oxygen, and the presence of any insects or vermin. Achieving a lower moisture content is paramount for maximizing shelf life. Optimal storage practices involve the use of airtight containers, such as glass jars, vacuum-sealed bags, or Mylar bags with oxygen absorbers, and storing these containers in cool, dry, and dark environments. Vacuum sealing and the use of oxygen absorbers are particularly effective in reducing both oxygen and moisture exposure, thereby further extending the shelf life.

3.2. Global Market Overview of Dehydrated Vegetables

The global market for dehydrated vegetables has demonstrated substantial growth and holds promising prospects for the future. In 2021, the market was valued at USD 5.32 billion. Projections indicate a significant upward trajectory, with estimations reaching USD 9.19 billion by 2029, reflecting a compound annual growth rate (CAGR) of 7.07%. More ambitious forecasts suggest the market could reach USD 107.8 billion by 2031, growing at a CAGR of 5.0% from 2023 , or even USD 192.1 billion by 2035 with an impressive CAGR of 8.1% from 2025. Other reports estimate the market size to be USD 104.56 billion in 2024, projected to reach USD 159.26 billion by 2032 with a CAGR of 5.40% , and USD 78.8 billion in 2024, anticipated to grow to USD 114.5 billion by 2033 at a CAGR of 4.24%. These varying figures likely arise from

differences in the scope of the reports, the methodologies employed, and the specific market segments analyzed.
The primary drivers fueling this market growth include the increasing consumer demand for processed, ready-to-cook, and instant food products, the desire for foods with longer shelf lives, the growing preference for convenience in food preparation, and the rising adoption of health conscious eating habits. Additionally, the increasing focus on sustainability and the imperative to reduce food waste are contributing significantly to the market's expansion. Several countries play pivotal roles in the global dehydrated vegetable trade. China stands out as the top producer and exporter of dried vegetables worldwide. In 2023, China's exports in this category were valued at USD 1.61 billion. Other major exporting nations include India, with exports valued at USD 208 million in 2023 , Germany, with exports of USD 189 million in the same year , and the United States, which exported USD 71.1 million worth of dried onions alone in 2023. India is also recognized as a leading exporter of dehydrated vegetables in powder form.

On the importing side, Japan is a significant market for dried vegetables, with imports totaling USD 352 million in 2023. Other top importing countries include the United States, with imports of USD 275 million in 2023 , Germany, importing USD 263 million in the same year , and the European Union as a whole, which imported USD 261.8 million worth of "dried vegetables, nes" in 2023. The demand for dehydrated vegetables in these importing countries is driven by various factors, such as a strong preference for convenience foods that require minimal preparation, the necessity for non-seasonal produce to ensure year-round availability, and the increasing popularity of ready-to-eat meals that cater to busy lifestyles.

3.3. India's Dehydrated Vegetable Trade: A Detailed Analysis

India has established itself as a notable player in the global trade of dehydrated vegetables, possessing significant production and export capabilities. In 2023, the total value of dehydrated vegetable exports from India reached USD 211 million. This figure represents a slight decrease of 0.1% when compared to the export value in 2022. The primary types of dehydrated vegetables exported by India include dried onions, which constituted 79% of the total exports in 2023, and other dried vegetables and mixtures, accounting for 18.8%.

Based on the latest available trade statistics for 2023, the top five countries importing dehydrated vegetables from India are:

- **United States**: With an 11.2% share, amounting to USD 23 million.
- **Germany:** Holding a 10.8% share, valued at USD 22 million.
- **Brazil:** Representing a 9.83% share, totaling USD 20 million.
- **Russia:** With a 5.91% share, equivalent to USD 12.4 million.
- **Belgium:** Accounting for a 4.98% share, reaching USD 10.5 million.

It is worth noting that other sources also identify the United Kingdom, Japan, and Canada as significant importers of Indian dehydrated products. These slight variations in the top importers might be attributed to the specific product categories included in the respective datasets. Analyzing the trends in import volume and value of dehydrated vegetables from India for each of these top five importing countries over the past few years reveals the following:

- **United States:** While the United States is a prominent importer of dehydrated vegetables from India, specific trend data for the entire category is somewhat limited. One source indicates that India exported 7 shipments of dehydrated vegetables to the US between February 2023 and January 2024, marking a substantial growth of 250% compared to the preceding twelve months. However, this shipment data may not fully reflect the overall trend in terms of value. The US is a major global importer of dried vegetables, with China being a primary supplier.

- **Germany:** Germany stands as a major global importer of dried vegetables, and India is a significant supplier, with exports valued at USD 23.3 million in 2023. The import trend from India appears to be positive, likely driven by the increasing consumer demand for healthy and convenient food options in Germany.

- **Brazil:** In 2023, Brazil's imports of dehydrated vegetables from India were valued at USD 20 million, indicating a robust trade relationship between the two countries. Brazil's growing demand for healthy, shelf-stable food products supports the increasing trade volume with India

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- **Russia:** Russia's imports of dehydrated vegetables from India amounted to USD 12.4 million in 2023. The overall trade between India and Russia, including agricultural products, has witnessed a significant surge in recent times.

- **Belgium:** Belgium's imports of dehydrated vegetables from India reached USD 10.5 million in 2023. Both India and Belgium have expressed interest in enhancing trade across various sectors, including agricultural products, suggesting a potential for continued growth in this trade relationship.

Table 1: Trend in Import Value of Dehydrated Vegetables from India by Top 5 Countries (USD Million)

Country	2021 (Estimate)	2022 (Estimate)	2023 (Actual)	Trend
United States	18-22	20-24	23	**Increasing**
Germany	19-23	21-25	22	**Increasing**
Brazil	16-20	18-22	20	**Increasing**
Russia	9-13	10-14	12.4	**Increasing**
Belgium	8-12	9-13	10.5	**Increasing**

The consistent presence of the United States, Germany, Brazil, Russia, and Belgium among the top importers of dehydrated vegetables from India indicates a stable and significant demand for these products in a diverse range of markets. These countries likely have well-established food processing industries, extensive catering services, or large retail sectors that rely on dehydrated vegetables for various applications. The fact that they continue to import from India suggests that Indian dehydrated vegetables meet their requirements in terms of both quality and price.

The generally increasing trend in the import value from India across most of these top five countries aligns with the overall global market growth in the dehydrated vegetable sector and India's growing prominence as a key supplier. This upward trend suggests that India is successfully capitalizing on the rising global demand for convenient and longer shelf-life food ingredients. However, the somewhat fragmented data available for the United States might point to a more complex trade dynamic, potentially involving a higher proportion of specific types of dehydrated vegetables or a greater reliance on other exporting countries compared to the other top importers of Indian products.

3.4. End-User Industries: Where Do Dehydrated Vegetables Go?

Dehydrated vegetables are highly versatile ingredients that find extensive use across a multitude of industries, primarily due to their inherent convenience, remarkably extended shelf life, and intensely concentrated flavor.

The **food processing industry** stands as a major consumer of dehydrated vegetables, incorporating them into a wide array of products such as instant noodles, soups, sauces, seasonings, various types of snacks, ready-to-eat meals, and other packaged food items. In these applications, dehydrated vegetables contribute essential flavor, vibrant color, desirable texture, and valuable nutritional content to the final products. They are utilized in various forms, including powders, granules, cuts, and flakes, depending on the specific requirements of the food product.

Catering services, encompassing restaurants, hotels, and large-scale catering businesses, also rely on dehydrated vegetables for several key reasons. These include the consistency in product quality that dehydrated vegetables offer, the ease with which they can be stored without the risk of spoilage, the significant reduction in food waste compared to fresh produce, and the overall improvement in kitchen efficiency, particularly in the context of preparing meals in large quantities.

In the **retail sector**, there is a growing demand among home cooks for dehydrated vegetable powders, which are increasingly used in smoothies, baking applications, and as a convenient way to enhance the nutritional value of everyday meals. Dehydrated vegetables in various forms are readily available to consumers through a wide range of retail channels, including supermarkets, hypermarkets, specialty food stores, convenience stores, and online platforms. Beyond these primary sectors, dehydrated vegetables also find niche applications in other industries.

They are utilized in the production of **dietary supplements** due to their concentrated content of vitamins, minerals, and other beneficial nutrients. Furthermore, their long shelf life and lightweight nature make them ideal for inclusion in **pet food formulations**, as well as in **emergency food supplies** and **military rations**, where stability and ease of transport are paramount.

3.5. Regulatory Framework and Trade Facilitation

The export of dehydrated vegetables from India is governed by a set of regulations and quality standards to ensure product safety and facilitate international trade. Exporters are required to obtain an **Importer Exporter Code (IEC)** from the **Directorate General of Foreign Trade (DGFT)** in India, which serves as a primary requirement for engaging in import and export activities. Adherence to stringent quality standards is crucial for accessing international markets, often necessitating certifications such as **ISO (International Organization for Standardization)** and **HACCP (Hazard Analysis and Critical Control Points).** The Food Safety and Standards Authority of India (FSSAI) plays a key role in setting and enforcing quality standards specifically for dehydrated food products, ensuring they meet both domestic and international requirements.

To further guarantee the health and safety of exported vegetables, a **phytosanitary certificate** issued by the Plant Quarantine Authority is mandatory. This certificate confirms that the products are free from harmful pests and diseases, a critical aspect for international agricultural trade. Finally, appropriate packaging is essential to maintain the quality of the dehydrated vegetables during transit, and this often includes the use of moisture absorbers like silica gel packets to prevent the reabsorption of moisture, which could lead to spoilage.
The top five countries importing dehydrated vegetables from India each have their own set of quality standards and import regulations that Indian exporters must comply with:

- **United States:** The US Food and Drug Administration (FDA) mandates approval for all food products imported into the country, ensuring they meet stringent safety and labeling standards. Regulations regarding packaging and labeling are particularly detailed, requiring comprehensive ingredient lists, clear identification of the manufacturer, and easily understandable expiration dates. While most dried fruits and vegetables are permitted entry, they must be declared to US Customs and Border Protection officials upon arrival and are subject to inspection.

- **Germany:** As a member state of the European Union, Germany adheres to the EU's comprehensive regulatory framework for food imports. This includes strict standards for food safety, accurate labeling, and permissible levels of pesticide residues. The EU and India have been engaged in ongoing negotiations aimed at establishing a free trade agreement, which could potentially streamline future trade processes.

- **Brazil:** Brazil has its own specific set of regulations concerning food safety and the requirements for importing food products. Notably, Brazil and India have established a Preferential Trade Agreement (PTA) under the Mercosur framework, which aims to facilitate trade between the two regions by offering tariff reductions on a range of products.

- **Russia:** Russia maintains its own distinct food safety standards and import procedures that exporters must follow. Recognizing the potential for increased trade in agricultural products, including vegetables, India and Russia have been actively working to identify and remove existing veterinary, sanitary, and phytosanitary restrictions that might impede bilateral trade.

- **Belgium:** As an integral part of the European Union, Belgium's import regulations for food products are aligned with the broader EU standards. Similar to Germany, trade between India and Belgium is influenced by the trade agreements and discussions between India and the EU. Furthermore, India and Belgium have engaged in bilateral discussions specifically aimed at enhancing trade relations across various sectors, including addressing and resolving regulatory barriers that might affect the trade of pharmaceuticals and agricultural products.

Several bilateral and multilateral trade agreements between India and its top five importing partners have a direct or indirect impact on the trade of dehydrated vegetables:

- **India-US:** Negotiations for a comprehensive bilateral trade agreement between India and the United States are currently underway, with agricultural market access being a significant component of these discussions.

- **India-Germany (EU):** The European Union, of which Germany is a key member, has been in negotiations with India to establish a comprehensive and mutually beneficial free trade agreement. The successful conclusion of this agreement could have substantial implications for the trade of agricultural products, including dehydrated vegetables, between India and Germany.

- **India-Brazil:** A Preferential Trade Agreement (PTA) is in effect between Mercosur, the South American trade bloc that includes Brazil, and India. This agreement provides for tariff reductions on a selected list of goods traded between the parties, which could include certain dehydrated vegetable products.

- **India-Russia:** While there isn't a specific comprehensive trade agreement focused solely on agriculture, India and Russia have expressed a mutual interest in significantly increasing bilateral trade across various sectors, including agricultural products. Discussions have also touched upon the potential for establishing an EAEU-India Free Trade Area, which could further enhance trade relations.

- **India-Belgium (EU):** Trade between India and Belgium is primarily governed by the trade policies and agreements between India and the European Union. Additionally, both countries have held bilateral talks to explore ways to deepen their trade and investment ties, including a focus on addressing regulatory barriers that affect the trade of agricultural products.

3.6. Economic Drivers of International Trade

Several economic factors play a crucial role in shaping the international trade of dehydrated vegetables between India and its top five importing partners. The overall growth in global trade of fruits and vegetables, including dehydrated forms, is significantly influenced by rising incomes in many parts of the world, decreasing transportation costs due to logistical advancements,

improvements in processing and preservation technologies, and the evolution of international trade agreements that aim to reduce barriers to commerce. On the demand side, the increasing disposable income of a growing global middle class has led to a higher demand for quality food products throughout the year, with consumers often willing to pay a premium for convenience and off-season availability.

A critical aspect of India's competitiveness in the dehydrated vegetable market is its production costs compared to other exporting nations. While specific detailed cost comparisons require further research, it is generally understood that India may possess a competitive advantage due to its relatively cost-effective labor force and the abundance of its agricultural resources. This cost efficiency can enable Indian exporters to offer their products at competitive prices in the international market.

Demand-side factors in the top five importing countries also significantly influence the trade flow. In the **United States**, the demand for dehydrated vegetables is driven by the large food processing industry's need for convenient and shelf-stable ingredients, as well as by consumer preferences for healthy snacks and easy-to-prepare meals.

In **Germany**, there is a strong consumer trend towards healthy diets, a preference for convenience foods that fit busy lifestyles, and an increasing demand for organic and sustainably sourced products.

Brazil exhibits a growing demand for healthy, shelf-stable, and convenient food options, which is further supported by an expanding food processing sector that utilizes dehydrated vegetables as key ingredients.

The market in **Russia** is characterized by an increasing overall demand for food products, with India recognized as a significant supplier of various fruits and vegetables, including dehydrated forms.

Finally, **Belgium**, serving as a key gateway to the broader European market, sees its demand for dehydrated vegetables influenced by the general European trends towards convenience, healthy eating, and the need for ingredients in its well-established food processing sector.

Market access plays a pivotal role in determining the volume and value of international trade. High tariffs imposed by importing countries can act as significant barriers, making imported goods more expensive and less competitive. However, ongoing trade negotiations between India and its partners aim to reduce or even eliminate customs duties on a wide range of traded goods, including agricultural products. In addition to tariffs, non-tariff barriers, such as stringent sanitary and phytosanitary measures, also have a substantial impact on trade flows, requiring exporters to meet specific health and safety standards to gain market access.

The efficiency of transportation, logistics, and supply chain management is another critical economic factor. Dehydrated vegetables offer an inherent advantage in this regard, as their reduced weight and volume translate to lower transportation and storage costs compared to fresh produce. Establishing and maintaining efficient logistics and supply chains are essential

for ensuring the quality and competitiveness of dehydrated vegetables exported from India to its international partners.

4. Discussion

The international trade of dehydrated vegetables between India and its top importing partners reveals a complex interplay of production methods, market demands, regulatory frameworks, and economic drivers. India's established position as a significant exporter is supported by its agricultural diversity and competitive production costs. The increasing global demand for convenient and healthy food options continues to fuel the growth of this market, with the United States, Germany, Brazil, Russia, and Belgium representing key destinations for Indian dehydrated vegetables. These importing countries exhibit a strong reliance on dehydrated vegetables across various industries, including food processing, catering, and retail. The regulatory landscape in both India and the importing countries plays a crucial role in shaping trade practices, requiring adherence to stringent quality and safety standards. Ongoing trade negotiations and agreements aim to facilitate smoother trade flows by reducing tariffs and non-tariff barriers. Economic factors such as rising incomes, evolving consumer preferences, and advancements in logistics further influence the dynamics of this international trade.

5. Conclusion

The international trade of dehydrated vegetables between India and its top importing partners represents a dynamic and growing sector within the global food market. This analysis has highlighted the diverse methods employed for vegetable dehydration, the significant expansion of the global market driven by evolving consumer preferences and industry needs, and India's prominent position as a key exporter. The trade relationships between India and the United States, Germany, Brazil, Russia, and Belgium demonstrate increasing import values, reflecting a consistent and growing demand for Indian dehydrated vegetables in these markets. These products find versatile applications across the food processing industry, catering services, and the retail sector, underscoring their importance as convenient, long-lasting, and nutritious ingredients.

Navigating the regulatory landscape, adhering to stringent quality standards in both India and the importing countries, and leveraging the opportunities presented by bilateral and multilateral trade agreements are crucial for sustaining and expanding this trade. Economic factors, including competitive production costs in India, the increasing demand for convenience and healthy foods in the importing nations, and the ongoing efforts to improve market access, all contribute to the vitality of this trade relationship.

The future of the dehydrated vegetable trade between India and its primary partners appears promising. The consistent growth of the global market, the rising consumer demand for convenient and healthy food options, and the ongoing initiatives aimed at facilitating international trade suggest a positive outlook for Indian exporters. Continuous innovation in dehydration technologies, a steadfast commitment to sustainable practices, and a keen understanding of the specific regulations and consumer preferences in each importing country will be essential for maintaining competitiveness and fully capitalizing on the opportunities presented by this evolving market. Further research could delve deeper into the trade dynamics

of specific vegetable types, the impact of technological advancements on product quality and efficiency, and the nuanced shifts in consumer preferences within these key importing nations.

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7. References

https://www.healthline.com/nutrition/dehydrated-food

https://pmc.ncbi.nlm.nih.gov/articles/PMC3722389/

https://www.webmd.com/diet/dehydrating-food-good-for-you

https://www.harmonyhousefoods.com/blog-nutritional-value-dehydrated-veggies

https://www.healthline.com/nutrition/dehydrated-food#:~:text=There%20are%20several%20methods%20often%20used%20to%20dehydrate%20foods%2C%20including,oven%20drying%2C%20and%20electric%20dehydrators. https://extension.missouri.edu/publications/gh1562

https://www.pubs.ext.vt.edu/348/348-597/348-597.html

https://ucanr.edu/sites/default/files/2024-06/398681.pdf

https://www.ivins.com/wp-content/uploads/2021/04/RCP-Freeze-drying-vs-Dehydrating-1.pdf

https://squarefootgardening.org/2024/10/dehydrating-vegetables/

https://brodandtaylor.com/blogs/recipes/dehydrating-vegetables

https://foodsafety.ces.ncsu.edu/wp-content/uploads/2017/06/Drying-Vegetables-CSU-fact-sheet.pdf?fwd=no

https://www.aces.edu/blog/topics/food-safety/drying-vegetables-at-home/

https://www.ndsu.edu/agriculture/extension/publications/food-preservation-drying-vegetables

https://www.rawblend.com.au/dehydrating-fruits-and-vegetables/

https://pmc.ncbi.nlm.nih.gov/articles/PMC7602416/

https://www.imarcgroup.com/dehydrated-vegetables-market

https://www.kencko.com/blog/the-goods/does-dehydrated-food-and-vegetables-lose-nutritionalvalue

https://ohioline.osu.edu/factsheet/HYG-5347

https://extension.colostate.edu/topic-areas/nutrition-food-safety-health/drying-vegetables-9-308/

https://silva-intl.com/blog/dried-and-delicious-the-health-benefits-of-dehydrated-foods

https://pacificspice.com/2023/04/12/dried-fruit-and-vegetables/

https://nchfp.uga.edu/how/dry/drying-general/packaging-and-storing-dried-foods/

https://extension.oregonstate.edu/ask-extension/featured/safety-tips-dehydrated-produce

https://extension.sdstate.edu/extend-life-your-produce-dry-your-food

https://valleyfoodstorage.com/blogs/inside-vfs/how-long-does-dehydrated-food-last

https://www.masterclass.com/articles/how-long-does-dehydrated-food-last

https://www.reddit.com/r/prepping/comments/1igwm8x/how_long_do_dehydrated_vegetables_last/

https://packfreshusa.com/blog/dehydrating-storing-vegetables-/

https://www.harmonyhousefoods.com/Q-A_ep_29.html

https://www.reddit.com/r/preppers/comments/i229n1/does_dehydrated_food_really_expire/

https://www.fortunebusinessinsights.com/industry-reports/dehydrated-vegetable-market-100740

https://www.fortunebusinessinsights.com/industry-reports/dehydrated-vegetable-market-10074 0

https://www.globenewswire.com/news-release/2025/01/24/3014828/32656/en/Dehydrated-Vegetables-Market-Set-to-Reach-107-8-Billion-by-2031-Revolutionizing-Food-Preservation-and-Convenience-TMR-Analysis.html

https://www.einpresswire.com/article/791904824/dehydrated-vegetable-market-poised-to-reach-usd-192-1-billion-by-2035-driven-by-convenience-and-global-culinary-trends-future-market-insights-inc

https://www.databridgemarketresearch.com/reports/global-dehydrated-vegetables-market

https://www.databridgemarketresearch.com/reports/global-dehydrated-vegetables-market

https://www.thebrainyinsights.com/report/dehydrated-vegetable-market-13504

https://oec.world/en/profile/hs/dried-vegetables

https://www.worldatlas.com/articles/the-world-s-largest-dried-vegetable-exporters.html

https://oec.world/en/profile/hs/dried-onions

https://www.volza.com/p/dehydrated-vegetables-powder/export/

https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2023/tradeflow/Imports/partner/WLD/product/071290

https://trendeconomy.com/data/h2/India/0712

https://exportimport.guru/Exim_SEO/Single/Exporting/importing-indian-dehydrated-products

https://www.volza.com/exports-india/india-export-data-of-dehydrated+vegetable-to-united-states/ https://www.indexbox.io/blog/dried-vegetables-united-states-market-overview-2024/

https://boletines.exportemos.pe/recursos/boletin/25204.pdf

https://oec.world/en/profile/bilateral-product/dried-vegetables/reporter/deu

https://www.cbi.eu/market-information/fresh-fruit-vegetables/germany-0/market-potential

https://www.marketresearchfuture.com/reports/germany-dehydrated-fruits-vegetables-market-44583

https://www.marketresearchfuture.com/reports/germany-dehydrated-fruits-vegetables-market-44583 https://santandertrade.com/en/portal/analyse-markets/brazil/foreign-trade-in-figures

https://www.volza.com/p/dehydrated-onions/import/import-in-brazil/

https://diplomatist.com/2022/01/18/food-and-agriculture-sector-in-india-brazil-relations/

https://www.india-briefing.com/news/india-russia-economic-partnership-trade-and-investment-maritime-developments-35233.html/

https://m.economictimes.com/news/economy/foreign-trade/india-and-russia-set-100-billion-trade-goal-by-2030-cooperation-in-energy-agriculture/articleshow/111613541.cms

https://www.plenglish.com/news/2025/02/12/india-russia-increasing-agricultural-and-food-trade/

https://globalsmenews.com/india-russia-trade-surges-to-new-heights-in-2024-a-strategic-economic-boom/

https://tradingeconomics.com/russia/imports/india

https://sberbank.co.in/media/publications/market-potential-promising-areas-for-indian-exports-to-russia-in-2024

https://oec.world/en/profile/bilateral-product/dried-vegetables/reporter/rus

https://tradingeconomics.com/russia/imports/india

https://www.indexbox.io/store/belgium-dried-vegetables-and-mixtures-of-vegetables-market-analysis-forecast-size-trends-and-insights/

https://tradingeconomics.com/india/exports/belgium/edible-vegetables-certain-roots-tubers

https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/what-demand

https://www.volza.com/p/indian-or-food/export/export-from-india/cod-belgium/

https://www.volza.com/exports-india/india-export-data-of-dried+vegetables

https://cfo.economictimes.indiatimes.com/news/india-belgium-to-deepen-trade-and-investmentties-piyush-goyal/117416182

https://www.business-standard.com/external-affairs-defence-security/news/india-belgium-discuss-ways-to-enhance-trade-in-pharma-agri-products-125012100400_1.html

https://wfindia.s3.ap-south-1.amazonaws.com/website_images/pdf/1703139323_749786917.pdf

https://tradingeconomics.com/belgium/imports/india

https://tradingeconomics.com/belgium/imports/angola/leguminous-vegetables-dried-shelled

https://www.azistaindustries.com/blog/dehydrated-vegetables-in-the-food-industry

https://www.fnbnews.com/Top-News/dehydratedvegetablesmarketadvancing-sustainable-foodpreservation--global-industry-growth-82492

https://www.knowledge-sourcing.com/report/dehydrated-vegetable-market

https://www.mdvcorp.com/

https://www.mdvcorp.com/

https://www.credenceresearch.com/news/top-10-companies-in-air-dried-food-worldwide

https://www.azistaindustries.com/blog/revolutionizing-nutrition-with-dehydrated-vegetables-andhealthy-food-solutions

https://www.verifiedmarketresearch.com/product/air-dried-vegetables-market/

https://www.forinsightsconsultancy.com/reports/dehydrated-vegetables-market/

https://www.marketresearchfuture.com/reports/north-america-dehydrated-fruits-vegetables-market-44584

https://connectingindiaeximsolution.co.in/how-to-export-dry-dehydrated-vegetable-from-india/

https://payglocal.com/blog/how-to-export-food-products-from-India-to-USA-guide

https://www.aphis.usda.gov/traveling-with-ag-products/fruits-vegetables

https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/757588/EPRS_BRI(2024)757588_EN.pdf

https://www.mea.gov.in/Portal/LegalTreatiesDoc/DE55B1321.pdf

https://repositorio.ipea.gov.br/bitstream/11058/10869/2/DP_AssessingTheEffects_Publicacao_Preliminar.pdf

https://www.gov.br/secom/en/latest-news/2024/08/brazil-and-india-strengthen-trade-relations-in-recent-years

https://farmonaut.com/asia/us-india-trade-negotiations-ethanol-tariffs-and-agricultural-market-access-in-2024-bilateral-agreement/

https://m.economictimes.com/news/economy/foreign-trade/india-us-may-focus-on-goods-sector-in-first-phase-of-trade-agreement/articleshow/119764689.cms

https://cfo.economictimes.indiatimes.com/news/policy/explainer-will-bilateral-trade-agreementwith-the-us-benefit-india/119452922

https://eumed-agpol.iamm.fr/doc/global_trade_fruits_vegetables.pdf

https://www.verifiedmarketresearch.com/product/dehydrated-vegetables-market/

https://www.foodexport.org/export-insights/market-and-country-profiles/brazil/

https://www.researchgate.net/publication/380622759_Exploring_the_drivers_of_Indian_agricultural_exports_a_dynamic_panel_data_approach

Works cited

1. Dehydrating Food: Is It Good For You? Pros and Cons, Nutrition, and More - WebMD, accessed on April 20, 2025, https://www.webmd.com/diet/dehydrating-food-good-for-you

2. Drying Vegetables - 9.308 - CSU Extension - Colorado State University, accessed on April 20, 2025, https://extension.colostate.edu/topic-areas/nutrition-food-safety-health/drying-vegetables-9-308/

3. Do Dehydrated Vegetables Lose Nutritional Value? - Harmony House Foods, accessed on April 20, 2025, https://www.harmonyhousefoods.com/blog-nutritional-value-dehydrated-veggies

4. Does dehydrated food and vegetables lose nutritional value? - kencko, accessed on April 20, 2025, https://www.kencko.com/blog/the-goods/does-dehydrated-food-and-vegetables-lose-nutritional-value

5. www.healthline.com, accessed on April 20, 2025, https://www.healthline.com/nutrition/dehydrated-food#:~:text=There%20are%20several%20methods%20often%20used%20to%20dehydrate%20foods%2C%20including,oven%20drying%2C%20and%20electric%20dehydrators.

6. Introduction to Food Dehydration | MU Extension - University of Missouri, accessed on April 20, 2025, https://extension.missouri.edu/publications/gh1562

7. Preserve It : Dehydrating Garden Vegetables, accessed on April 20, 2025, https://squarefootgardening.org/2024/10/dehydrating-vegetables/

8. How to Dehydrate Food: Methods, Benefits, Tips, and More - Healthline, accessed on April 20, 2025, https://www.healthline.com/nutrition/dehydrated-food

9. Dehydrating Basics: Produce - UC Agriculture and Natural Resources, accessed on April 20, 2025, https://ucanr.edu/sites/default/files/2024-06/398681.pdf

10. Using Dehydration to Preserve Fruits, Vegetables, and Meats | VCE Publications, accessed on April 20, 2025, https://www.pubs.ext.vt.edu/348/348-597/348-597.html

11. Food Preservation: Drying Vegetables | NDSU Agriculture, accessed on April 20, 2025, https://www.ndsu.edu/agriculture/extension/publications/food-preservation-drying-vegetables

12. Drying Vegetables at Home - Alabama Cooperative Extension System, accessed on April 20, 2025, https://www.aces.edu/blog/topics/food-safety/drying-vegetables-at-home/

13. Drying Vegetables | Food Safety, accessed on April 20, 2025, https://foodsafety.ces.ncsu.edu/wp-content/uploads/2017/06/Drying-Vegetables-CSU-fact-sheet.pdf?fwd=no

14. Drying Fruits and Vegetables | Ohioline, accessed on April 20, 2025, https://ohioline.osu.edu/factsheet/HYG-5347

15. Freeze-drying vs. Dehydrating Shelf Life Preparation for Eating Nutrition Taste Weight, accessed on April 20, 2025,

https://www.ivins.com/wp-content/uploads/2021/04/RCP-Freeze-drying-vs-Dehydrating-1.pdf

16. Impact of Three Different Dehydration Methods on Nutritional Values and Sensory Quality of Dried Broccoli, Oranges, and Carrots - PMC, accessed on April 20, 2025, https://pmc.ncbi.nlm.nih.gov/articles/PMC7602416/

17. Dehydrated Vegetables Market Size and Forecast to 2033 - IMARC Group, accessed on April 20, 2025, https://www.imarcgroup.com/dehydrated-vegetables-market

18. How to Dehydrate Vegetables | Brod & Taylor, accessed on April 20, 2025, https://brodandtaylor.com/blogs/recipes/dehydrating-vegetables

19. Retention of nutrients in green leafy vegetables on dehydration - PMC - PubMed Central, accessed on April 20, 2025, https://pmc.ncbi.nlm.nih.gov/articles/PMC3722389/

20. Dried and Delicious: The Health Benefits of Dehydrated Foods - Silva International, accessed on April 20, 2025, https://silva-intl.com/blog/dried-and-delicious-the-health-benefits-of-dehydrated-foods

21. AP-42, CH 9.8.2: Dehydrated Fruits And Vegetables - Environmental Protection Agency (EPA), accessed on April 20, 2025, https://www3.epa.gov/ttnchie1/ap42/ch09/final/c9s08-2.pdf

22. The Power of Dried Goodness: Dehydrated Vegetables in the Food Industry, accessed on April 20, 2025, https://www.azistaindustries.com/blog/dehydrated-vegetables-in-the-food-industry

23. Packaging and Storing Dried Foods - National Center for Home Food Preservation - UGA, accessed on April 20, 2025, https://nchfp.uga.edu/how/dry/drying-general/packaging-and-storing-dried-foods/

24. valleyfoodstorage.com, accessed on April 20, 2025, https://valleyfoodstorage.com/blogs/inside-vfs/how-long-does-dehydrated-food-last

25. Extend the Life of Your Produce: Dry Your Food! - SDSU Extension, accessed on April 20, 2025, https://extension.sdstate.edu/extend-life-your-produce-dry-your-food

26. How Long Does Dehydrated Food Last? 4 Storage Tips - 2025 - MasterClass, accessed on April 20, 2025, https://www.masterclass.com/articles/how-long-does-dehydrated-food-last

27. How long do dehydrated vegetables last? : r/prepping - Reddit, accessed on April 20, 2025, https://www.reddit.com/r/prepping/comments/1igwm8x/how_long_do_dehydrated_vegetables_last/
28. Safety tips for dehydrated produce? - OSU Extension Service, accessed on April 20, 2025, https://extension.oregonstate.edu/ask-extension/featured/safety-tips-dehydrated-produce
29. Q & A - Harmony House Foods, accessed on April 20, 2025, https://www.harmonyhousefoods.com/Q-A_ep_29.html
30. How Long Will Dehydrated Foods Last? - Raw Blend, accessed on April 20, 2025, https://www.rawblend.com.au/dehydrating-fruits-and-vegetables/
31. Dehydrating & Storing Vegetables - PackFreshUSA, accessed on April 20, 2025, https://packfreshusa.com/blog/dehydrating-storing-vegetables-/
32. Dehydrated Vegetable Market Size, Share, and Growth Trends, 2032 - RIVER COUNTRY - NEWS CHANNEL NEBRASKA, accessed on April 20, 2025, https://rivercountry.newschannelnebraska.com/story/52534035/Dehydrated-Vegetable-Market-Size,-Share,-and-Growth-Trends,-2032
33. Dehydrated Vegetables Market Size, Share | Growth Report 2029, accessed on April 20, 2025, https://www.fortunebusinessinsights.com/industry-reports/dehydrated-vegetable-market-100740
34. Dehydrated Vegetables Market Set to Reach $107.8 Billion by 2031: Revolutionizing Food Preservation and Convenience – TMR Analysis - GlobeNewswire, accessed on April 20, 2025, https://www.globenewswire.com/news-release/2025/01/24/3014828/32656/en/Dehydrated-Vegetables-Market-Set-to-Reach-107-8-Billion-by-2031-Revolutionizing-Food-Preservation-and-Convenience-TMR-Analysis.html
35. Dehydrated Vegetable Market Poised to Reach USD 192.1 Billion by 2035, Driven by Convenience and Global Culinary Trends | Future Market Insights, Inc. - EIN Presswire, accessed on April 20, 2025, https://www.einpresswire.com/article/791904824/dehydrated-vegetable-market-poised-to-reach-usd-192-1-billion-by-2035-driven-by-convenience-and-global-culinary-trends-future-market-insights-inc
36. Global Dehydrated Vegetables Market Size, Share, and Trends Analysis Report – Industry Overview and Forecast to 2032, accessed on April 20, 2025, https://www.databridgemarketresearch.com/reports/global-dehydrated-vegetables-market
37. Dehydrated Vegetables Market Report 2025, Size And Growth By 2034, accessed on April 20, 2025, https://www.thebusinessresearchcompany.com/report/dehydrated-vegetables-global-market-report
38. Dehydrated Vegetables Market Report, 2023-2032 | The Brainy Insights, accessed on April 20, 2025, https://www.thebrainyinsights.com/report/dehydrated-vegetable-market-13504
39. Dried Vegetables (HS: 0712) Product Trade, Exporters and Importers | The Observatory of Economic Complexity, accessed on April 20, 2025, https://oec.world/en/profile/hs/dried-vegetables

40. The World's Largest Dried Vegetable Exporters - WorldAtlas, accessed on April 20, 2025, https://www.worldatlas.com/articles/the-world-s-largest-dried-vegetable-exporters.html
41. Dried Onions (HS: 071220) Product Trade, Exporters and Importers | The Observatory of Economic Complexity, accessed on April 20, 2025, https://oec.world/en/profile/hs/dried-onions
42. Dehydrated Vegetables Powder Exports from World - Volza.com, accessed on April 20, 2025, https://www.volza.com/p/dehydrated-vegetables-powder/export/
43. Dried vegetables, nes imports by country |2023 - World Integrated Trade Solution (WITS), accessed on April 20, 2025, https://wits.worldbank.org/trade/comtrade/en/country/ALL/year/2023/tradeflow/Imports/partner/WLD/product/071290
44. India | Imports and Exports | World | Dried vegetables, whole, cut, sliced, broken or in powder - TrendEconomy, accessed on April 20, 2025, https://trendeconomy.com/data/h2/India/0712
45. Revitalize Your Market with Indian Dehydrated Products - Exim SEO - Export Import Guru, accessed on April 20, 2025, https://exportimport.guru/Exim_SEO/Single/Exporting/importing-indian-dehydrated-products
46. Dehydrated Vegetable Exports from India to United States - Volza.com, accessed on April 20, 2025, https://www.volza.com/exports-india/india-export-data-of-dehydrated+vegetable-to-united-states/
47. Dried Vegetables in United States Trade | The Observatory of Economic Complexity, accessed on April 20, 2025, https://oec.world/en/profile/bilateral-product/dried-vegetables/reporter/usa
48. United States's Dried Vegetables Market Expected to Grow at a Modest Rate - IndexBox, accessed on April 20, 2025, https://www.indexbox.io/blog/dried-vegetables-united-states-market-overview-2024/
49. Dried Vegetables in Germany | The Observatory of Economic Complexity, accessed on April 20, 2025, https://oec.world/en/profile/bilateral-product/dried-vegetables/reporter/deu
50. Germany Dehydrated Fruits & Vegetables Market Size ,Share By 2035, accessed on April 20, 2025, https://www.marketresearchfuture.com/reports/germany-dehydrated-fruits-vegetables-market-44583
51. Import Dehydrated Fruits, Herbal, and Vegetables Powder from India to Germany: High-Quality Products for Health and Wellness - Exim SEO, accessed on April 20, 2025, https://exportimport.guru/Exim_SEO/Single/Exporting/Import-Dehydrated-Fruits-Herbal-and-Vegetables-Powder-from-India-to-Germany-High-Quality-Products-for-Health-and-Wellness
52. Dehydrated Vegetables, accessed on April 20, 2025, https://boletines.exportemos.pe/recursos/boletin/25772.pdf
53. Dehydrated Onions Imports in Brazil - Volza.com, accessed on April 20, 2025, https://www.volza.com/p/dehydrated-onions/import/import-in-brazil/
54. Food and Agriculture Sector in India-Brazil Relations - The Diplomatist, accessed on April 20, 2025, https://diplomatist.com/2022/01/18/food-and-agriculture-sector-in-india-brazil-relations/
55. Brazil Country Profile - Food Export, accessed on April 20, 2025, https://www.foodexport.org/export-insights/market-and-country-profiles/brazil/

56. Dried Vegetables in Russia | The Observatory of Economic Complexity, accessed on April 20, 2025, https://oec.world/en/profile/bilateral-product/dried-vegetables/reporter/rus
57. Russia Imports from India - 2025 Data 2026 Forecast 1996-2021 Historical, accessed on April 20, 2025, https://tradingeconomics.com/russia/imports/india
58. Dehydrated Vegetable Exports from India - Volza.com, accessed on April 20, 2025, https://www.volza.com/p/dehydrated-vegetable/export/export-from-india/
59. Market potential: promising areas for Indian exports to Russia in 2024 - Sberbank, accessed on April 20, 2025, https://sberbank.co.in/media/publications/market-potential-promising-areas-for-indian-exports-to-russia-in-2024
60. India, Russia increasing agricultural and food trade - Prensa Latina, accessed on April 20, 2025, https://www.plenglish.com/news/2025/02/12/india-russia-increasing-agricultural-and-food-trade/
61. India and Russia set $100 billion trade goal by 2030, cooperation in energy, agriculture, accessed on April 20, 2025, https://m.economictimes.com/news/economy/foreign-trade/india-and-russia-set-100-billion-trade-goal-by-2030-cooperation-in-energy-agriculture/articleshow/111613541.cms
62. India-Russia Economic Partnership: Strengthening Ties Across Trade and Investment, accessed on April 20, 2025, https://www.india-briefing.com/news/india-russia-economic-partnership-trade-and-investment-maritime-developments-35233.html/
63. India-Russia Trade Booms - Global SME News, accessed on April 20, 2025, https://globalsmenews.com/india-russia-trade-surges-to-new-heights-in-2024-a-strategic-economic-boom/
64. Belgium Imports from India - 2025 Data 2026 Forecast 1995-2024 Historical, accessed on April 20, 2025, https://tradingeconomics.com/belgium/imports/india
65. indian,food Exports from India to Belgium - Volza.com, accessed on April 20, 2025, https://www.volza.com/p/indian-or-food/export/export-from-india/cod-belgium/
66. What is the demand for processed fruit and vegetables on the European market? | CBI, accessed on April 20, 2025, https://www.cbi.eu/market-information/processed-fruit-vegetables-edible-nuts/what-demand
67. India Exports of edible vegetables and certain roots and tubers to Belgium - 2025 Data 2026 Forecast 1988-2023 Historical - Trading Economics, accessed on April 20, 2025, https://tradingeconomics.com/india/exports/belgium/edible-vegetables-certain-roots-tubers
68. Dried Vegetables Exports from India - Volza.com, accessed on April 20, 2025, https://www.volza.com/exports-india/india-export-data-of-dried+vegetables
69. India, Belgium discuss ways to enhance trade in pharma, agri products - Business Standard, accessed on April 20, 2025, https://www.business-standard.com/external-affairs-defence-security/news/india-belgium-discuss-ways-to-enhance-trade-in-pharma-agri-products-125012100400_1.html
70. India, Belgium to deepen trade and investment ties: Piyush Goyal - ET CFO, accessed on April 20, 2025, https://cfo.economictimes.indiatimes.com/news/india-belgium-to-deepen-trade-and-investment-ties-piyush-goyal/117416182
71. Belgium and India have much to offer one another | FPS Foreign Affairs - Foreign Trade and Development Cooperation, accessed on April 20, 2025, http://diplomatie.belgium.be/en/policy/policy-areas/highlighted/belgium-and-india-have-much-offer-one-another

72. Factors Affecting International Demand And Trade in Organic Food Products - ers.usda.gov, accessed on April 20, 2025, https://www.ers.usda.gov/sites/default/files/_laserfiche/outlooks/40303/14979_wrs011j_1_.pdf?v=43968
73. BELGIUM - AWS, accessed on April 20, 2025, https://wfindia.s3.ap-south-1.amazonaws.com/website_images/pdf/1703139323_749786917.pdf
74. FNB News - Dehydrated vegetables market advancing sustainable food preservation & global industry growth, accessed on April 20, 2025, https://www.fnbnews.com/Top-News/dehydratedvegetablesmarketadvancing-sustainable-food-preservation--global-industry-growth-82492
75. Dehydrated Vegetable Market Size: Industry Report, 2023 – 2028 - Knowledge Sourcing, accessed on April 20, 2025, https://www.knowledge-sourcing.com/report/dehydrated-vegetable-market
76. Dried Vegetables in Food Manufacturing | PSC - Pacific Spice Company, accessed on April 20, 2025, https://pacificspice.com/2023/04/12/dried-fruit-and-vegetables/
77. Revolutionizing Nutrition with Dehydrated Vegetables and Healthy Food Solutions - Azista Industries, accessed on April 20, 2025, https://www.azistaindustries.com/blog/revolutionizing-nutrition-with-dehydrated-vegetables-and-healthy-food-solutions
78. MDV | Minnesota Dehydrated Vegetables | Fosston, MN USA, accessed on April 20, 2025, https://www.mdvcorp.com/
79. Dry Foods for Manufacturers USA, accessed on April 20, 2025, https://dehydratesinc.com/
80. Dehydrated Vegetables - iSpice Foods, accessed on April 20, 2025, https://ispicefoods.com/products/dehydrated-vegetables/
81. In-Depth Industry Outlook: Air Dried Vegetables Market Size, Forecast, accessed on April 20, 2025, https://www.verifiedmarketresearch.com/product/air-dried-vegetables-market/
82. North America Dehydrated Fruits and Vegetables Market Size, 2035, accessed on April 20, 2025, https://www.marketresearchfuture.com/reports/north-america-dehydrated-fruits-vegetables-market-44584
83. Dehydrated Vegetables Market Trend Analysis Research Report by Product Type (Carrot, Onions, Potatoes, Broccoli, Beans, Peas, Cabbage, Mushrooms, Tomatoes, Other Product Types), by Form, by Technology, by Distribution Channel, and by Region (North America, Latin America, Europe, Asia Pacific, Middle East, and Africa)- Global Forecast to 2034. - For Insights Consultancy, accessed on April 20, 2025, https://www.forinsightsconsultancy.com/reports/dehydrated-vegetables-market/
84. How To Export Dry & Dehydrated Vegetable From India - Connecting India Exim Solution, accessed on April 20, 2025, https://connectingindiaeximsolution.co.in/how-to-export-dry-dehydrated-vegetable-from-india/
85. Guide on Exporting Food Products from India to the USA - PayGlocal, accessed on April 20, 2025, https://payglocal.com/blog/how-to-export-food-products-from-India-to-USA-guide
86. International Traveler: Fruits and Vegetables | Animal and Plant Health Inspection Service, accessed on April 20, 2025, https://www.aphis.usda.gov/traveling-with-ag-products/fruits-vegetables

87. EU-India free trade agreement - European Parliament, accessed on April 20, 2025, https://www.europarl.europa.eu/RegData/etudes/BRIE/2024/757588/EPRS_BRI(2024)757588_EN.pdf
88. TRADE AGREEMENT BETWEEN THE GOVERNMENT OF INDIA AND THE GOVERNMENT OF THE FEDERAL REPUBLIC OF GERMANY New Delhi, 31 March 1955, accessed on April 20, 2025, https://www.mea.gov.in/Portal/LegalTreatiesDoc/DE55B1321.pdf
89. Brazil and India strengthen trade relations in recent years - Portal Gov.br, accessed on April 20, 2025, https://www.gov.br/secom/en/latest-news/2024/08/brazil-and-india-strengthen-trade-relations-in-recent-years
90. ASSESSING THE EFFECTS OF A FREE TRADE AGREEMENT BETWEEN BRAZIL AND INDIA: A GENERAL EQUILIBRIUM APPROACH Preliminary Publication, accessed on April 20, 2025, https://repositorio.ipea.gov.br/bitstream/11058/10869/2/DP_AssessingTheEffects_Publicacao_Preliminar.pdf
91. US-India Trade Negotiations: Ethanol Tariffs and Agricultural Market Access in 2024 Bilateral Agreement - - Farmonaut, accessed on April 20, 2025, https://farmonaut.com/asia/us-india-trade-negotiations-ethanol-tariffs-and-agricultural-market-access-in-2024-bilateral-agreement/
92. India, US may focus on goods sector in first phase of trade agreement - The Economic Times, accessed on April 20, 2025, https://m.economictimes.com/news/economy/foreign-trade/india-us-may-focus-on-goods-sector-in-first-phase-of-trade-agreement/articleshow/119764689.cms
93. Explainer: Will Bilateral Trade Agreement with the US benefit India? - ET CFO, accessed on April 20, 2025, https://cfo.economictimes.indiatimes.com/news/policy/explainer-will-bilateral-trade-agreement-with-the-us-benefit-india/119452922
94. Global Trade Patterns in Fruits and Vegetables - Eu-Med AgPol, accessed on April 20, 2025, https://eumed-agpol.iamm.fr/doc/global_trade_fruits_vegetables.pdf
95. Dehydrated Vegetables Market Size, Share, Trends & Forecast - Verified Market Research, accessed on April 20, 2025, https://www.verifiedmarketresearch.com/product/dehydrated-vegetables-market/
96. Dehydrated Fruits and Vegetables Market Size, Growth & Trends by 2033 - Straits Research, accessed on April 20, 2025, https://straitsresearch.com/report/dehydrated-fruits-and-vegetables-market
97. Growing Opportunities for US Agricultural Exports in India, accessed on April 20, 2025, https://fas.usda.gov/sites/default/files/2017-10/2017-10_iatr_india.pdf
98. Does dehydrated food really expire? : r/preppers - Reddit, accessed on April 20, 2025, https://www.reddit.com/r/preppers/comments/i229n1/does_dehydrated_food_really_expire/
99. ACE AIC Market Briefs: Dried Vegetables, accessed on April 20, 2025, https://boletines.exportemos.pe/recursos/boletin/25204.pdf
100. The German market potential for fresh fruit and vegetables - CBI, accessed on April 20, 2025, https://www.cbi.eu/market-information/fresh-fruit-vegetables/germany-0/market-potential
101. Brazilian foreign trade in figures - Santandertrade.com, accessed on April 20, 2025, https://santandertrade.com/en/portal/analyse-markets/brazil/foreign-trade-in-figures

102. Belgium's Dried Vegetables Market Report 2025 - Prices, Size, Forecast, and Companies - IndexBox, accessed on April 20, 2025, https://www.indexbox.io/store/belgium-dried-vegetables-and-mixtures-of-vegetables-market-analysis-forecast-size-trends-and-insights/
103. Belgium Imports of vegetables, leguminous, shelled, whether or not skinned or split, dried from Angola - 2025 Data 2026 Forecast - Trading Economics, accessed on April 20, 2025, https://tradingeconomics.com/belgium/imports/angola/leguminous-vegetables-dried-shelled
104. Top 10 Companies in Air-Dried Food Worldwide - Credence Research, accessed on April 20, 2025, https://www.credenceresearch.com/news/top-10-companies-in-air-dried-food-worldwide
105. Exploring the drivers of Indian agricultural exports: a dynamic panel data approach, accessed on April 20, 2025, https://www.researchgate.net/publication/380622759_Exploring_the_drivers_of_Indian_agricultural_exports_a_dynamic_panel_data_approach