# Global Pistachio Production And Marketing Challenges

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**Abstract:**

Pistachio figures prominently among other nuts due to its nutritious value. Because of its high food value and favorable taste, planting pistachio trees has become common in other parts of the world. Pistachio product as a commercial output has a special importance in the agricultural production of some countries like Iran and contains large portion of non-petroleum exportation.

According to the latest statistics released by the World Food and Agriculture Organization (FAO) affiliated to the United Nations, the pistachio production in the world stood at 548,759 metric tones (MTs) in 2002, Iran ranking first with a production of 300,000 MTs. The U.S. with a production of 127,010 MTs, Turkey with 40,000 MTs, Syria with 39,208 MTs, and China with 26,000 MTs took other places after Iran. The pistachio gardens in Iran's rival country, the U.S. occupies a total area of 44,000 hectares vs. 280000 hectares in Iran. Iran ranks first in the world in terms of pistachio production and harvested area but it does not enjoy such a high position in global marketing due to exporting challenges.

The USA as Iran's rival in pistachio global markets tries in many devices to improve its situation and gain in global war of pistachio production and export by defecting Iran, and USA with advanced technology may win in this war of globalization process. Of course, major markets in Europe, East Asia, Central Asia and the Persian Gulf littoral states use Iranian pistachios at present, but it is necessary that Iran observe international standards and make investments in marketing and exporting processing industries and find new target markets for this product, particularly by eliminating limitations and entering WTO.

In this study, existing position and challenges of major producing and exporting countries with especial reference to Iran and USA are considered and a number of strategies are recommended for an effective competition in global markets.

**Keyword:**

Pistachio, global, marketing, exporting, process, challenges, non-petroleum, WTO.

**Introduction:**

In ancient times, at the celebrated imperial court of Queen Belgians of Sheba, pistachios were a privilege for royalty and the elite. Luckily Iranian pistachios are no longer reserved for the wealthy. Since early exports in the 1920's, their popularity has spread fast. Now, as in centuries past, the pistachio is one of the nation's most prized crops. Pistachio trees grow predominantly in regions situated 500-2,200 meters above the sea level, and having icy winters and hot summers. Pistachio-rich regions are scattered on an encompassing belt of 19-40 altitudes. Pistachios are an excellent source of many nutrients, including potassium, phosphorous, calcium, protein, vitamins, minerals and amino acids essential for good health. Although nuts contain on average twice the fat content of animal products, the type of fat is very different. They have a higher proportion of unsaturated fat as well as the antioxidant vitamin E and dietary fiber, which can help to reduce cholesterol levels and has been associated with a reduction of the risk of bowel cancer.

In a long term American study of 26,000 healthy people, 7,000 were given nuts to eat at least five times a week. It was proved that the inclusion of nuts in the regular diet can halve the risk of heart disease. Until recently, popular opinion held that nuts were fattening. But having a high fat content is not the same thing as 'being fattening.' There is no evidence to suggest that eating nuts can lead to weight gain when eaten in moderate amounts as part of a calorie-controlled diet. As an alternative to most refined carbohydrate based snack foods, pistachios are the ideal choice for those on a calorie-controlled diet, as they satisfy hunger pangs quickly and on fewer calories. In fact, given that nuts are so filling, overeating is less likely. According to the studies launched by nutrition experts, there are about 21 gram of protein, 52 gram of fat, 136 milligram calcium in 100 gram of pistachios, which generate 641 calories. A pistachio has all kinds of vitamins such as B1, B2, C, and E (see Table 1).

Due to its high nutritious value and favorable taste, planting pistachio trees has become common on other parts of the world. However, Iran is the world’s largest producer and exporter in pistachio industry and Iranian pistachio is considered the best in the world in terms of its taste and flavor. Pistachio consumption is considered as pleasant and very delicious dried nuts in rich and developed countries. In fact pistachio product in addition to economic respect, due to its food value and warehousing ability is known as a commercial product and on the other hand pistachio as an exportable and currency earning output has a special importance in the agricultural outputs of Iran and contains large portion of non-petroleum exportation. With due attention to recognition of possibilities and existing limitation in Iran agricultural sector one of the best alternatives to

increase income and welfare of agricultural sector is proper and desirable use of production factors and improvement in marketing and exporting process.

The economy of Iran could not show a noticeable growth in the petroleum, industry and agriculture sector in recent years but there was a marked increase in the value of non-petroleum exports, it seems that promotion of non-petroleum exports is the most important solution to the current economic woes facing the country including the problem of unemployment. Under such circumstances, the need for paying due attention to the export of goods and services is now felt more than ever before. Undoubtedly, the materialization of this goal requires the resolved and serious efforts of the policy makers, planners, managers and experts from both the public and private sectors on the one hand and serious endeavors of economic agents, exporters and suppliers of export-related services on the other.

Despite the hard efforts made to remove problems facing exporters and to offer facilities to this sector, the promotion of non-petroleum exports is still facing many problems and challenges. This study attempts to analyze pistachio production and exporting position of major producing countries with particular focus on Iran and USA during 1991-2002 with main objective to reveal existing constraints and challenges in pistachio global market operations.

**Method and Data:**

This research work is a study of pistachio production and trade situation in global markets with special reference to main pistachio producers and exporters. The necessary data have been collected from FAO databases, Statistical Center of Iran, Iran Ministry of Agriculture, U.S. Census Bureau, U.S. Department of Commerce, USDA, International Tree Nuts Council, U.S. Treasury, and the U.S. International Trade Commission, annual reports published by agricultural organizations and central office of rural cooperatives. To obtain more confidence and be sure on research conclusion, we performed interview with 14 selected pistachio producers, distributors, consumers and experts. The main objectives of this study are considering the internal and external challenges of pistachio marketing and exporting situation on the bases of assumptions that: Iran has capability to get better position in pistachio yield and marketing, second: Iran can improve and retain its top position in pistachio trade if safe and right competition prevail in global market, and finally, Iran may observe international standards and make investments in marketing and exporting industries to find new target markets for this product, particularly by eliminating limitations and entering WTO.

**Global Pistachio Production:**

Global data shows that Iran and USA are the main source of pistachio production in the world: while it is recorded for Iran with the production of about 300,000 MTs and for the USA with around 127,000 MTs in 2002 (see Table 2), it is worth also mentioning that Turkey is 3rd global pistachio producer with production of 40,000 MTs in the same year. Table 2 indicates that during the study period, Iran's share as the first producer has varied from minimum 33% to maximum 62%, and that of the USA as a second producer has varied from minimum 11% to maximum 25%. During 1991-2002 Iran's share as a largest pistachio producer has increased slowly than that of the USA in world production quantity.

Kerman province is the main center of pistachio production in Iran and its share was 83% and 80% in total output and total harvested area respectively in 2002 (Table 3). Virtually all of the commercially produced pistachios in the U.S.A are grown in California and according to estimates the U.S. pistachio production will increase by about 20-30% in next 5 to7 years.

World data implies that total pistachio harvested area was about 434,072 ha in 2002, and among the main pistachio producer countries Iran with 280,000 ha has allocated 65% of total world pistachio harvested area (see Table 4). The aforementioned table indicates that the pistachio gardens in Iran's rival country, the U.S.A, occupy a total area of 44,000 hectares in 2002. During 1991-2002 pistachios harvested area in the U.S. have increased by around 100%, but its share in global harvested area varied from minimum 7% to maximum 10% and that of Iran between minimum 55% and maximum 67%. After Iran and the U.S., Turkey with 40,000 ha, Tunisia with 23,000 ha, Syria with 18,500 ha and China with 15,000 hectares had 3rd, 4th, 5th and 6th places respectively.

According to FAO reports average pistachio yield of the world was12, 642 kg/ha in 2002. Among the major producers the United States with 28,866 kg/ha has the highest yield level. Syria with 21,194 kg/ha, China with 17,333 kg/ha, Greece with 16,634 kg/ha, and Iran with 10,714 kg/ha took next places in 2002 (see Table 5). The average of Iran's pistachio yield in most of the years was below the world average mainly due to management constraints but drought crisis in some years. Data indicates that average pistachio yield of Iran was as low as 4008 kg/ha in 2001 mainly because of serious drought all over the country and it may be true for most of the pistachio producer countries in the same years.

**Global Trading of Pistachio:**

Export data depicted in Table 6 and approved that Iran has exported more than half of global pistachio export quantity in most of the years during the study period. Iran with 120,000 MTs pistachio exports was the first exporter followed by the USA with 23,700 MTs, Hong Kong with 16,500 MTs, Italy with 10,500s and Turkey with 8,900 MTs in 2002. Hong Kong as a dealer usually imports pistachio from main producer countries and after processing with higher market efficiency re-exports to other countries, while Iran was able to export only less than half of its total pistachio production in 2002. It means that more than half of total Iran's pistachio production is not exported due to management and exporting challenges and improper accessibility to global markets. Iran's share of pistachio export quantity in global market has varied from minimum 45% to maximum 76% during the study period, and it was 59% in 2002. The USA share as Iran's rival has varied from minimum 5% to maximum 12% in global market during 1991-2002.

Table 7 shows export value of major pistachio exporter countries. Data implies that highest pistachio value is obtained by Iran followed by the USA and Turkey in 2002. Turkey and the United States, which are now Iran's close rivals in the global pistachio markets, were once major importers of pistachio from Iran. Presently, the United States, despite holding lesser international market share but stands as Iran's main rival in pistachio's global trade.

Global import data indicates that during the study period Germany, Hong Kong, China, Italy, France, Spain and Belgium are the main target markets of pistachio producer countries, and they imported 35478, 22450, 17489, 14800, 12450, 11420 and 10453 MTs of this agricultural luxury product in 2002 respectively (see Table 8). As mentioned earlier some countries like Hong Kong and Italy with less or negligible quantity of pistachio production is multi-traders and re-exporters in global pistachio market.

**Iran & USA Competition:**

Since Iran and the USA are the biggest rivals in producing and exporting pistachio product, therefore it's important to concentrate on their production and marketing position. Figure 1 based on production data of Table 2 shows Iran and the USA share in global pistachio production. Iran with about 300,000 MTs has produced 55% and USA with around 127,000 MTs has produced 23% of global pistachio production quantity in 2002.

Figure 2 shows the shares of the U.S. and Iran as main exporters of pistachio during 1991-2002. Aforementioned figure shows that Iran's export volumes have increased steadily from 1991 to 1996 when records 140,000 MTs were exported. However, the following year exports fell back to their lowest level 57,900 MTs, and then increased to 124,800 MTs in 1998. It is worth mentioning that Iran had a short crop during some years due to huge drought, but beside above mentioned crisis, another external challenge is that Iran is not WTO member and its accessibility to global markets slightly has decreased from 1996 while some neighbor countries as WTO members buy pistachio from Iran local markets and export to others. But the USA also faces steady growth in pistachio export. The U.S. export quantity from about 6470 MTs in 1991 increased to 10913 in 1996 and reached to 23700 in 2002. Iran with exporting 120,000 MTs of pistachio had 59% and USA with around 24,000 MTs had 12% of global pistachio export quantity in 2002 (see Figure 3).

The exporting process of Iran and the U.S. in European Union (EU) market as main target market of pistachio during the study period is depicted in Figure 4. It implies that the U.S. share in EU market has increased from 4% in 1992 to 23% in 2002, while that of Iran has decreased from 95% to 70% in the same period. Iran's exports to the EU have declined dramatically from 1997 when only 38% of Iran total export came to Europe, since USA made propagation of aflatoxin percentage against Iran pistachio and interfered in global pistachio market by using opportunity of WTO membership. The reduction of imports to selected European countries was due to the implementation of new European Community regulation on aflatoxin. Although these regulations apply to all tree nuts, but in fact only Iranian pistachios have systematically been subjected to these regulations at the point of entry and often beyond at the supermarket level. After this, Iranian exporters become more active in other markets and less dependent on the EU markets. Iran's exports outside the EU have increased from about 25% until 1997 to 60% in the last three years. The key non-EU markets for Iran are the Far East, South-East Asia, Canada, Russia, Mexico and the Persian Gulf countries.

It's important to note that Turkey's share in the EU market has been increasing since 1997 and now it is the third largest pistachio exporter to EU. Turkey's pistachio market share in the EU from negligible digit before 1998 has increased to 6% in 2002 (Figure 5).

Figure 6 shows top 10 U.S. pistachio export destinations during 2000 & 2001. It indicates that European markets are booming. Exports to France have increased by 198%. Exports to Belgium-Luxembourg have increased 44% within one year. Germany imported 3722 MTs of pistachios from the U.S. in 2001; exports to Italy reached 2370 MTs., up 78%.

Future target markets for the U.S. are also considered Spain, Czech Republic, Thailand and Colombia as the U.S. Departments of Commerce has expressed. Therefore Iran has to observe standard of global market and search for new markets to continue safe competition.

**Discussion and Conclusion:**

With proper climate for pistachio cultivation, Iran has been known as one of the most important pistachio producer regions in the world. As global data shows at this time Iran and the USA are two main rivals in global war of pistachio producing and exporting.

Iran with more than 65% of global pistachio harvested area, with about 55% of global pistachio production quantity and with 59% of world pistachio export level is the first largest while USA with 10% of global pistachio harvested area, 23% of global pistachio production quantity, and 12% world pistachio exporting level was the second largest producer in 2002. USA growth rate in global pistachio production quantity shows a faster increase than that of other major producing countries during 1991-2002. Iran yield level is shown below world average in most of the years during the study period, but the U.S. yield level of pistachio seems the highest among all major producer countries and it is more than twofold of world average.

While Iran with 70 million population has exported 120,000 Mts of its total pistachio production quantity (300,000 MTs), the USA with about 270 million exported 23,700 MTs of its total pistachio production quantity (127,010 MTs). The main importers and consumers of world pistachio are European countries, which it shows significant relation between their high income and expenditure. Iran share in European markets has reduced due to USA interfering and influence on the European Union markets and WTO decisions. Although the USA is the biggest rival of Iran in global war of pistachio production and export, but yet its share in the world production quantity was less than half of Iran's share and that of in world export quantity was around 20% of Iran's share.

As a research finding, in spite of good capacity for production and marketing of pistachio, there are various internal and external problems in order to retain the better position of pistachio trade in Iran. While Iran ranks first in terms of pistachio harvested area, production and quality all over the world, but it does not enjoy such a high position in yield level and export quantity since usually it exports less than half of total output due to internal and external constraints. Internal challenges are mainly management process problems such as: traditional methods in production and harvesting process, abusing

modern technology and pest control, lack of advanced irrigation and preservation system capital and investment scarcity in marketing processing industries, producers low literacy and productivity. While external challenges are: lack of marketing advertisement and defected packing system, unfamiliarity with international markets and principles, indirect relation with overseas importers and consumption patterns, improper planning for marketing and exporting of surplus pistachio, low accessibility to global markets and non-accession in WTO.

It is worth mentioning that close competition between Iran and the U.S. on world pistachio markets has caused hostile propaganda of Western mass media on the amount of aflatoxin in Iranian pistachios and the USA attempts to drive Iran out of pistachio trade from global markets. In this regard, in an unexpected decision the European Union banned Iranian pistachio imports as of September 1997. Three months later on December, the EU lifted the ban for the next 10 months, citing they will only import shipments tagged healthy by the Iranian Health Ministry. Shortly after, a seven-member Iranian delegation met representative from the European Commission and the EU and German health officials in Brussels and Hamburg. The two sides discussed a wide range of issues and agreed on 12 points proposal. Ultimately Iran is committed to prevention of any probable contamination of pistachio with aflatoxin to continue exportation; it also will do its utmost in ensuring production of uncontaminated pistachio in the coming years. Even Iran could not become member of WTO up to now since the U.S. and its confederates are opposite and rejected Iran application for WTO membership for $10^{th}$ time during last 6 years, and controversy Iran also just for reciprocate has prohibited USA commodity advertisement and consumption all over the country.

The studies conducted by the Institute for Standard and Industrial Research of Iran show that Iranian pistachios are quite safe and don't contain health hazards according to international standards. However, improper packaging sometimes causes pistachios to absorb moisture when they are carried to ships or stored at warehouse. Moisture increases the amount of aflatoxin in pistachios.

All above illustrations approve that Iran faces two main challenges in production and exporting of agricultural products, particularly that of pistachios in comparison with other major producers, which are:

a) Inadequate investment in production process and processing industries which as caused for low yield and productivity of pistachio.

b) Lack of membership and accession to WTO as a window of global markets which has caused low quantity and quality of exports.

Last but not least, the USA may defeat Iran in global pistachio markets but it can not delete that from international markets while it may be concluded that:

1. Considering the USA and Iran yield level gap and world average, it shows that yet there is capacity for yield level improvement and production increment in Iran.
2. Iran can plan and create adjustment between reduction in domestic consumption and increase in export quantity of pistachio through investment in processing industries and assessing new target markets.
3. Iran would retain its pistachio regional markets and also continue negotiation as a major pistachio producer to enter Word Trade Organization (WTO).

In order to retain competitive power of Iranian pistachio, the government should provide facilities in pistachio packaging and infrastructures in processing industries. On the other hand, the volume of advertisements for Iranian pistachios would increase as a significant factor for penetrating into foreign markets. Based on research findings fallowing strategies are recommended for better and safe competition in pistachio global market.

**Recommendation:**

- Setup training course for selected pistachio garden owners to improve multipurpose cooperatives for production, distribution and exporting.
- Activate quick transportation and establishment of modernize pistachio processing terminals.
- Development of safe marketing management in all process from farm to warehouses and export ports.
- Investment for promotion in processing industries to increase commodity standardization and marketing opportunities.
- Ameliorate advertisement management system in internal and external markets, and standard procedures in respect to quality control with facilitate related research centers.
- Extension of regional markets such as Islamic Common Market (ICM) and Economics Cooperatives Organization (ECO) markets.
- Negotiation for WTO accession along with increment of free trade facilities and mitigation of customs formalities.
- Iran and USA agreement to keep away political conflicts from agricultural exportation challenges in favor of human rights and farmer’s welfare.

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**References:**

1. Donahue, Darrel w.; Sowell, Robert S.; Bengtson, Neal M, 1996, "Simulation of Alternative Agricultural Marketing Systems" Vol.51, Issue 4.
2. Ebrahimi, Abdolhamid, 1997, "International Marketing Strategies", *Management Knowledge*, No.29 & 30.
3. Hamid Moaven, 2001, "Pistachio Situation and Outlook", Global Statistical Review, International Tree Nut Council.
4. Iran Chamber of Commerce, 1999, "Trade Row on Iranian Pistachio", Iran Commerce, n.1.
5. Karim Koshteh MH, 2002, "Improvement strategy for agricultural marketing and development", *Iran Journal of trade study*, vol. 5 n. 23.
6. Karim Koshteh MH, 2001," Date Production and Exports in S&B Province", *Economical & Commercial Potential Recognition Conference, Zahedan-Iran.*
7. Ministry of Agricultural Jahad-Iran, 2002, "Global Agricultural Data Bank", vol. 3, No. 80/07.
8. Ministry of Agricultural Jahad-Iran, 2001, "Iran Agricultural Data Bank", vol. 4, No. 79/17.
9. Mozaffar Alikhani, 2002,"Iran Exported Worth of Non-Oil Commodities", *The Journal of the Chamber of Commerce-Iran, n*. 30.
10. S. Carter, 1998," Global Agricultural Marketing Management" (Marketing & Agribusiness Texts Series /Series 09005676 no. 3/).
11. U.S. Department of Agriculture, Horticulture & Research Division, Foreign Agricultural Service, 2002, "The U.S. Pistachio Industry Situation".
12. U.S. Department of Agriculture, Economic Research Service, 2002," Fruit and Tree Nuts Outlook"/ FTS 298.
13. V. James Rhodes, Jan Dave, 1998, "The Agricultural Marketing System".
14. Van Zyl, Johan; Vink, nick; Townsend, Rob; Kristen Johan, 1998, "Agricultural Market Liberalization: a case study of WC province in South Africa" vol.10, Issue 1.

**Table 1: Nutritional Values of Pistachios**

| **Edible portion (Per 100g)** | | | | **Minerals & Vitamins (Per 100g)** | | **Fatty Acids (Per 100g)** | |
|---|---|---|---|---|---|---|---|
| | Gram | (KJ) | (kcal) | Potassium | 1.020 g | Palmitic Acid | 6.270 g |
| Protein | 20.8g | 387.27 | 92.56 | Phosphorus | 5000.000 g | Myristic Acid | 0.100 g |
| Fat | 51.6g | 2007.82 | 479.88 | Magnesium | 158.000 g | Lauric Acid | 0.050 g |
| Carbohydrates | 16.4g | 231.99 | 50.28 | Calcium | 136.000 g | Oliec Acid | 36.000 g |
| Other | 11.2g | 56.2 | 18.6 | Iron | 7.300 g | Linoleic Acid | 9.500 g |
| | | | | Selenium | 0.450 g | Stearic Acid | 0.710 g |
| | | | | Nickel | 0.080 g | Palmitoleic Acid | 0.290 g |
| | | | | Vitamin C | 7.000 g | Linolenic Acid | 0.280 g |
| | | | | Vitamin E | 5.200 g | Arachidic Acid | 0.280 g |
| | | | | Nicotinamide | 1.450 g | Total Sterol | 108.000 mg |
| | | | | Vitamin B1 | 0.690 g | Beta-Sitosterol | 90.000 mg |
| | | | | Vitamin B2 | 0.200 g | Campesterol | 6.000 mg |
| | | | | Carotene | 0.150 g | Stigmasterol | 2.000 mg |
| | | | | Folic acid | 0.058 g | | |
| **Total** | **100g** | **2683.28** | **641.32** | | | | |

**Source: USDA Nutrient Database for Standard Reference**

**Table 2: Global Pistachio Production by Major Producer Countries (MTs)**

| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Afghanistan** | 2000 | 2100 | 2200 | 2300 | 2400 | 2500 | 2600 | 4000 | 2800 | 2800 | 2600 | 2800 |
| **China** | 23000 | 21500 | 24000 | 25000 | 25000 | 28000 | 30000 | 26000 | 29000 | 22000 | 26000 | 26000 |
| **Greece** | 4989 | 4786 | 5573 | 5351 | 5591 | 8892 | 9137 | 8072 | 6000 | 6500 | 7500 | 8500 |
| **Italy** | 2400 | 156 | 1799 | 240 | 2200 | 100 | 5000 | 512 | 2649 | 2768 | 2500 | 2500 |
| **Iran** | 182484 | 201632 | 229332 | 195000 | 238780 | 260085 | 111916 | 313957 | 131166 | 303957 | 112432 | 300000 |
| **Syria AR** | 14400 | 20200 | 13700 | 14925 | 14500 | 24324 | 29428 | 35684 | 30133 | 39923 | 37436 | 39208 |
| **Tunisia** | 620 | 800 | 900 | 900 | 900 | 1000 | 1150 | 1200 | 1300 | 1300 | 1300 | 1300 |
| **Turkey** | 64000 | 29000 | 50000 | 40000 | 36000 | 60000 | 70000 | 35000 | 40000 | 75000 | 30000 | 40000 |
| **USA** | 34930 | 66680 | 68950 | 58500 | 67130 | 47630 | 81900 | 85280 | 55790 | 110220 | 73030 | 127010 |
| **Other** | 721 | 752 | 626 | 565 | 606 | 563 | 657 | 642 | 573 | 1470 | 1641 | 1441 |
| **World** | 329544 | 347606 | 397080 | 342781 | 393107 | 433094 | 341788 | 510347 | 299411 | 565938 | 294439 | 548759 |
| | | | | | | | | | | | | |
| | 55 | 58 | 58 | 57 | 61 | 60 | 33 | 62 | 44 | 54 | 38 | 55 |
| **USA % of Total** | 11 | 19 | 17 | 17 | 17 | 11 | 24 | 17 | 19 | 19 | 25 | 23 |

**Source: FAOSTAT, FAO, UNO**

**Table 3: Harvested Area and Production Quantity of Pistachio Produced by Different Provinces of Iran (2002)**

| Province/City | Cultivated Area (ha) | Output |
|---|---|---|
| Markazi | 1,684 | 2,500 |
| E. Azarbaijan | 63 | 127 |
| Ardebil | 1 | 0 |
| Kermanshah | 50 | 150 |
| Fars | 3,550 | 773 |
| **Kerman** | **224,243** | **250,000** |
| Khorasan | 24,943 | 15,924 |
| Isfahan | 1,242 | 3,420 |
| Sistan va Baluchetsan | 1,858 | 2,585 |
| Zanjan | 65 | 702 |
| Semnan | 2,931 | 8,252 |
| Yazd | 15,941 | 11,490 |
| Hormozgan | 35 | 451 |
| Tehran | 804 | 103 |
| Qazvin | 2,500 | 3,403 |
| Jiroft and Kahnuj | 90 | 120 |
| **Total** | **280,000** | **300,000** |
| **Kerman % of Total** | **80** | **83** |

**Source: Ministry of Agruculture Jahad, Iran**

**Table 4: Pistachios Harvested Area of Major Producer Countries During 1991-2002 (Ha)**

| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Afghanistan** | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 2700 | 4000 | 3000 | 2800 | 2800 | 3000 |
| **China** | 16400 | 16400 | 16600 | 16600 | 16600 | 16600 | 17000 | 17500 | 15000 | 12000 | 15000 | 15000 |
| **Greece** | 3910 | 4270 | 4510 | 5000 | 4900 | 5050 | 5050 | 5100 | 5110 | 5112 | 5110 | 5110 |
| **Italy** | 3672 | 3593 | 3588 | 3500 | 3500 | 4000 | 4000 | 3639 | 3602 | 3600 | 3600 | 3600 |
| **Iran** | 161461 | 171630 | 201893 | 206000 | 218000 | 231945 | 247130 | 259431 | 256444 | 274728 | 280510 | 280000 |
| **Syria AR** | 17000 | 21400 | 13300 | 14600 | 15000 | 18000 | 18000 | 20000 | 19000 | 18500 | 18500 | 18500 |
| **Tunisia** | 33014 | 36400 | 38600 | 38000 | 35000 | 32000 | 28000 | 26000 | 24000 | 21670 | 21600 | 23000 |
| **Turkey** | 30114 | 31429 | 32783 | 33343 | 34071 | 34981 | 36200 | 37214 | 37685 | 36349 | 36999 | 40000 |
| **USA** | 22540 | 22860 | 23070 | 23270 | 24400 | 26000 | 26814 | 27880 | 29110 | 30200 | 31565 | 44000 |
| **Other** | 3491 | 3579 | 3546 | 3560 | 3575 | 3595 | 3625 | 4962 | 3909 | 4870 | 4862 | 4862 |
| **World** | 291602 | 311561 | 337890 | 343873 | 355046 | 372171 | 385819 | 401726 | 393860 | 407029 | 417746 | 434072 |
| **Iran % of Total** | **55** | **55** | **60** | **60** | **61** | **62** | **64** | **65** | **65** | **67** | **67** | **65** |
| **USA % of Total** | 8 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 10 |

**Source: FAOSTAT, FAO, UNO**

**Table 5: Pistachios Yield in Major Producer Countries During 1991-2002 (Kg/Ha)**

| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | AVG |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Afghanistan** | 7407 | 7778 | 8148 | 8519 | 8889 | 9259 | 9630 | 10000 | 9333 | 9100 | 8900 | 9333 | 16118 |
| **China** | 14024 | 13110 | 14458 | 15060 | 15060 | 16867 | 17647 | 14857 | 19333 | 18333 | 17333 | 17333 | 8858 |
| **Greece** | 12760 | 11208 | 12357 | 10702 | 11410 | 17608 | 18093 | 15827 | 11742 | 12715 | 14677 | 16634 | 13811 |
| **Italy** | 6536 | 434 | 5014 | 686 | 6286 | 250 | 12500 | 1407 | 7354 | 7689 | 6944 | 6944 | 5170 |
| **Iran** | 11302 | 11748 | 11359 | 9466 | 10953 | 11213 | 4529 | 12102 | 5115 | 11064 | 4008 | 10714 | 9464 |
| **Syria AR** | 8471 | 9439 | 10301 | 10223 | 9692 | 13513 | 16349 | 17842 | 15859 | 21580 | 20236 | 21194 | 14558 |
| **Tunisia** | 188 | 220 | 233 | 237 | 257 | 312 | 411 | 462 | 542 | 600 | 602 | 565 | 386 |
| **Turkey** | 21253 | 9227 | 15252 | 11997 | 10566 | 17152 | 19337 | 9405 | 10614 | 20633 | 8108 | 10000 | 13629 |
| **USA** | 15497 | 29169 | 29887 | 25140 | 27512 | 18319 | 30544 | 30588 | 19165 | 36497 | 23136 | 28866 | 26193 |
| **World** | 11301 | 11157 | 11752 | 9968 | 11072 | 11637 | 8859 | 12704 | 7602 | 13904 | 7048 | 12642 | 10804 |
| **Iran % of World Avg.** | 100 | 105 | 97 | 95 | 99 | 96 | 51 | 95 | 67 | 80 | 57 | 85 | 86 |
| **USA % of World Avg.** | 137 | 261 | 254 | 252 | 248 | 157 | 345 | 241 | 252 | 262 | 328 | 228 | 247 |

**Source: FAOSTAT, FAO, UNO**

**Table 6: Pistachios Export Qty by Major Exporter Countries (MTs)**

| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Afghanistan** | 500 | 400 | 400 | 275 | 150 | 230 | 620 | 2050 | 560 | 560 | 520 | 560 |
| **China** | 27 | 3538 | 3662 | 2561 | 2154 | 1902 | 2451 | 3857 | 3987 | 3350 | 3800 | 3950 |
| **Greece** | 49 | 196 | 387 | 360 | 372 | 379 | 672 | 449 | 176 | 195 | 250 | 510 |
| **Hong Kong** | 3926 | 6035 | 4882 | 7968 | 9122 | 10076 | 9153 | 13580 | 15316 | 16000 | 15600 | 16500 |
| **Iran** | 97387 | 104206 | 117864 | 110821 | 128000 | 140000 | 57907 | 124872 | 101215 | 84000 | 105890 | 120000 |
| **Italy** | 803 | 569 | 974 | 1161 | 1257 | 940 | 1173 | 403 | 1028 | 1125 | 980 | 1050 |
| **Syria AR** | 4211 | 2121 | 9828 | 6669 | 3868 | 10352 | 11991 | 5764 | 4644 | 6388 | 5615 | 6665 |
| **Tunisia** | 70 | 100 | 6 | 187 | 191 | 87 | 63 | 82 | 80 | 65 | 70 | 85 |
| **Turkey** | 655 | 1037 | 372 | 763 | 1669 | 1253 | 4327 | 647 | 503 | 2500 | 6800 | 8900 |
| **USA** | 6470 | 15971 | 12995 | 14820 | 15011 | 10913 | 11240 | 16007 | 13642 | 15652 | 21592 | 23700 |
| **Other** | 13676 | 15728 | 20158 | 29681 | 27732 | 33773 | 29744 | 26631 | 27812 | 26600 | 20150 | 23000 |
| **World** | 127774 | 149901 | 171528 | 175266 | 189526 | 209905 | 129341 | 194342 | 168963 | 185950 | 188675 | 204920 |
| **Iran % of World** | 76 | 70 | 69 | 63 | 68 | 67 | 45 | 64 | 60 | 45 | 56 | 59 |
| **USA % of World** | 5 | 11 | 8 | 8 | 8 | 5 | 9 | 8 | 8 | 8 | 12 | 12 |

**Source: FAOSTAT, FAO, UNO**

**Table 7: Pistachio Exports Value for Major Exporter Countries (US$000)**

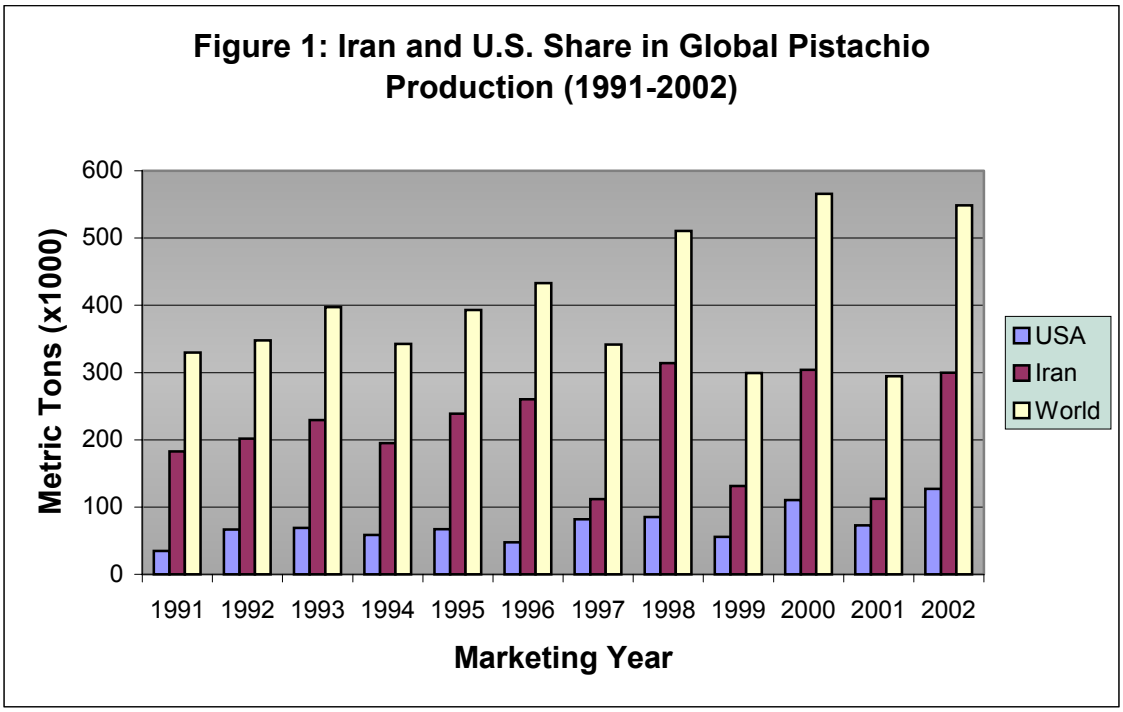
| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Afghanistan** | 5000 | 3600 | 3500 | 810 | 350 | 350 | 2750 | 6500 | 1800 | 1950 | 1900 | 2100 |
| **China** | 103 | 3423 | 4495 | 2321 | 2145 | 1575 | 2194 | 3698 | 4185 | 3520 | 3990 | 4350 |
| **Greece** | 384 | 1100 | 883 | 1051 | 1345 | 1321 | 2598 | 1907 | 771 | 810 | 1195 | 2218 |
| **Hong Kong** | 10845 | 18185 | 11545 | 17073 | 20955 | 26826 | 30411 | 39000 | 37533 | 43912 | 40940 | 38250 |
| **Iran** | 353292 | 370417 | 435000 | 389800 | 424700 | 477500 | 197227 | 416013 | 315083 | 278040 | 354731 | 409200 |
| **Italy** | 7370 | 7137 | 6252 | 7337 | 7930 | 6992 | 8257 | 6363 | 7719 | 8447 | 6958 | 7560 |
| **Syria AR** | 17705 | 8461 | 34566 | 24131 | 17495 | 40707 | 41460 | 12394 | 9601 | 14053 | 12073 | 15662 |
| **Tunisia** | 320 | 556 | 21 | 560 | 520 | 212 | 261 | 209 | 250 | 180 | 210 | 260 |
| **Turkey** | 4013 | 5330 | 1844 | 3145 | 6909 | 5888 | 11794 | 3158 | 2499 | 12420 | 28560 | 40050 |
| **USA** | 23502 | 56679 | 43463 | 42700 | 51102 | 13835 | 50611 | 67043 | 53854 | 63124 | 70976 | 78824 |
| **Other** | 53981 | 65678 | 72359 | 88223 | 97802 | 145947 | 120056 | 103117 | 159627 | 163223 | 71577 | 19290 |
| **World** | 476515 | 540566 | 613928 | 577151 | 631253 | 721153 | 467619 | 659402 | 592922 | 599800 | 608590 | 638480 |

**Source: FAOSTAT, FAO, UNO**

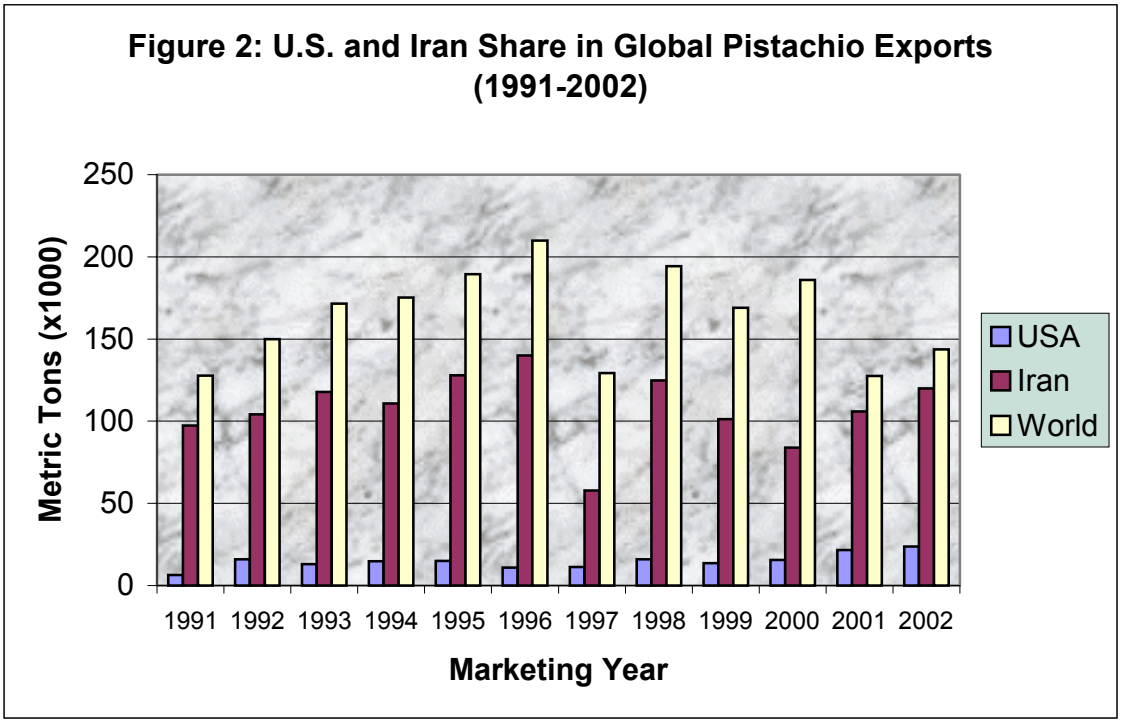
**Table 8: Pistachios Imports by Major Importers (MTs)**

| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Belgium-Luxembourg** | 6396 | 8000 | 5066 | 8073 | 10527 | 9786 | 7075 | 4271 | 7769 | 8150 | 9200 | 10453 |
| **Canada** | 3093 | 2279 | 2697 | 3027 | 2557 | 2911 | 2212 | 2250 | 2955 | 3881 | 4200 | 3900 |
| **China** | 1911 | 6969 | 9866 | 9512 | 7183 | 9621 | 10355 | 10448 | 16838 | 12450 | 14520 | 17489 |
| **France** | 8839 | 10061 | 10701 | 13240 | 10165 | 11967 | 11138 | 9045 | 10395 | 8452 | 9865 | 12450 |
| **Germany** | 39167 | 44489 | 38184 | 43866 | 40859 | 46893 | 47494 | 18936 | 27059 | 25450 | 35485 | 35478 |
| **Hong Kong** | 6108 | 7927 | 5921 | 10416 | 12179 | 12303 | 9696 | 15574 | 19609 | 17685 | 23800 | 22450 |
| **India** | 1018 | 1634 | 2175 | 2901 | 2716 | 3698 | 3354 | 3676 | 4200 | 3345 | 4500 | 4800 |
| **Italy** | 8534 | 9294 | 10685 | 14237 | 13381 | 14953 | 13164 | 9642 | 11540 | 12400 | 13787 | 14800 |
| **Japan** | 9489 | 7646 | 6677 | 7687 | 8565 | 6984 | 5124 | 4348 | 3314 | 3200 | 6487 | 6498 |
| **Lebanon** | 3735 | 2050 | 100 | 300 | 380 | 102 | 1300 | 7400 | 5200 | 4800 | 6500 | 8200 |
| **Mexico** | 6996 | 5036 | 6317 | 8658 | 2166 | 2152 | 2957 | 3958 | 10552 | 7100 | 3970 | 6350 |
| **Netherlands** | 2244 | 1793 | 2089 | 2550 | 3660 | 5886 | 3679 | 3253 | 3037 | 4800 | 5700 | 4120 |
| **Russian Federation** | 5 | 7 | 37 | 3358 | 10240 | 12487 | 9151 | 4275 | 2900 | 5448 | 5640 | 9870 |
| **Saudi Arabia** | 3382 | 3640 | 4405 | 3572 | 3738 | 4417 | 4241 | 4411 | 4471 | 4987 | 5263 | 5241 |
| **Spain** | 10403 | 10539 | 10193 | 11159 | 10498 | 11311 | 8593 | 6231 | 11935 | 9450 | 8422 | 11420 |
| **United Kingdom** | 5755 | 7182 | 8889 | 7468 | 6883 | 2760 | 4471 | 4169 | 5615 | 4563 | 7840 | 6780 |
| **Other** | 13793 | 16719 | 20180 | 25231 | 22801 | 28121 | 22996 | 21620 | 21086 | 23850 | 23478 | 24650 |
| **World** | 130868 | 145265 | 144182 | 175255 | 168498 | 186352 | 167000 | 133507 | 168475 | 160011 | 188657 | 204949 |

**Source: FAOSTAT, FAO, UNO**

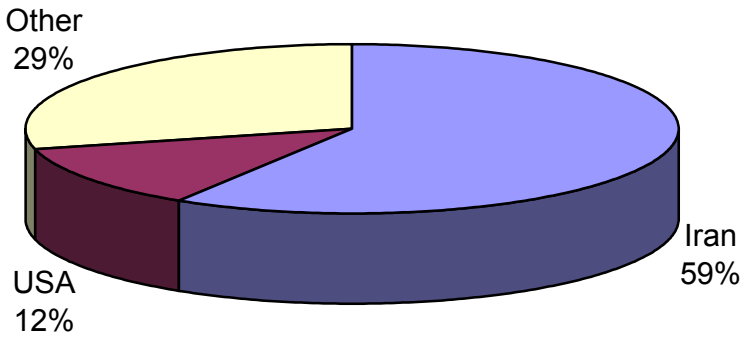



**Source: U.S. Department of Commerce & International Tree Nut Council**



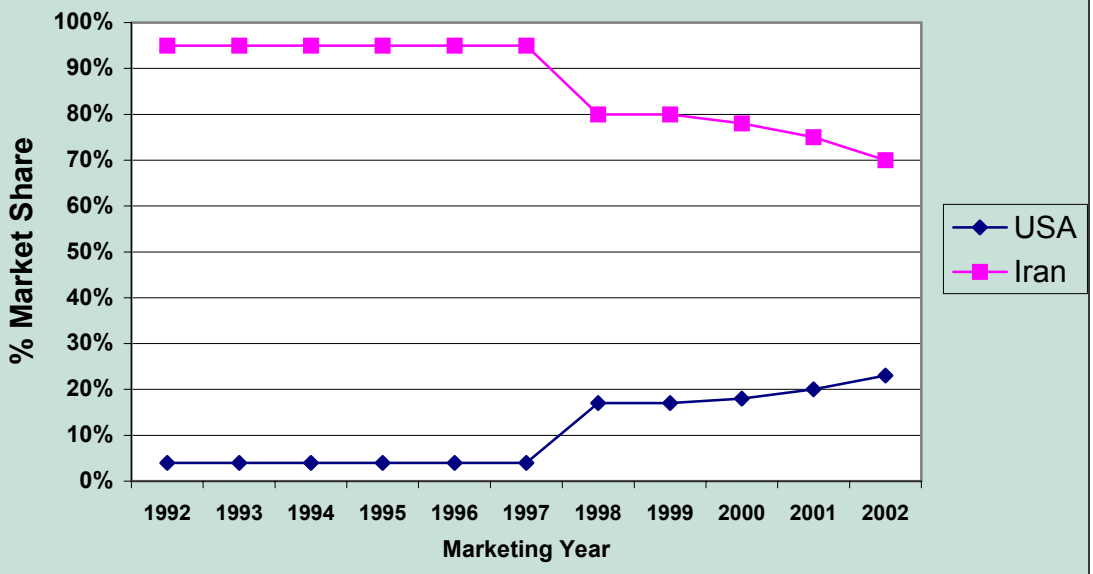

**Source: International Tree Nut Council & U.S. International Trade Commission**

**Figure 3: Iran and U.S. Share in Pistachio Exports (2002)**



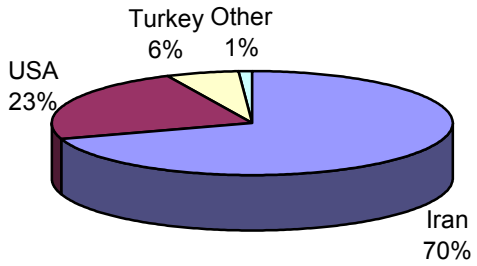

**Source: U.S. Department of Commerce**

**Figure 4: Iran and USA Share in the EU Pistachio Market**



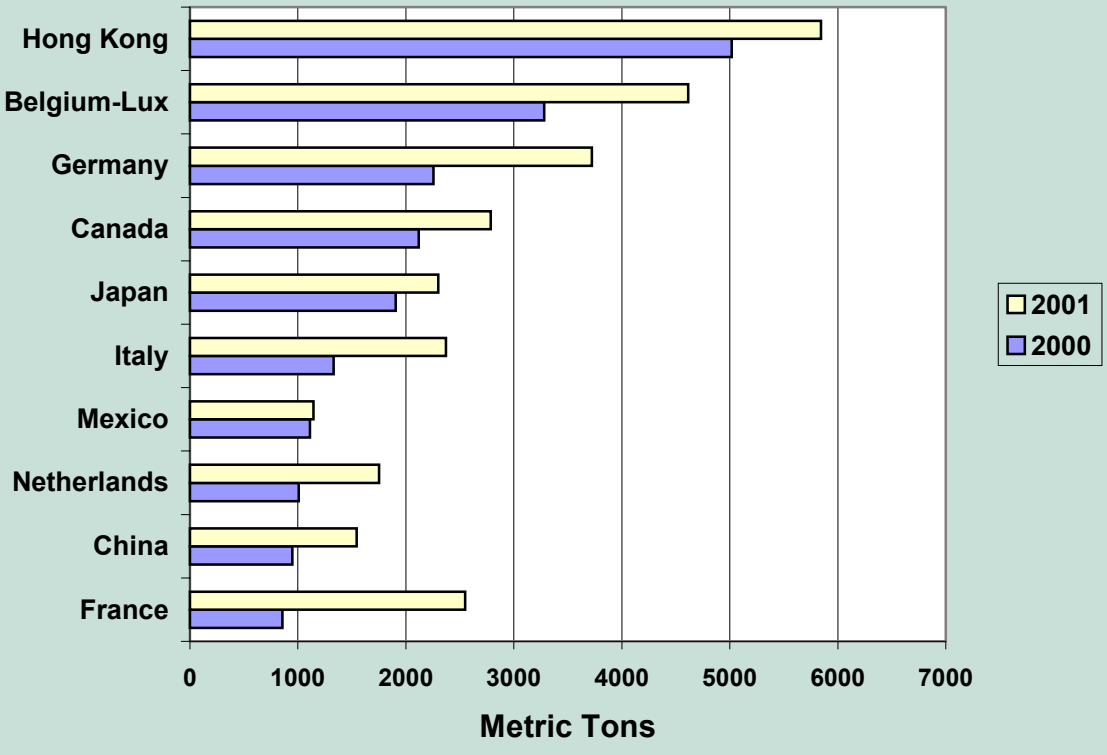

**Source: International Tree Nut Council & U.S. International Trade Commission**

**Figure 5: EU Pistachio Import Market Share (2002, Volume)**




**Source: International Tree Nut Council & EUROSTAT**

**Figure 6: Top 10 U.S. Pistachio Export Destinations (2000-2001)**




**Source: U.S. Department of Commerce & U.S. Census Bureau**