



DRIED FOOD MARKET OF ARMENIA

400 BC ...

THE VILLAGES OF ARMENIA ARE REplete WITH RAISINS ...

XENOPHON, "ANABASIS"

18TH CENTURY ...

THE SHAHS OF IRAN ALLOW ARMENIAN - IRANIAN MERCHANTS TO

PLAY A CRUCIAL ROLE IN THE FOREIGN

TRADE OF DRIED FRUITS

1881 ...

THE FIRST ARMENIANS ARRIVE IN FRESNO COUNTY, BRINGING WITH

THEM LONG-HELD EXPERTISE IN

RAISIN PRODUCTION

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	2
RESEARCH OBJECTIVES AND METHODOLOGY	3
GENERAL OVERVIEW	4
VALUE OF DRIED FRUITS	6
CURRENT STATE OF INDUSTRY IN ARMENIA	10
PRODUCTION AND PRODUCERS OF DRIED FOOD	14
IMPORT OF DRIED FOOD	19
EXPORT OF DRIED FOOD.....	21
EXPORT RELATED ISSUES: EU AND NATIONAL REGULATIONS.....	25
DISTRIBUTION CHANNELS.....	28
MARKET BALANCE.....	29
SWOT ANALYSIS OF ARMENIAN DRIED FOOD MARKET.....	30
FIELD STUDY RESULTS	31
RECOMMENDATIONS.....	43
REFERENCES	46
APPENDIX 1 Questionnaire	
APPENDIX 2 Dried food production by marzes, 2006	
APPENDIX 3 Types of dried food exported and export countries, 2006	

EXECUTIVE SUMMARY

“Dried Food Market of Armenia” is an informative booklet comprising information on the current state of the sector in Armenia and dried food in general. Homemade dried food production is an old tradition in Armenia, and at present it is a popular agricultural activity. Dried food is produced also in plants in natural and technical (non-natural) drying technologies. Among the technical plants sun-drying (also called solar drying) facilities are of most application. According to the Association of Dried Food Producers, there are 212 sun-drying facilities in Armenia at present.

The booklet provides also brief information about the production and producers. There are approximately 5500 small producers of dried food in Armenia who produce up to 0.5 tons annually. There are 100 medium-sized producers with annual production volumes of 1 – 5 tons, and 21 large producers with annual production of above 5 tons. Among the problems that Armenian dried food producers face today sanitary and hygiene issues as well as marketing issues are of most importance and are discussed in the brochure.

As factors largely influencing the dried food industry and market, import and export of dried food are discussed separately. Import of dried food has increased during the recent years. At the same time there has been an increase in production, too, leading to the conclusion that overall consumption of dried food in Armenia has increased during the recent years. Though export of dried food has increased during the recent years starting from 2003, the overall export quantities are small.

EU is the second target of Armenian dried food exporters after Russia. For developing export volumes, exporters need to be aware of the EU regulations. For that purpose the booklet provides a general overview of those regulations. The SWOT analysis of the dried food market of Armenia shows that there are more threats and weaknesses than strengths and opportunities. However, there is a positive tendency in the sector as the production volumes keep growing and new product names appear in the market.

Throughout the research an attempt has been made to analyze the problems that the Armenian dried food producer faces today with regard to both production and marketing. Sanitary and hygiene issues are quite widespread in production facilities. Many producers lack basic marketing knowledge to organize effective sale of their produce. Based on the results of the analysis possible solutions and recommendations are suggested for producers to operating in both the local and foreign markets.

INTRODUCTION

Leaving fruits out to dry in the sun and air is one of the oldest methods of preserving food-whether it is turning grapes into raisins, or fresh figs, apricots, and plums into their dried counterparts. Raisins and dried fruits are simple, wholesome foods, grown by nature and "made" by men and women basically the same way for thousands of years — long before artificial, frozen, canned, or processed foods.

6000 BC – Around this time, it is believed that grape cultivation begins in Armenia. This is the time when plum and prune production flowers. People seem to be discovering that dried fruits have a more intense flavor and sweetness than their fresh counterparts. For centuries drying fruits remains one of the popular agricultural activities in Armenia conditioned by the abundant harvest and tasty fresh fruits, as well as favorable climatic conditions.

During the Soviet period, preserving fruits and vegetables became very wide-spread, while drying fell out of use. Within the planned economy drying fruits and vegetables was consigned to the Central Asian republics. However, this trend was over at the beginning of 90s, when the land was privatized by the farmer, and the government implemented agricultural reforms, which resulted in the gradual recovery of the tradition of drying fruits and vegetables.

Though the evident progress of this industry, it is making only the initial steps towards becoming a strategic agricultural sector. There are a great number of drying plants and facilities in Armenia exploited by small and medium-sized companies and physical entities, however there exist serious issues hampering fast development of the industry, such as poorly equipped facilities, lack of required sanitary conditions, weak marketing strategies and lack of promotion, unawareness of producers about industry news and current trends, sanitary and production requirements, severe competition with imported Iranian, Turkish and Middle-Eastern dried foods, etc.

To get oriented in the local market, let alone the foreign markets, and to thrive rather than survive, the Armenian producer needs not only financial investment which is certainly of vital importance, but also careful analysis of the market, its trends and developments, consumer preferences and shifts in those preferences, as well as analysis of own operations – how to minimize costs, how to achieve best results with limited resources, how to ensure sanitary conditions using available tools and techniques, etc; and finally, knowledge through constant research and connection with industry players.

RESEARCH OBJECTIVES AND METHODOLOGY

Goal

The research is conducted by the Agribusiness and Marketing Department of the Center for Agribusiness and Rural Development (CARD) Foundation with the goal to provide dried food market data to own clients involved in dried food production as well as to other interested parties and the general public. The research aims at becoming another step in the overall development of the dried food industry through providing data analysis and recommendations to the mentioned agents of the industry.

Objectives

“When doing marketing research ... it is far better to have an approximate answer to the right question than a precise answer to a wrong question” (L. Bovee, J. Thill, 1992). But the present research does not concentrate on one problem. Its objective is to provide an outline of the dried food market of Armenia, answering a series of questions regarding consumer preferences and purchasing habits, factors influencing those preferences and habits, problems and attitudes of producers, the production specifics and distribution channels, import and export data, current issues and perspectives of the industry, and other related topics.

Methodology

The overall research consisted of two parts, research of secondary and primary sources. The research of secondary sources consisted in literature study and internet research. Some of the figures and data are approximate, some are calculated as the sector is not a separate target of statistical analysis and the data gathered from various sources very often are inconsistent and incompatible with each other. It should be mentioned that the materials provided by the Association of Dried Food Producers of Armenia have been largely used within the research framework.

The research of primary sources consisted of qualitative and quantitative studies. The qualitative part of the research consisted of interviews with producers of dried food, and the quantitative part was a field study. Questionnaires of field study were designed for consumers (see Appendix 1), as well as sellers of stores and markets. The field study was conducted only in Yerevan and covered all the twelve districts of the city. Inquiries were made inside and in front of major and small stores. The target group involved 500 respondents among consumers and 100 respondents among sellers. The consumer group involved representatives of all age and income groups.

GENERAL OVERVIEW

World Historic Overview on Dried Fruits

People have enjoyed dried fruits since the earliest days of civilization. The early Phoenicians and Egyptians were responsible for expanding the popularity of raisins throughout the western world. Due to their long-term storability and ease of transport, raisins traveled with Christopher Columbus, tickled George Washington's palate at Mount Vernon, helped fuel Robert E. Peary's conquest of the North Pole in 1908, and accompanied astronaut Scott Carpenter in outer space in 1962.

Learn fun facts about dried fruits through the ages in the following timeline. 4000 BC – Grape cultivation expands to the Tigris-Euphrates region (present-day Iraq) about this time. Grapes join other fruits grown in the neighborhood that are suitable for drying, such as the fig and date palm. (The palm is native to the region but flourishes in Africa and Arabia as well.) 2500 BC – Holy fig leaf! Early biblical events (Adam and Eve wearing the infamous fig leaves, Noah cultivating a vineyard) reference fruits used for drying. 2000 BC – Bon appetit! Grapes are consumed at home during the Bronze Age, as evidenced by seeds found in dwelling ruins in what is now Switzerland. Around the same time, the Assyrians become involved in fig production. 1700 BC – "The Epic of Gilgamesh," a juicy poem referencing grapes and vineyards in ancient Sumeria and also commemorating the adventures of the historical King of Uruk, appears at this time. Today it is regarded as the oldest known written story on earth.

1600 BC – Figs are growing! They spread beyond the near East into the Mediterranean region, where they take hold in Crete. 1500 BC – What are people eating on those Arabian Nights? Dried fruit, of course. Throughout India, Persia, and Arabia, people expand their knowledge of dried fruits, which make their appearance in both kitchens and folklore, including the famous story collection. 1000 BC – The Bible says so. We find the first written mention of raisins there during the era of King David (I Samuel 25:18 and 30:12, II Samuel 16:1, and I Chronicles 12:40). 500 BC – You don't say. Dried grapes are known as "currants" (a corruption of "Corinth") as vineyard cultivation moves from Thrace to Corinth in Greece. There, the god Dionysius (later known as Bacchus in Rome) becomes the patron deity of vines and wine. Figs gain popularity as a delicacy at this time-in fact, they reach Olympic stature, coveted as prizes in the ancient Olympic games, their leaves adorning wreaths used to crown competition winners.

400 BC – The villages of Armenia are replete with raisins, according to Xenophon's Anabasis, the narrative of the Greeks' joyful military escape from their enemies. During this time, figs become a staple of Greek cuisine, and Athenians regard themselves as "friends of the fig." 218-203 BC – One of the

greatest military leaders in history, Carthaginian general Hannibal catches the Romans off guard during the Second Punic War by crossing the Alps with troops fuelled by none other than raisins! 154 BC – Ancient Rome can't get enough raisins. Raisins are used variously as rewards in athletic competitions, payment for taxes, a medical cure-all, and barter currency. (Legend has it that two jars of raisins can be traded for one slave boy.) Romans feast on raisins in Bacchanalian proportions. 37-29 BC – Vergil pens his Georgics, four books in Latin verse-on farming! In them, he waxes poetic on raisins.

30 BC – To die for! Deposed as Queen of Egypt, Cleopatra has a type of Egyptian cobra called an asp brought to her, hidden in a basket of figs. According to Egyptian religion, her death by snakebite secures her immortality. 77 AD – Roman encyclopedist Pliny the Elder authors his Natural history, 37 volumes of practical tips such as the proper use and storage of grapes and the "restorative" value of figs. Despite all of his good advice, Pliny's fanatical work habits constrain him to permanent bachelorhood. 92 – Grape glut averted! Grape production becomes so prevalent in the Roman Empire that Emperor Domitian decrees that half of the vineyards outside the Italian peninsula be uprooted.

100 – Great gourmand Marcus Gavius Apicius is the first author in the ancient world to write a cookbook. He includes recipes for a small fish soufflé and fried veal, both with raisins as a key ingredient. 200 – The Gaul! Vineyard production extends to Gaul (France) and the Rhine River region. Can raisin-making be far behind? 1000 – Vikings visiting the Labrador coast notice wild grapes growing in the area, and so they christen the place "Vinland." 1095-1291 – Good as gold. During the Crusades trade between Europe and other parts of the world increases dramatically. Among the foodstuffs sought? Raisins, of course.

1293-1294 – Try and try again. Marco Polo exports date palm seeds to India, where their propagation is ultimately unsuccessful. 1300 – As the European raisin trade flourishes, tasty dishes such as "pottage" and "frumenty" (meats or fish combined with raisins and currants) become popular throughout the continent. 1374 – Raisin inflation! Raisin prices in England jump to an unheard-of two pence and three farthings per pound. 1492 – Seafarers including Christopher Columbus discover that raisins are the perfect accompaniment for voyages across the high seas, since they keep well for long periods of time. Raisins are among the rations of those aboard the Nina, the Pinta, and the Santa Maria. 1513 – The Spanish begin importing trees that bear fruit suitable for drying into the West Indies. Later, fruit trees spread into Mexico and the American Southwest.

VALUE OF DRIED FRUITS

Wikipedia defines dried fruit in the following way: **dried fruit** is fruit that has been dried, either naturally or through use of a machine, such as a dehydrator. Raisins, plums or prunes and dates are examples of popular dried fruits. Other fruits that may be dried include apples, apricots, bananas, cranberries, figs, kiwi, mangoes, pawpaw, peaches, pears, persimmons, pineapples, strawberries and tomatoes.

Dried fruit has a long shelf life and therefore can provide a good alternate to fresh fruit, allowing out of season fruits to be available. Drying is a good way to preserve fruit in the absence of refrigeration. Dried fruit is often added to baking mixes and breakfast cereals. Due to the water loss experienced during dehydration, which may be as high as 7 parts out of eight, dried fruit has a stronger, more intense flavour. However the drying process also destroys most of the Vitamin C in the food, so that the dried version of the fruit has only a fraction of the levels of Vitamin C that would exist in the fruit if it were fresh.

Commercially prepared dried fruit may contain added sulfur dioxide which can trigger asthma in sensitive individuals. The sulphur is added to "fix" the color of the product. "Organic" dried fruit is produced without sulphur which results in dark fruit and the flavour is much more characteristic of the fresh fruit. The color of some fruits can also be "fixed" to some extent, with minimal impact on flavour, by treating the freshly cut fruit with a preparation rich in Vitamin C (e.g., a mixture of water and lemon juice) for a few minutes prior to drying. (Source: www.wikipedia.org). The characteristics and value of some dried fruits are provided below

Dried plum

A **prune** is a dried fruit of various plum species, mostly *Prunus domestica*. It is wrinkly in shape, unlike its non-dried counterpart. More than 125 cultivars of plums are grown for drying. Four of the most common cultivars are French, Imperial, Italian, and Greengage. In general, prunes are freestone cultivars (the stone is easy to remove), whereas most other plums grown for fresh consumption are cling (the stone is more difficult to remove). Fresh prunes reach the market earlier than fresh plums and are usually smaller in size.

Prune juice is richer in fiber than plum juice and is often marketed as a treatment for constipation, and it helps with kidney stones. In the United States, an effort to rebrand "prunes" as "dried plums" began in 2000, to appeal to a younger market that associated prunes with elderly people.[1] However, only some

varieties of plum are usually called prunes when dried; others have usually been called "dried plums" in any case.

Prunes are used in cooking both sweet and savory dishes. Stewed prunes, a compote, are a dessert. Prunes are a frequent ingredient in North African tagines. Perhaps the best-known gastronomic prunes are those of Agen (pruneaux d'Agen).

Dried apricots

Dried apricots are especially rich in carotenes, which are the natural yellow pigments that the body uses to make Vitamin A. According to the American Cancer Society, apricots, and other foods rich in carotenes, may lower the risk of cancers of the larynx, esophagus, and lungs. Apricots also provide potassium, iron, calcium, silicon, phosphorus, and Vitamin C. The copper and cobalt in apricots is beneficial in treating anemia, but should be used cautiously during pregnancy and in cases of diarrhea. In some animal studies, dried apricots were just as effective as liver, kidneys, or eggs in the treatment of iron-deficiency anemia. Apricots are good potassium-replacers for those on diuretics, but there is some debate among nutritionists whether the form of potassium found in apricots (potassium gluconate) is as easily absorbed by the body as such other forms as potassium citrate or potassium chloride.

Overall, dried apricots have a far greater nutritional value than the fresh ones because all the nutrients are concentrated. When apricots are cooked, the pectin is dissolved, softening the fruit. The colour does not change nor does the Vitamin A content as carotenes are impervious to heat. Dried fruit is expensive because it takes five pounds of fresh apricots to produce only one pound of dried; and, since drying removes only the water, the nutrient qualities remain relatively the same. Ounce for ounce, dried apricots, compared to the fresh, have twelve times the iron, seven times the fiber, and five times the Vitamin A. It is interesting to note that both the fresh and dried apricot are a main food staple of a tiny Hunza principality in the Himalayas, who are known for their extreme longevity, excellent health, and an almost exclusive vegetarian diet.

Despite the health aspects of the fruit, it does contain some harmful substances that, if used improperly, can undo all their healthy benefits. The bark, leaves, and inner pit all contain amygdaline, a natural chemical that breaks down into several components, including hydrogen cyanide (prussic acid) in the stomach. Apricot oil is specially treated during processing to remove the cyanide and is marked FFPA to show that it is free from prussic acid.

Apricot pits are another story. Extracts of the pits are known as Laetrile and used as a cancer treatment. These extracts go through a process that allows the human body to benefit from the substance, whereas,

eating them raw renders them useless to the human body and only makes them poisonous. There have been reports of fatal poisoning from consuming too many of the raw pits. The theory behind the Laetrile treatments is that the cyanide in amygdaline is released only when it comes in contact with beta-glucuronidase, an enzyme common to tumor cells, and that it does not affect healthy cells. However, this theory has had no controlled testing done to prove its validity.

In addition, apricots are often treated with sulfur dioxide before being sun dried. This bleaches the fruit, which then has to be recoloured with dye. Organically grown apricots have a superior flavour when fresh, although their appearance is less appealing when dried; but they are not subjected to any bleaching or colouring. Those that have not been treated with this preservative become darker in colour, with a caramelized, almost fig-like flavour. However, sulfur dioxide has caused some allergic reactions, including anaphylactic shock in people sensitive to sulfites (Source: www.innvista.com).

Dried fig

Figs can be part of almost any special diet, be it low fat, low sodium, high fiber, weight loss, diabetic or even the Mediterranean. They satisfy a sweet tooth without adding any fat. Their unique satiny texture and seeds provide a satisfying mouth feel and crunch. Figs are fat-free, sodium-free and, like other plant foods, cholesterol-free. Figs are high in fiber, providing 20% of the Daily Value - more dietary fiber per serving than any other common dried or fresh fruit. Of the approximately five grams of fiber per serving of figs, four grams are insoluble and one gram is water-soluble.

Figs have the highest overall mineral content of all common fruits. A 40 gram (1/4 cup) serving provides 244 mg of potassium (7% of the DV), 53 mg of calcium (6% of the DV) and 1.2 mg of iron (6% of the DV). 6. Figs fit into 5-A-Day -- the 40 gram serving is an easy way to add a serving of fruit to reach the daily recommendation of five fruits and vegetables. The antioxidant boost provided by fruit consumption lasts about 2 hours. Which dried fruits are the best? Of the six fruits tested--apricots, cranberries, dates, figs, raisins and plums--shooting to a surprise finish at number one was... figs! Even the high fructose corn syrup in the soda is no match for the antioxidant power of fruit. Despite the double sugar load, subjects washing down their figs with soda still experienced an overall rise in antioxidant levels in their bloodstream. In addition to having the highest antioxidant content among the six fruits tested, of the thousands of whole foods in the USDA nutrient database, figs make the top ten for fiber content.

Raisin

Raisins are dried grapes, thus their name, which derives from the Latin word racemes, meaning "a cluster of grapes or berries." Raisins are the original candy—nature's candy. They are one of the most nutritious

dried fruits in the world. Raisins are cholesterol-free, low in sodium and totally fat-free. They provide many necessary vitamins and minerals, including iron, potassium, calcium and certain B vitamins. Raisins are a good source of fiber and rich in antioxidants. Raisins are 70% pure fructose (a natural form of sugar) which is easily digested for quick energy.

CURRENT STATE OF INDUSTRY IN ARMENIA

General overview

Dried food production may be considered one of the perspective industries of the Armenian agriculture: it has the characteristics of tradition and is implemented in almost all regions of Armenia. Homemade dried food production is very common in many Armenian families, and the homemade product is often sold along with dried food produced in plants.

Before the 1990s dried food production in Armenia was not of an industrial scale. After the collapse of the Soviet Union, the big food processing plants (canneries) suspended operations, while the bulk of raw fruits and vegetables gathered in the fruit- and vegetable-growing areas had to be stored and realized in a way. The most convenient way of processing was drying them in homemade drying facilities for domestic use.

Gradually, small plants of drying food and vegetables were established, followed by organization of larger productions. As a result, this sector was expanded and became a whole industry at the end of 1990s, and currently there are 212 sun drying units and 23 technical (non sun drying) facilities, only a part of which operate at present (S. Abovyan, 2007). The main part of the dried food is produced in traditional ways, i.e. through drying the raw materials in the sun. The annual production of dried food is largely dependent on the yield of the given year, i.e. the consequences of the possible drought or other climatic factors on the yield, and the average annual production volume makes up to 1200 tons.

Drying technologies

There are two types of drying technologies – natural and technical (non-natural). For **natural drying** the raw material is dried in the sun after proper preparations (washing and removing the stones); no special equipment is used. The fruits are dehydrated up to the point when the moisture in them is at a required level.

Technical drying or non-natural drying is implemented with the help of special equipment and facilities. For this type of drying fuel, electricity and sun energy are used. There are a number of technical drying facilities, such as convective, conductive, thermal radiant, combined, dielectric or high-frequency, vacuum-type, sublimating and sun drying facilities (S. Abovyan, 2007). Among the above-mentioned non-natural technologies sun drying is of highest application in Armenia.

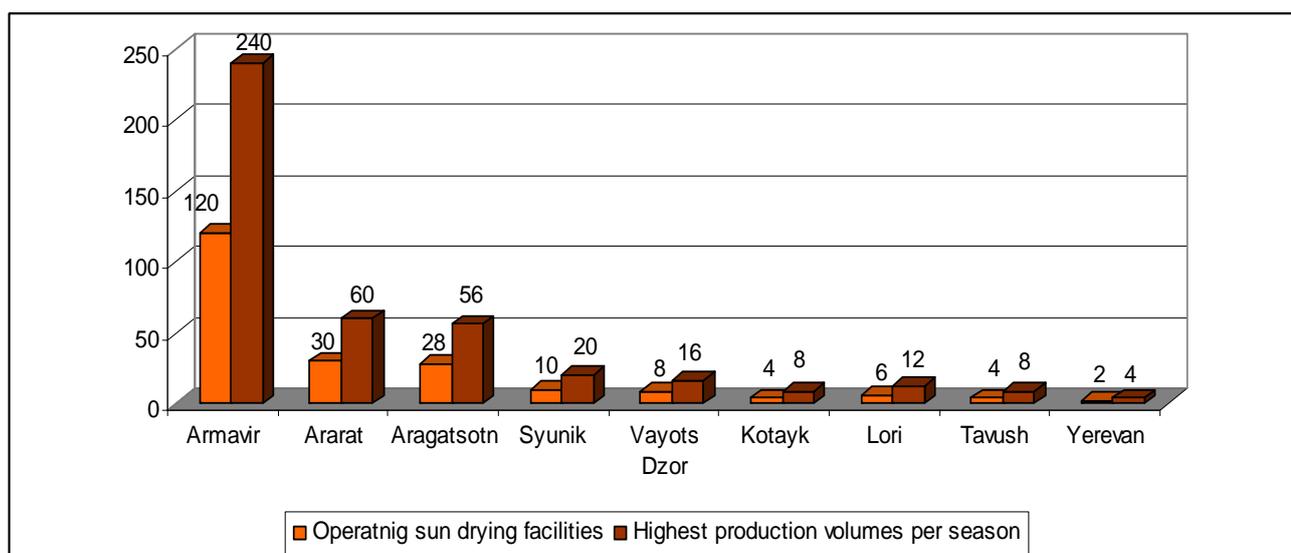
Sun Drying Facilities

Sun drying units were constructed in many marzes of the country during the power supply crisis of the 90s, due to the fact that they do not use electrical energy, have a simple structure, do not require substantial investments and can be built next to the orchards. At present the 212 units of sun drying facilities may provide a production volume of 400 tons per annum, but they do not operate at full capacity due to a number of economic factors.

A regular sun drying facility consists of three parts – drying sector, air heater, heat accumulator. The drying area is bounded, with a heat isolating back wall and a front wall. The southern facet of the facility is covered with a 4 mm light transmitting glass. The heat accumulator is an area covered with concrete or crushed-stone, with the surface layer painted in black. The drying process in this facility starts from the inflow of the air to the air-heater through the air regulating passage, gets heated and goes up to the fruits arranged in the drying sector, grasping a portion of the moisture contained in the fruits, and circulates out of the facility through the air removing tubes. The process is continued to the point when the moisture in fruits is at a required level (S. Abovyan, 2007).

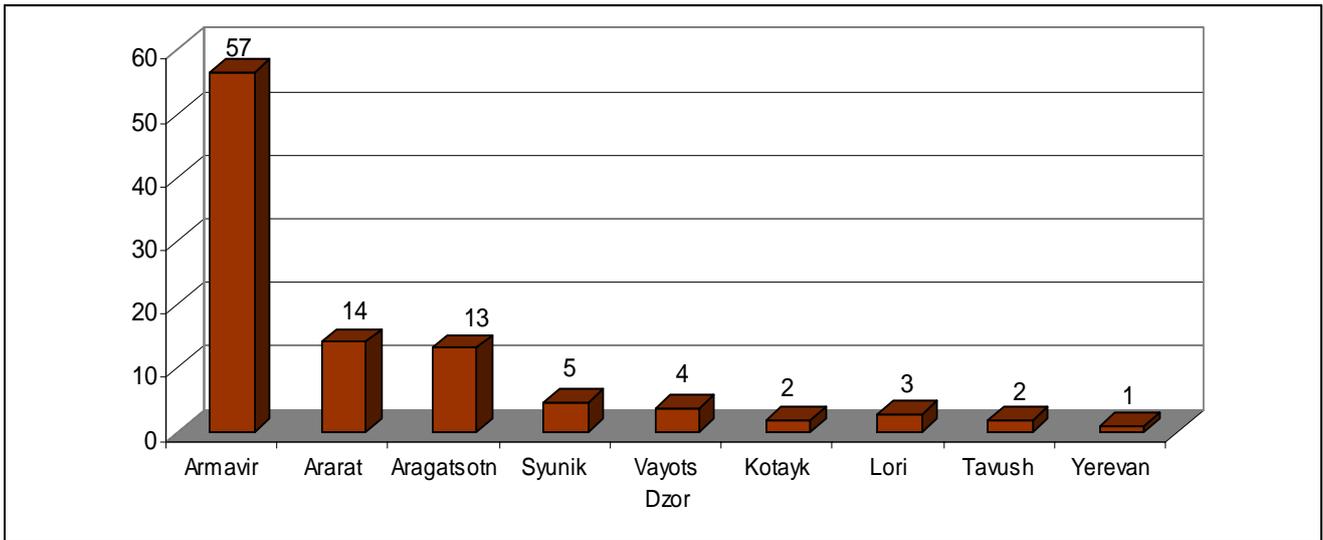
Most of the sun-drying facilities are situated in Armavir, Ararat and Aragatsotn Marzes, 120, 30 and 28 units respectively. The production volume in Armavir Marz may reach up to 240 tons per season, making 57 percent of the overall dried food produced in sun drying facilities. Production volumes in technical drying facilities are greatest in Vayots Dzor – 210 tons per season, with 3 units, then in Armavir - 210 tons with 4 units, and in Ararat – 200 tons with 5 units.

Chart 1. Number of sun drying facilities in marzes and production capacities (tons) per season



Source: Association of Dried Food Producers of Armenia

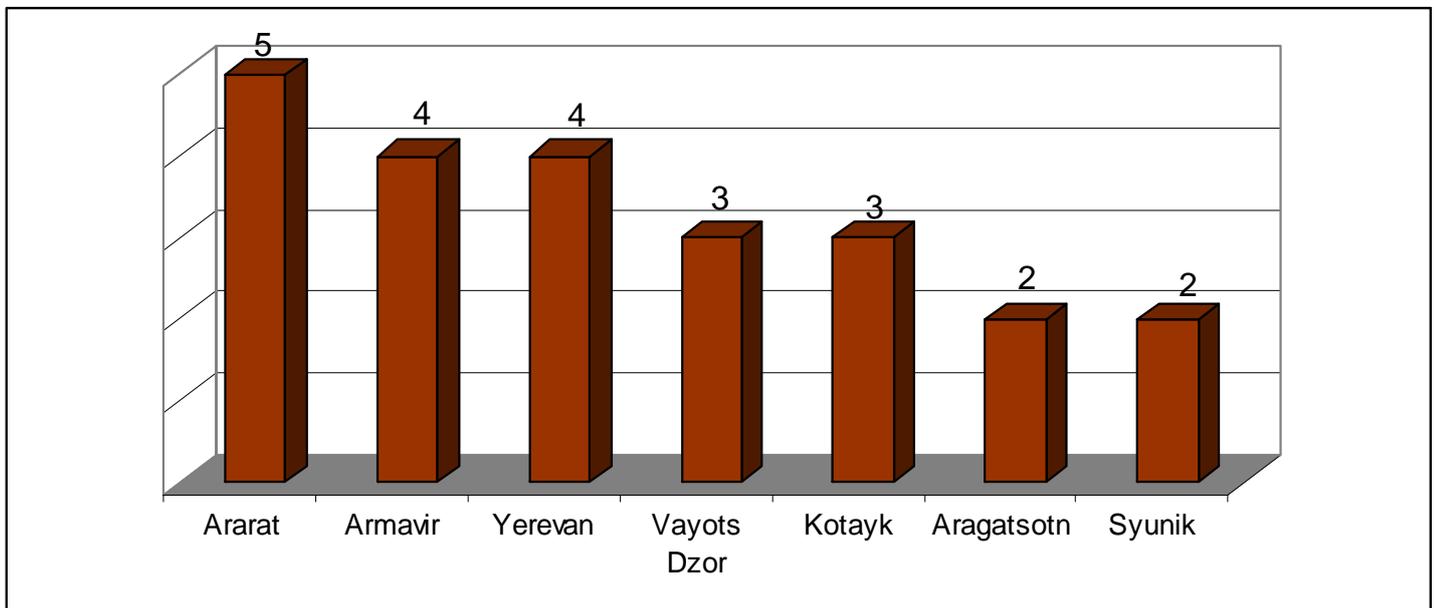
Chart 2. Number of sun drying facilities in marzes and production capacities per season in percents



Source: Association of Dried Food Producers of Armenia

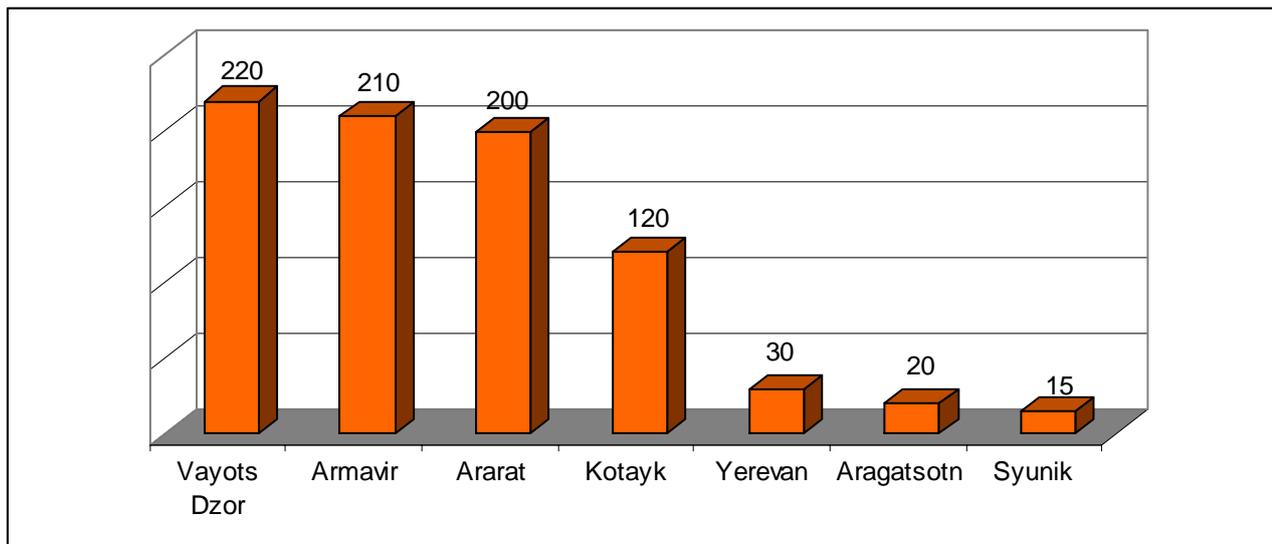
14 percent of sun-drying facilities are located in Ararat Marz, with a capacity making 14 percent of the overall production capacity of sun drying facilities of Armenia.

Chart 3. Number of technical facilities in marzes



Source: Association of Dried Food Producers of Armenia

Chart 4. Production capacity (tons) of technical drying facilities by marzes per season



Source: Association of Dried Food Producers of Armenia

As it is presented in the charts above, the technical drying facilities in Armenia have high production capacities but in fact they are exploited at only 10 percent level.

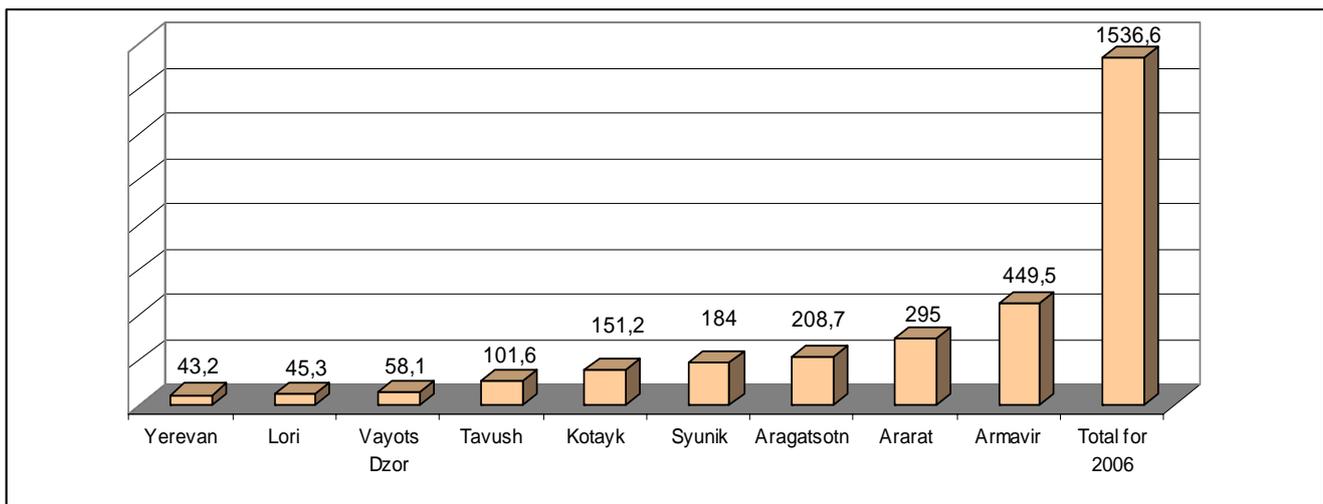
PRODUCTION AND PRODUCERS OF DRIED FOOD

There are large, medium-sized and small producers of dried food in Armenia, but the description “large” has a much relative sense here. Based on the data of 2006 (Source: Association of Dried Food Producers of Armenia), small producers are approximately 5500 and produce up to 0.5 tons annually. There are 100 medium-sized producers with annual production volumes of 1 – 5 tons, and 21 large producers with annual production of above 5 tons.

As it was mentioned earlier, most of the small producers are farmers, which are not registered as legal entities and operate as usual physical entities. The reason for this is the fact that dried food production as business activity is subject to taxing, and the producers avoid taxing which would increase the cost of dried food. Besides, it should be mentioned that the number of small and medium-sized producers may change year by year based on the yield and other factors of the given year. Among the large producers there are both legal and physical entities, who make only the 2.2 – 2.5 percent of the total number of producers, but produce 31 – 37 percent of the overall dried food produced in Armenia (Alphaplus Consulting, 2005).

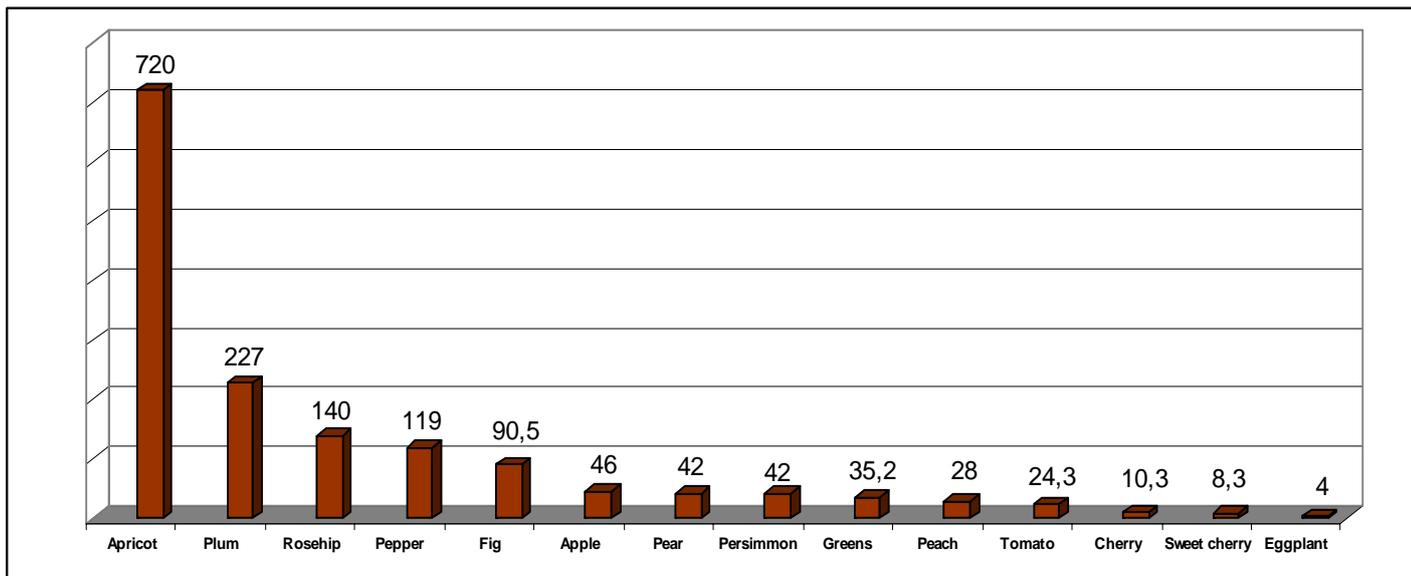
The year 2006 was favorable for the producers (climatic and economic factors), and overall production volumes in the territory of Armenia made approximately 1600 tons. The production volumes by marzes are presented in the Chart 5 (see Appendix B for the Table).

Chart 5. Production volumes (tons) by marzes for 2006



Calculated data

Chart 6. Production volumes (tons) by product types for 2006



Calculated data

Producers' opinions and concerns

Within the framework of the research of primary sources a series of interviews were conducted with dried fruit producing entrepreneurs and representatives of companies, such as Tamar Tatik LLC, Sava LLC, Ureni LLC, Artin LLC, Cheer CJSC, etc. The interviewees provided answers to questions included in questionnaires designed for producers, as well as expressed their concerns and expanded on issues that they consider important for the dried food industry. The following paragraphs are conclusions and summaries of those interviews.

a. Most Armenian producers have production capacities to produce in volumes twice or thrice as much as they produce currently. However, there are several interconnected obstacles that seem to make a circle difficult to overcome. First, it is said that the demand for dried food (with an emphasis on dried fruits as the latter are of primary consumption) is low, therefore the Armenian producer (especially small and medium-sized businesses) does not exploit the drying facilities at full capacity (instead exploiting 50 or even 30 percent), organizing the production in accordance with the demand.

b. Then it has to be researched what the reason of low demand of dried food is, especially if we take into account the high volume of imported of dried food to Armenia. There is one answer to that – the price: Armenian dried food is more expensive than the imported one. Price is the competitive advantage of imported dried food. Armenian producers, however, cannot initiate a price war, since the production costs are high, especially due to the low production volumes when diseconomies of scales takes place.

c. At this point we return to the first issue of underused production capacities: Why not increase production volumes and decrease price? The answer to this question is also sole and simple: large investments are required for organizing large-scale production to achieve economies of scales. At present, the Armenian producer does not have sufficient resources for that purpose. But what if the producer had those resources? Would the issue be solved to some extent?

d. The answer seems to be “No”, i.e. even if large investments are made in this sector, the initial issue of competition of imported dried food cannot be solved. The issue is much more global than it can be perceived at a first business glance. Armenia, with its limited arable lands, cannot compete with Iran and Turkey (or other major countries of dried food export) with their vast resources, namely the supply of raw materials for this industry. The low price of the imported dried food is conditioned by overall large industrial volumes of those countries, therefore it is not reasonable to aim at making pricing a competitive edge for Armenian dried food.

On the other hand, if moderate investments are made to increase the production volumes to a small extent, the impact on the costs is so small that the margin of price is insignificant to bring about changes in consumer buying habit and demand in general.

e. And, after the discussion presented above, we reach the same point from which we started: most Armenian producers organize their production based on the actual demand for their product, without changing their pricing policy to increase demand. We tried to outline the circle through describing the major issues constituting that circle. This does not mean, of course, that the producer’s problems are limited to the ones mentioned above: there exists a host of other issues of no less importance. However, before passing on to them, a last consideration should be added as a conclusion-solution.

f. No solution can be achieved to the issue discussed above if the latter is considered from the angle of pricing. It is not a secret and the field study showed that consumers prefer Armenian dried food if quality and taste are taken into account. To differentiate Armenian dried food, to expand local market share and to find niche markets abroad, Armenian producers need to accentuate the quality of **Armenian dried food**, making it a common powerful brand for all Armenian producers. And just as in the case of Arabic, Turkish and Iranian industries in which producers organize their efforts to gain competitive edge through pricing, the branding of Armenian dried food needs to bear industry-wide characteristics. This issue was discussed also during the annual conference of dried food producers of Armenia at the State Agrarian University on May 26, 2007: producers acknowledged the urgent challenge that they face with regard to branding of Armenian dried food through combined and unanimous efforts of all interested parties.

Sanitary and hygiene issues

Most of dried food producers are farmers involved in homemade dried food production, drying vegetables and fruits in the open air, applying handmade tools and equipment. While this is economical and “natural”, sanitary and hygiene conditions are not provided: the food is open to dust, bacteria, insects, etc. For such producers it is easier and more convenient to produce sugared fruits, and the latter are perceived as a kind of dried fruits by many consumers.

Small and medium-sized productions face the same issue of unsatisfactory sanitary conditions, lack of equipment and facilities. Some of them dry fruits and vegetables in the open air and though they acknowledge the urgency of providing primary sanitary conditions and consequently quality assurance, they emphasize the need of large investments for that purpose. At the same time, since the local market has not developed to the point when such issues are a matter of utmost urgency for a company to survive in the market, the consumer is not aware and demanding enough, and the state control – not strict enough, such issues are ignored in the majority of cases.

Relatively large producers organize productions with proper sanitary and quality management conditions, which are provided in different steps of production process, from storage of fruits, washing and classification, to packaging, distribution and preserving at the sales outlets. However, this scenario is not adhered to very often, first due to the lack of resources, and then the lack of competence, commitment and knowledge among many producers, who keep applying traditional ways of business.

Marketing issues

As it has already been stated, dried food in Armenia is sold mostly in bulk in markets and open-air sales outlets. The dried food sold in supermarkets and stores is packaged in polyethylene, in most cases lacking product name, with product data rarely provided on the packages. Few producers, mainly large ones, implement marketing of their produce. Based on the overall picture of the market, it can be inferred that most dried food producing companies and entities do not implement marketing strategies at all.

Large and some medium and small producers have already gained recognition among consumers. For instance, Alishan, Tamar Tatik, Liana and Sateni are among the brands that consumers mentioned they are aware of during the field studies. These are producers who have achieved differentiation either through the relatively long presence of their produce in the marketplace in packaged form or through promotional campaigns such as in-store promotions, free tasting, distribution of promotional materials such as booklets and leaflets, small catalogues, etc. The latter case is very rare as such promotional activities are new and seem very expensive and insufficiently productive, and in some cases even strange for the local producer.

Among the visited producers there have been ones who have acknowledged the lack of proper marketing activities and found liaison between low sales and lack of marketing. Though the relatively high volume of produce those producers have had difficulty in realization, as the sales at farmer markets are low, and supply to sweets producing companies is almost impossible due to the high competition of imported products. As to the sales in stores and supermarkets, many of them have not considered this option as profitable, convenient or an option at all. Such producers understand the importance of marketing but do not have sufficient capacities to implement it or think there are more important issues to be solved, for instance buying equipment or renovation of production facilities.

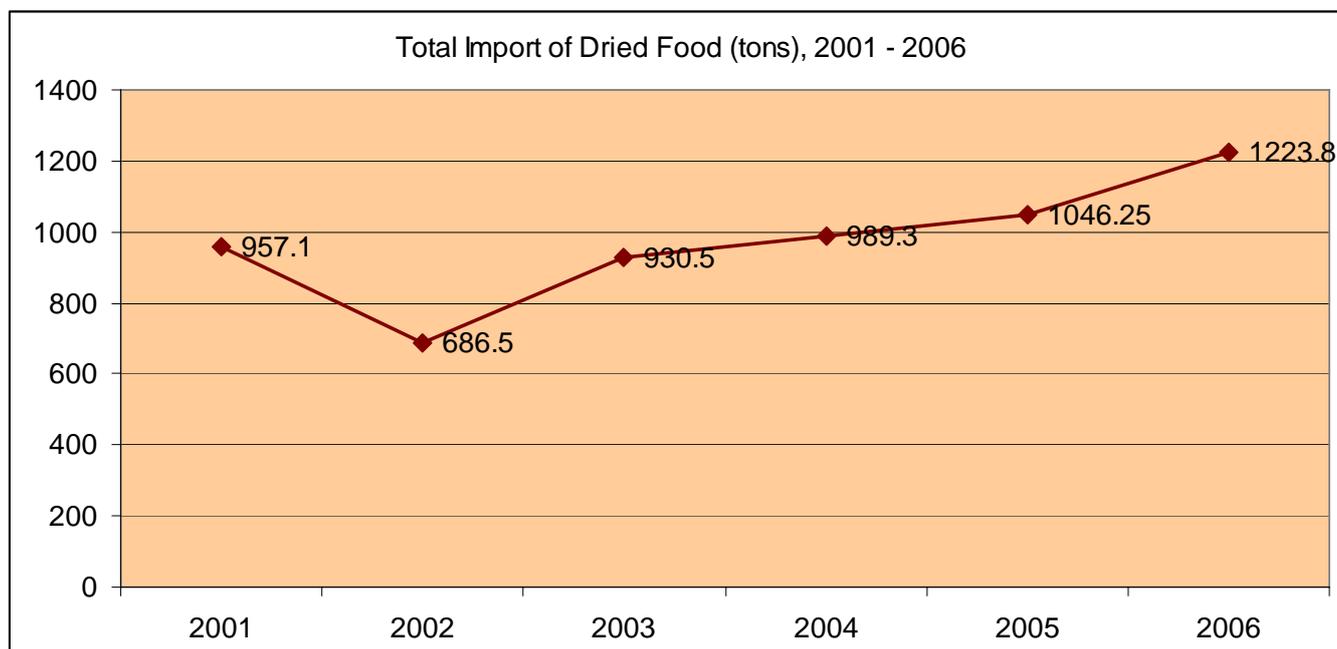
For some producers promotion of products is considered a luxury, as they manage to realize the produce in farmers markets. These are producers whose production volumes are not high or who have sufficient business relationships for full product realization. However, these producers, too, do not exclude the importance of marketing activities if sufficient resources are available. Of course from the business point of view expensive marketing activities are not reasonable if the production volumes are low and the produce is fully realized but if these producers intend to develop and enlarge production and become market players, rather than remain satisfied with the present level of business operations and profits, they will eventually have to combine promotional activities with their other business processes.

IMPORT OF DRIED FOOD

Though, as it was mentioned earlier, the Armenian producer organizes production in accordance with the predicted level of demand, a substantial part of the consumed dried food in Armenia is imported. In 2006 that number was approximately 70% (Association of Dried Food Producers of Armenia, 2006; Armenian State Statistical Agency, 2006). Importers are local economic entities who provide imported dried food to companies involved in production of sweets and confectionery, as well as to wholesale and retail outlets. The quantities of imported dried food are not constant and are dependent on the supply of local raw material.

As it is presented in Chart 7 and Table 1, the import of dried food has increased during the recent years, starting from 2003 and reached a summit in 2006. It can be inferred that overall consumption of dried food in Armenia has increased during the recent years: there has been an increase in import, while at the same time there has been an increase in production. The increase in consumption may be conditioned by the increase in the purchase power of the population.

Chart 7. Total import quantities of dried food for the period of 2001 – 2006



Calculated data

Table 1. Import quantities of dried food for the period of 2001 – 2006 (tons)

	2001	2002	2003	2004	2005	2006
Melon	0	0	0	2.9	0	3
Raisin	875	650	815	811	931	1140
Fig	36	1.6	4.5	5	25	6
Apricot	13.7	12.4	21.9	45	29	35
Black plum	19.7	12	54.6	45	38	5
Peach	0	0	11.8	2.9	18.5	3
Ground garlic	0	0	0	34.5	2	15.9
Other fruits	9	0.5	3.8	10	2.45	15
Other vegetables	3.7	10	18.9	33	0.3	0.9
Total import	957.1	686.5	930.5	989.3	1046.25	1223.8

Source: Association of Dried Food Producers of Armenia

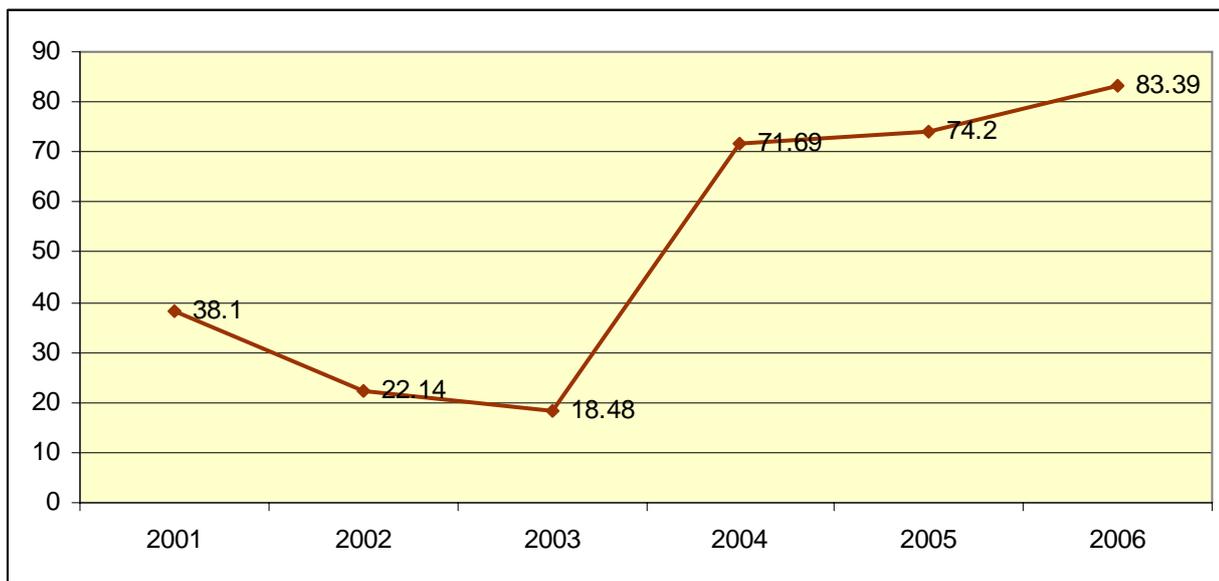
Among the imported dried foods in 2006 raisin has the greatest share. Particularly in 2006, 1 138 900 kg raisin was imported, an increase of 22 percent in comparison with 2005, when 930 956 kg was imported (Armenian State Statistical Agency). Raisin is imported mainly from Iran. The imports of dried food from this country constitute approximately 67 percent of the total imported dried food. It should be mentioned that the quantities of dried food imported from Iran are constant, since every year only the import of raisin makes 650 – 700 tons (Alphaplus Consulting, 2005).

Other major countries of import are the USA (raisin and peach), UAE (raisin and plum, potato and ground garlic), Turkey (apricot and fig), Georgia (apple), Iran (garlic), Moldova (plum), Poland (ground garlic), China (ground garlic), etc (RA State Customs Agency). Among the imported dried vegetables ground garlic and potato prevail in quantities. Ground dried garlic is used food production, while dried potato is used for fast food service.

EXPORT OF DRIED FOOD

As opposed to the import of dried food, export quantities are small, though the fact that significant quantities of exported dried food may be unregistered, should also be taken into account. According to the data of Armenian Customs Agency, export of dried food has increased during the recent years starting from 2003 (see Table 2 and Chart 8). The percentage increase in export of dried food in 2006 was 8.8 percent, while in 2005 it was 3.5 percent.

Chart 8. Total export quantities of dried food for the period of 2001 - 2006 (tons)



Calculated data

Among the large producers, Cheer CJSC is the only company with consistent focus on export and entry to foreign markets. Cheer CJSC exports not only own produce, but also products of other dried food producers, purchasing small quantities from the local producer, combining those quantities into a larger quantity and exporting them to countries of Western Europe. In 2006 Cheer CJSC exported 18 028 kg dried food to France, of which 11 840 kg was dried tomatoes. Overall, dried tomatoes made 15 percent of the total export volume of 2006 and were exported only to France (Source: Association of Dried Food Producers of Armenia, 2006).

Table 2. Export quantities of dried food for the period of 2001 - 2006 (tons)

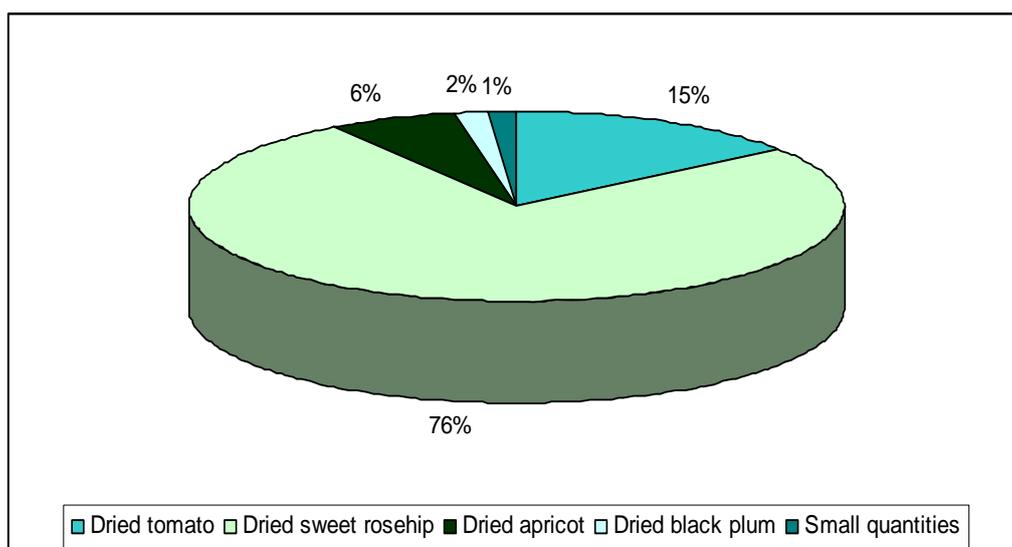
	2001	2002	2003	2004	2005	2006
Tomato	16.6	20.84	17	19.2	0.7	19.2
Apricot	2.1	1.3	1.48	1	5	1
Plum	0	0	0	0.45	1.5	0.13
Peach	19.4	0	0	0	0.1	0.4
Rosehip	0	0	0	48.2	65.1	61.8
Cherry	0	0	0	0	0	0.18
Sweet cherry	0	0	0	0	0	0.18
Other fruits and herbs	0	0	0	2.84	1.8	0.5
Total import	38.1	22.14	18.48	71.69	74.2	83.39

Source: Association of Dried Food Producers of Armenia

Dried food is exported also to Russia, USA and Canada. Rosehip export to Russia and Ukraine has comprised a significant portion of the overall export volume since 2004: in 2004 it comprised 67 percent of the total export volume, in 2005 – 87 percent, and in 2006 – 74 percent (see Chart 9). Exported dried rosehip is supplied to companies producing juices and medicine in these countries.

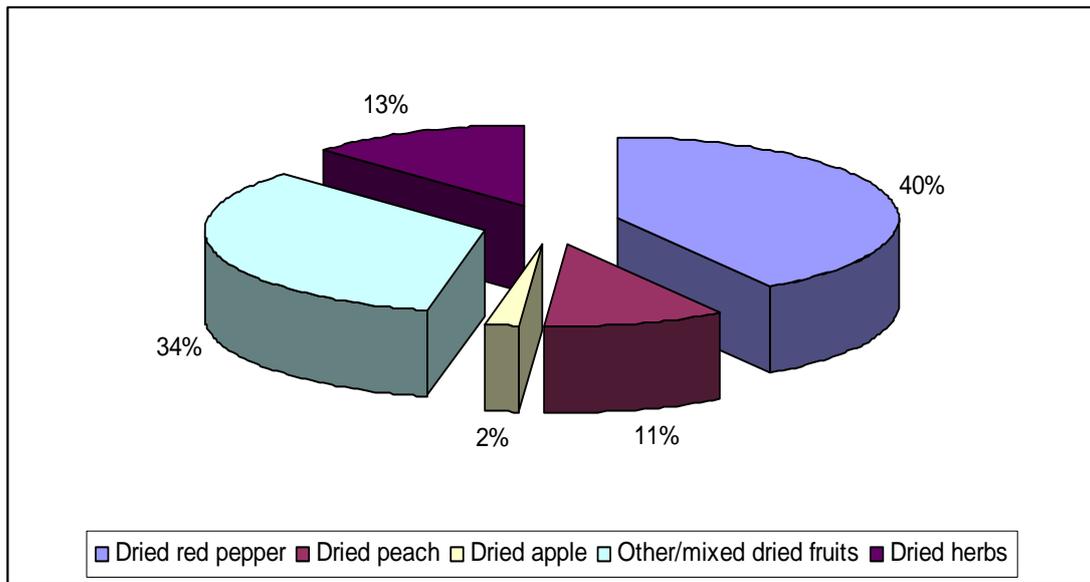
Dried apricot comprised 6 percent of the total volume. 81 percent of the exported apricot was supplied to France, 12 percent to Switzerland, 6 percent to USA, and only 0.4 percent to Canada. Dried black plum constituted 2 percent. Other types of dried food (red pepper, peach, apple, herbs) constituted only 1 percent (see Chart 9).

Chart 9. Shares of different dried foods in the total export volume of 2006, in percentages



Calculated data

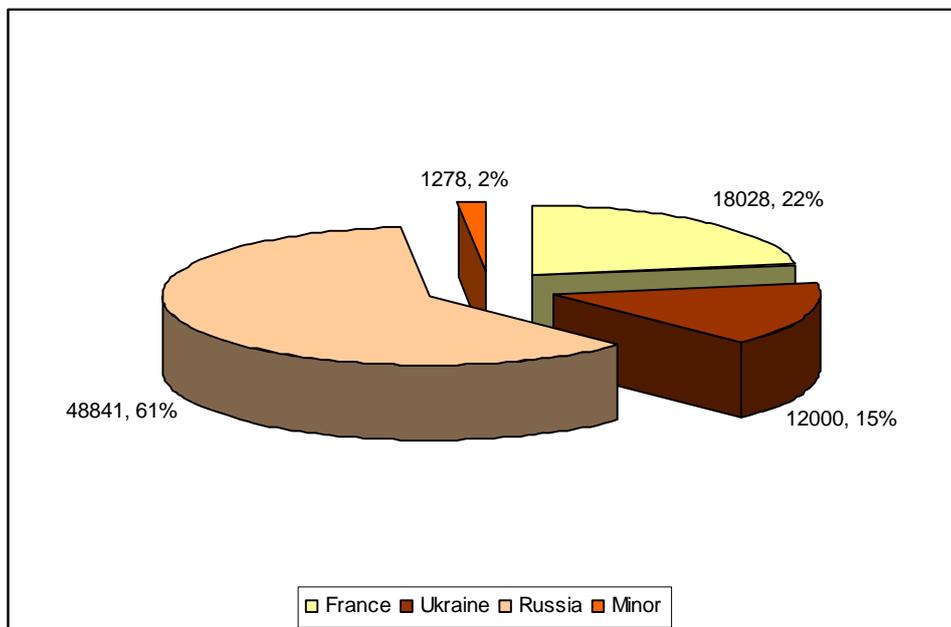
Chart 10. Dried foods exported in very small quantities, constituting only 1 percent of total export of 2006



Calculated data

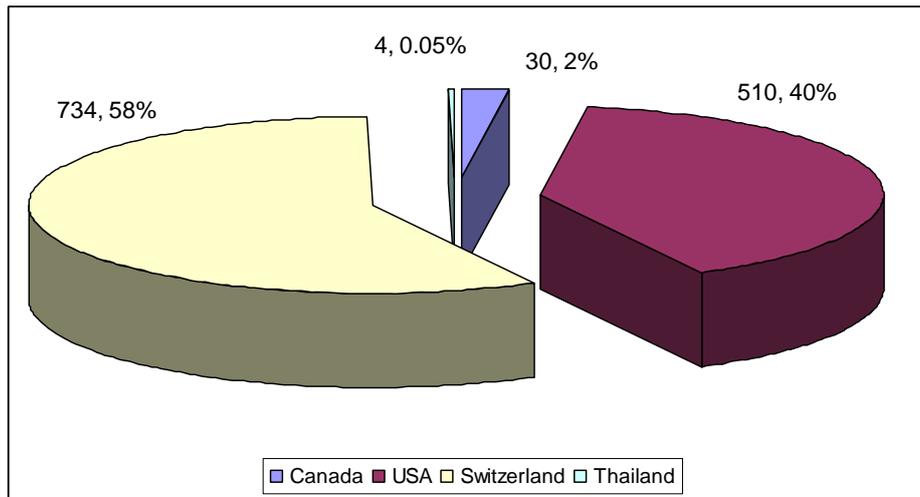
Export to Russia constituted 61 percent, export to France – 22 percent, to Ukraine – 15 percent, and the remaining 2 percent constituted countries with very small quantities of export – Canada, USA, Switzerland, Thailand.

Chart 11. Countries of higher export volumes (kg, percentages)



Calculated data

Chart 12. Countries of lower export volume (kg, percentages), constituting part of the Minor group in Chart 11



Calculated data

Besides apricot, small quantities of dried herbs are also exported to Switzerland by Cheer CJSC. Dried peach is exported to Canada in small quantities. It is worth noting that export to most of the mentioned countries is conditioned by the high number of Diaspora Armenians in those countries who constitute the main target group of Armenian dried food (France, USA, Canada, Russia). As to large volume exports, according to some producers, there have been orders of large quantities of dried food, but it has been impossible to fulfill those orders due to the lack of sufficient quantities.

EXPORT RELATED ISSUES: EU AND NATIONAL REGULATIONS

As it was mentioned above, export of Armenian dried food is mainly directed to the EU countries, leaving alone the high volumes of export of dried roseberry to Russia. For successful and continual export to EU countries the Armenian producer needs to take into consideration a series of issues presented below (Source: Dried Food Market Survey, Danish Import Promotion Programme, 2004).

Maximum residue levels (MRLs) / pesticides

Import of dried fruits to EU countries must comply with the regulations for maximum values for the content of residuals of a large number of pesticides. Regulations on the approved level of pesticides to be found in imported dried fruits to the EU market are stated in Council Directive 90/642/EEC. Moreover, different countries have additional regulations for a number of pesticides, which need to be taken into account in case of export intentions to those countries.

Approved additives regulation

The Approved Additive Regulation is based on Directive 95/2/EC and deals with the non-nutritive substances, which can legally be added to some or all food products. Only specific additives may be applied to certain groups of dried fruits. Table 3 below lists the permitted additives in dried fruits and the maximum concentration thereof.

Table 3. Permitted Additives in Dried Fruits and the Maximum Concentration Thereof

Apricots, peaches, grapes, plums, figs	Sulphur dioxide 2000 mg/kg
Bananas	Sulphur dioxide 1000 mg/kg
Apples, pears	Sulphur dioxide 600 mg/kg
Others	Sulphur dioxide 500 mg/kg

Source: www.europa.eu.int

The additives should be mentioned in the list of ingredients on the label of the dried fruits in the consumer packs. It is important to notice that the legislation concerning food is continuously changing and it is therefore strongly advised to check with the Food Administration bodies before any import process is commenced.

Contaminants in foodstuff

According to environmental legislation and toxicity, certain requirements have to be fulfilled in relation to the use of packaging material, see “Packaging and Labeling” below. Commission Regulation (EC) No

466/2001 sets the maximum levels for certain contaminants in foodstuffs. Foodstuff cannot be sold on the EU markets if the maximum level of, for example, mercury, cadmium, and lead are exceeded.

HACCP

All food processors in the EU are legally required to follow an approved Hazard Analysis and Critical Control Point (HACCP) system, which is a system that deals with the handling and treatment of foodstuff in order to ensure that foodstuff do not pose a risk to human health under normal use. The HACCP regulation is also important for exporters of foodstuff outside the EU as responsibility of the production is passed all the way throughout the distribution chain. As a consequence of the General Food Law, from 2005 the EU requires that foreign producers, who want to export foodstuff to the EU, must have a quality control system similar to the principles of the HACCP system so that they can track the origin of the products.

Organic production

If dried fruits are to be sold as organic products, it must comply with the rules and regulations laid down in the Council Regulation (EEC) 2092/91. In this regulation the main principles for organic production as well as the rules to be followed for the processing, sale and import of organic products from non-EU countries are established. Foreign exporters must be aware that the whole distribution chain – from agricultural unit to exporting company – must be certified by a recognized EU control body before the products can be sold in EU countries in order to ensure that the EU and national standards are met.

Other regulations

Moreover, two other types of food legislations laid down by the EU Commission could be of relevance to exporters of fruits:

- Directive 93/43/EEC deals with general rules for food hygiene stating explicitly that food products cannot be sold in the EU if they are not safe and moreover, the regulation also emphasizes that it should always be possible to trace the origin of the food product.
- Regulation EC 178/2002 known as the General Food Law, adopted in 2002, deals with the general requirements and principles of food legislation in the EU. This regulation came into force in January 2005.

The Centre for the Promotion of Imports from developing countries (CBI) located in the Netherlands administrates a database on European non-tariff barriers called Access Guide. Exporters in developing countries can check relevant non-tariff barriers for dried fruits, as well as for many other products, by logging on to www.cbi.nl/accessguide.

Packaging and labeling

It is important that the foreign producers pay attention to the demands of the importer in the EU regarding the packaging of the dried fruits. There is a trend going towards recycling and the legislation on the area requires that packaging for consumer products is taken back and collected by retailers and producers. If the products are packed in a material which is not recyclable a contribution has to be paid.

Generally, packaging policy does not affect foreign producers because the importer will be held responsible for the packaging. Bulk-packaged, dried tropical fruits are usually packaged in export carton boxes lined with polyethylene, containing two or four 5 kg boxes. Nowadays dried fruits are mostly packed in polyethylene. It is generally used in the form of a closed bag inside paperboard cartons, fiberboard corrugated boxes (bag-in-box system) or multi-wall sacks. Polyethylene liners may be heat-sealed to give an airtight closure, although some air permeates gradually through the polyethylene itself. Vacuum packaging is also used, but on a small scale.

Packages suitable for palletisation are gaining in popularity, since they reduce handling costs and damage to the product. Rectangular boxes are more suitable for palletisation than paper sacks or drums. Packages normally vary between 5 kg and 25 kg. Concerning the labeling of the products when exporting to EU, it should always be possible to trace the dried fruits back to the foreign producer and exporter of the products. As a minimum, labels should therefore contain information about the country of origin, the date, month, year of packaging as well as the name of the producer and exporter of the dried fruits. If the products are imported in consumer packages more extensive information has to be provided.

All consumer products must contain the following information:

- Name and address of the producer, packager or importer within the EU
- List of ingredients, including additives, colorants etc.
- The quantity of the ingredients (QUID - Quantitative Ingredient Declaration)
- Net weight/ net volume
- Expiration date of the product
- Storage instructions

It is recommended that the requirements regarding packaging and labeling should always be agreed upon and specified in the contract between the exporter and the importer in order to meet expectations and to comply with EU regulations. Usually, the importer informs the foreign supplier of the requirements to packaging and labeling.

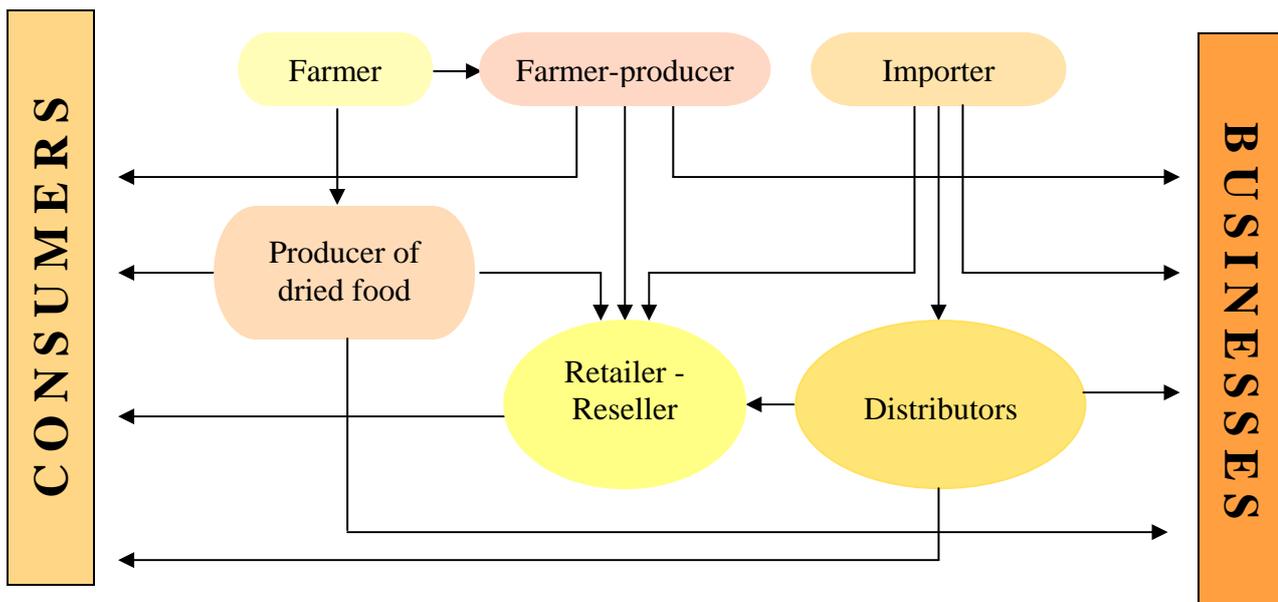
DISTRIBUTION CHANNELS

The value chain of getting the dried food from the producer to the consumer is rarely short. It mainly includes several players, which increases the end price significantly (see Figure 1). The most frequent channel of distribution is farmer – producer – retailer – consumer, farmer producer – retailer - consumer or importer – retailer – consumer. Retailers usually increase the price in 30 - 50 percent, sometimes in 70 percent and seldom even in 100 percent. Thus it can be inferred that the general high price of dried food is mainly conditioned by the role of the retailer/reseller in the value chain.

The value chain to the catering sector, producers of sweets and other businesses is often shorter as it can be managed by the latter. It is often in the form of importer – business, reducing additional costs and making the value chain least costly. In the context of such supply management, it becomes harder for the local producer to compete with importers.

However, it is worth mentioning that new producers of sweets have emerged in the market who put efforts towards gaining reputation though uniquely high quality products. Such producers (for instance chocolate producers) prefer high quality Armenian dried fruits and cooperate with the local producer. Price is of secondary importance in such business relations and is a matter of negotiation. In such cases the value chain has the form of producer of dried food producer (or farmer producer if the latter provides sanitary and proper production conditions at the production plant) – business.

Figure 1. Distribution channels of dried food



MARKET BALANCE

Based on the dried food production, export and import data obtained from the Association of Dried Food Producers of Armenia, State Statistical Agency and State Customs Agency, approximate calculation of the Market Balance was conducted (see Table 4), through the following formula:

$$\text{Market Balance} = \text{Domestic production} + \text{Import} - \text{Export}$$

$$2677.01 \text{ tons} = 1536.6 \text{ tons} + 1223.8 \text{ tons} - 83.39 \text{ tons}$$

Table 4. Market balance of dried food consumption

	Production	Import	Export	Balance
Apricot	720	35	1	754
Plum	227	5	0.13	231.87
Rosehip	140	0	61.8	78.2
Pepper	119	0		119
Fig	90.5	6	0	96.5
Apple	46	0	0	46
Pear	42	0	0	42
Persimmon	42	0	0	42
Melon		3	0	3
Greens	35.2	0	0	35.2
Raisin		1140	0	1140
Peach	28	3	0.4	30.6
Tomato	24.3	0	19.2	5.1
Cherry	10.3	0	0.18	10.12
Sweet cherry	8.3	0	0.18	8.12
Eggplant	4	0	0	4
Ground dried garlic	0	15.9	0	15.9
Other fruits	0	15	0.5	14.5
Other veg	0	0.9	0	0.9
Total	1536.6	1223.8	83.39	2677.01

According to the research report of Alphaplus Consulting on dried food consumption, approximately 15 percent of the consumed dried food is the share of food processing companies and restaurants, and the 85 percent – consumers.

SWOT ANALYSIS OF ARMENIAN DRIED FOOD MARKET

As it is presented in Figure 2, there are more weaknesses and threats with regard to the Armenian dried food sector, than strengths and opportunities. This is not surprising if we take into account the economic and social factors influencing the development of the sector, as well as the crucial challenges still to overcome. There are not only micro-economic factors, but also macro-economic influences, among them the stable price and quantities of dried food in the world markets, as well as the fluctuation of US dollar exchange rate.



Figure 2. Important points of Armenian dried food market SWOT analysis

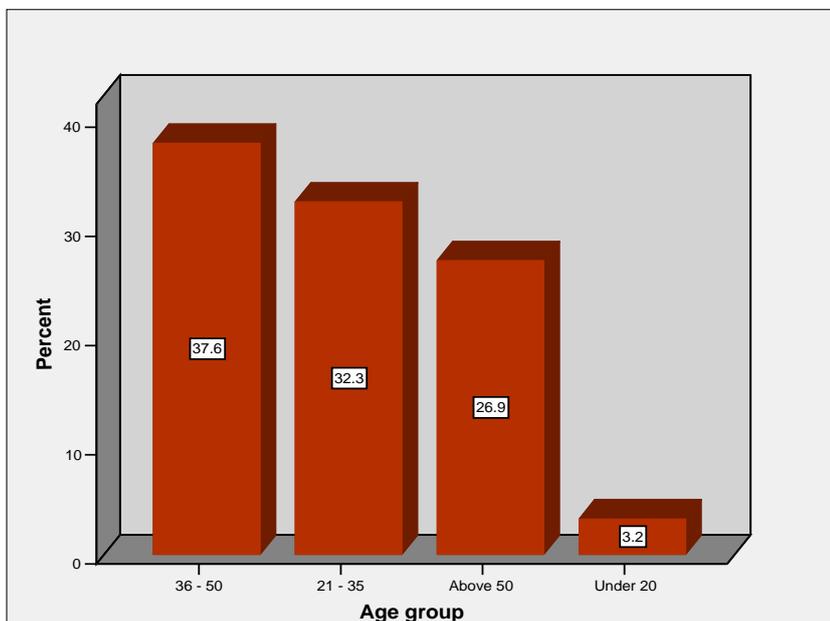
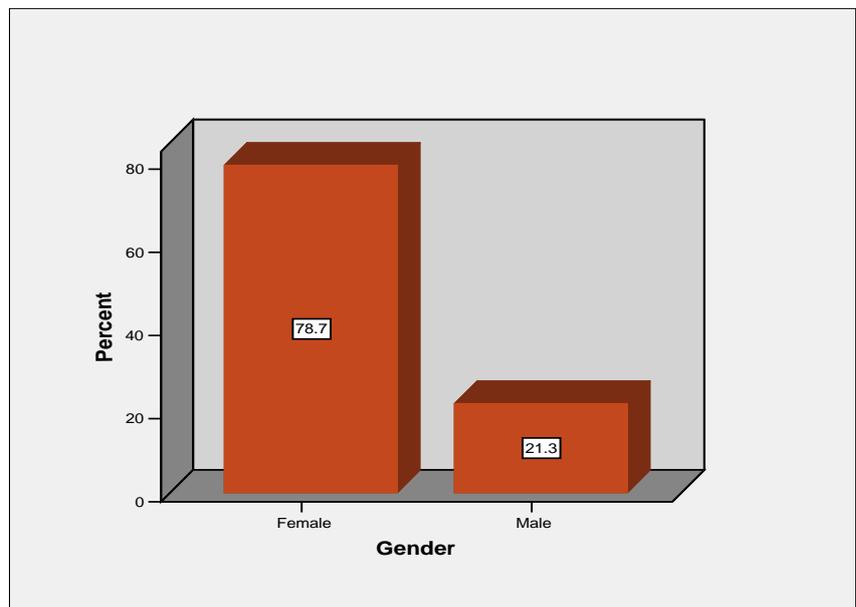
FIELD STUDY RESULTS

Below the results of the field survey among consumers, consisting of the responses of 500 respondents. Though the answers to several of the questions were predictable, those questions were asked to receive the real (or close to real) picture of the consumer attitudes and preferences. First, general data on income, age and gender of the target group is presented. Then, analyses of responses to topic-related questions are provided.

Respondent demographics

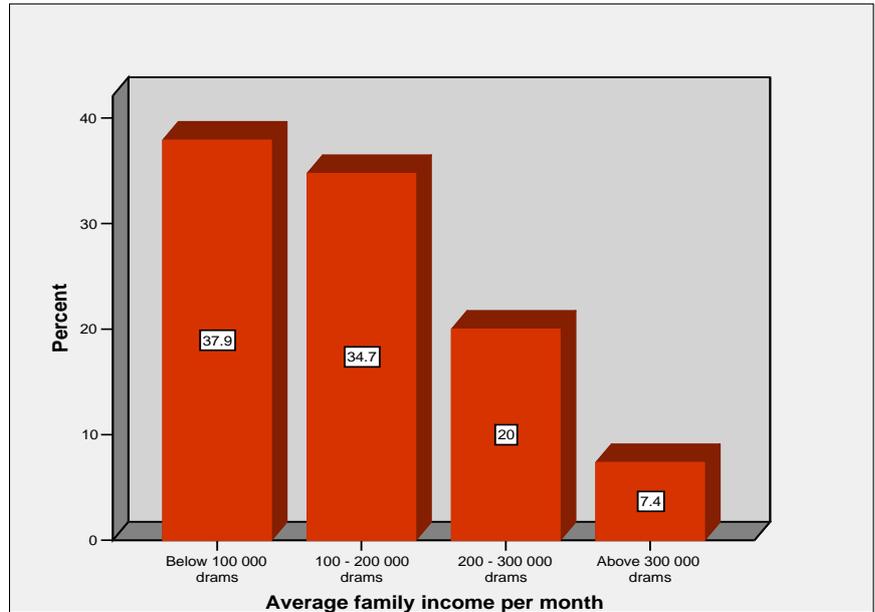
79 percent of the respondents were female, and 21 percent were male.

It is conditioned by the fact that women comprise significantly greater part of the consumer group: in most Armenian families women do the shopping of food, and/or their food purchasing is more frequent.

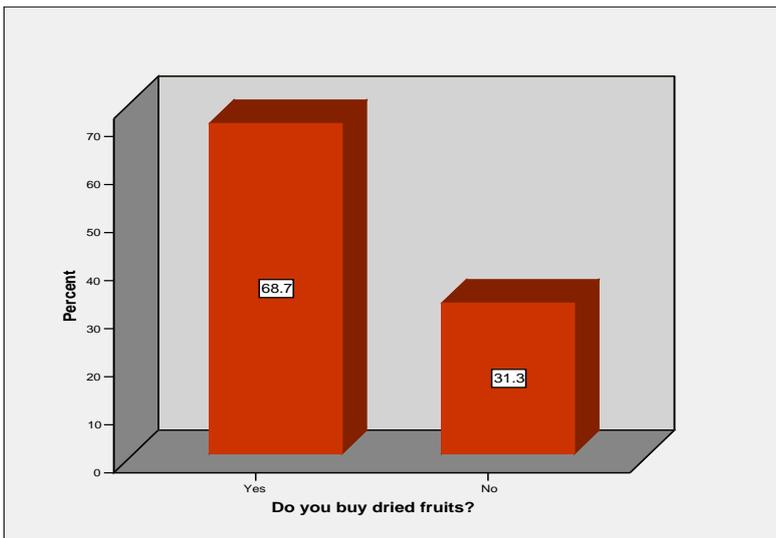


38 percent of respondents are between 36 and 50, 32 percent are between 21 and 35, 27 percent are above 50, and only 3 percent are under 20. This is conditioned by the fact that food shopping is done mainly by middle-aged people. If the 79 percent of respondents are women, it can be inferred that the main consumer group doing dried food shopping consists of middle-aged women.

The average monthly income of 38 percent of respondents is below 100 000 AMD, for 35 percent it is between 100 and 200 000, for 20 percent it is between 200 and 300 000, and the 7 percent has monthly income of more than 300 000 AMD.

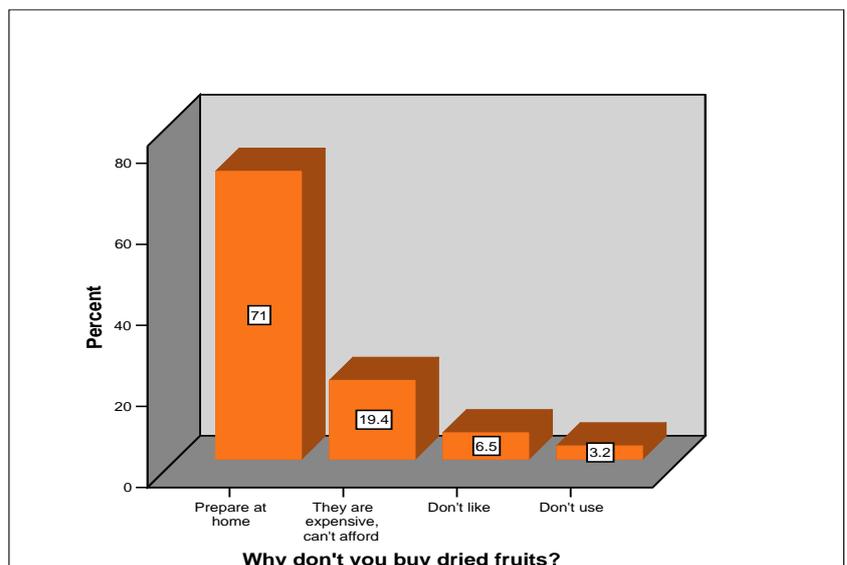


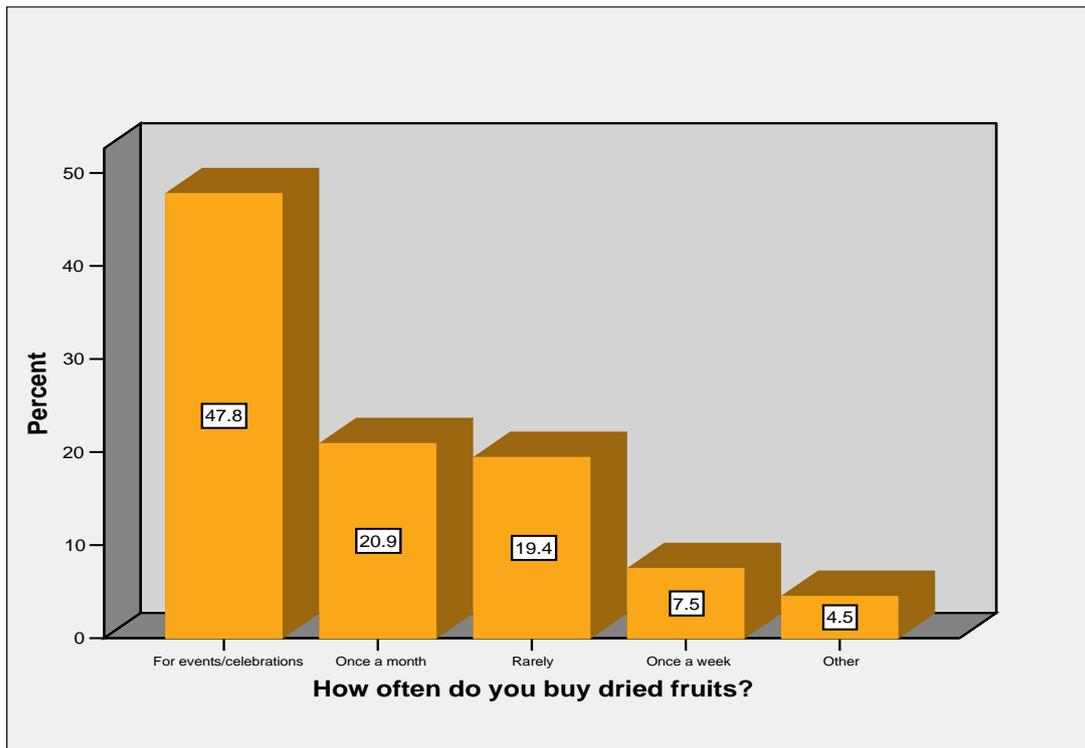
Dried fruits



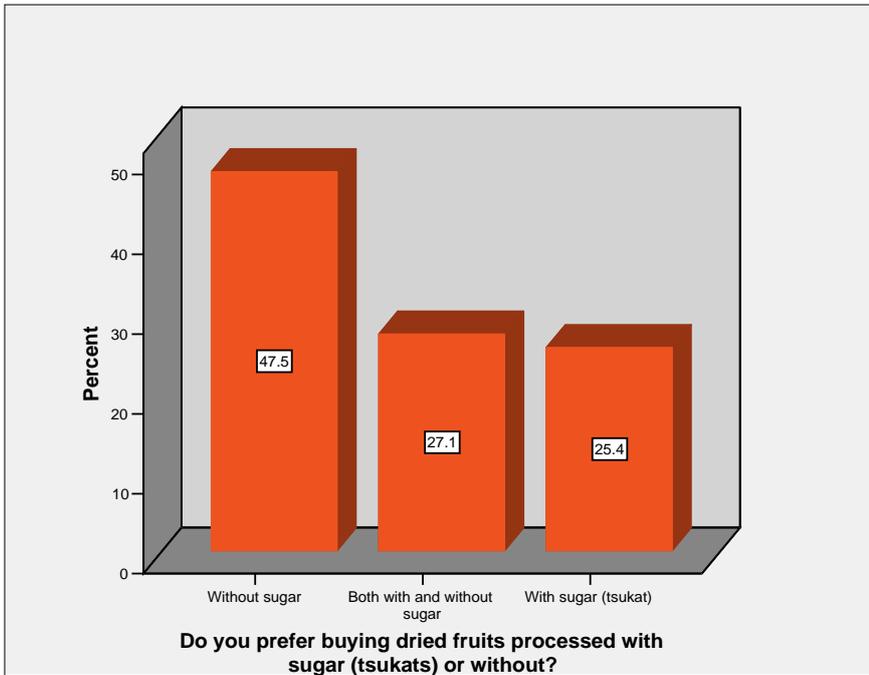
69 percent of the respondents buy dried fruits, and 31 percent does not.

Among the respondents not buying dried fruits, 71 percent prepare at home, 19 percent cannot afford buying, 6.5 percent do not like and 3 percent do not use.

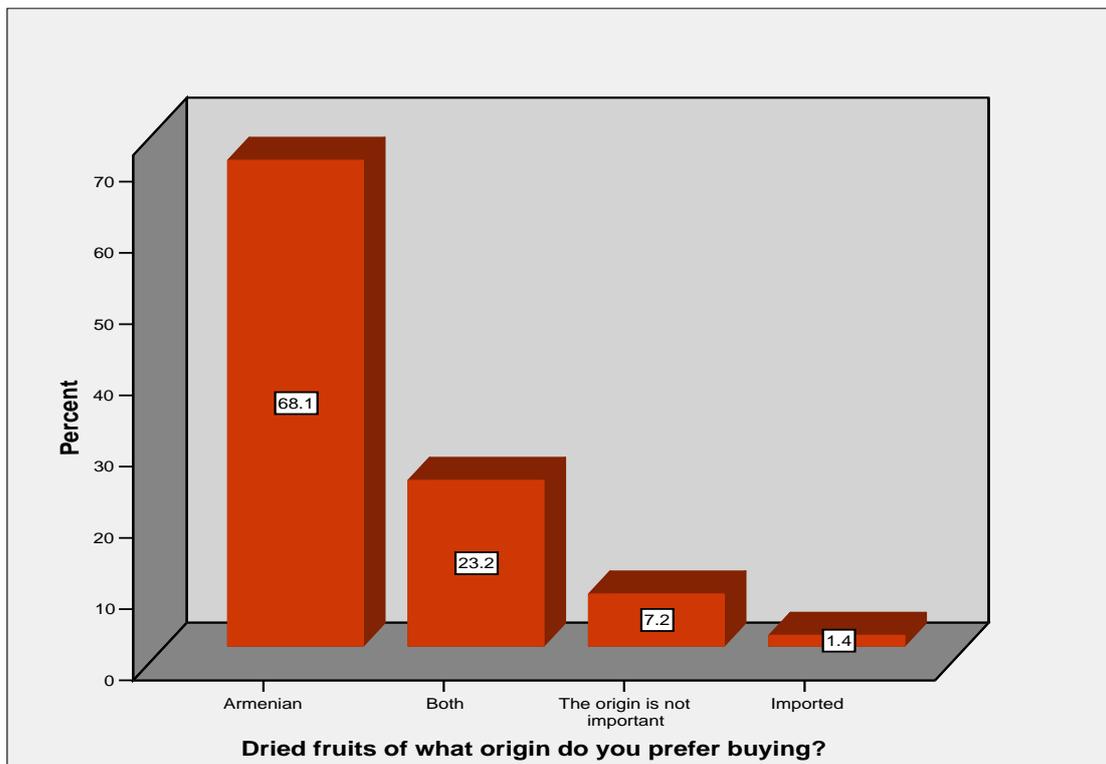




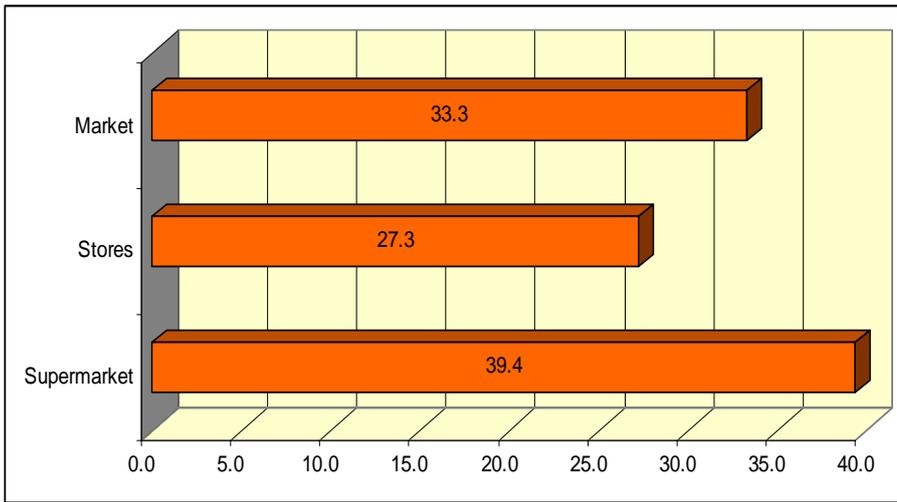
47.8 percent of respondents purchase dried fruits only for celebrations and events (especially New Year), 21 percent buys once a month (mainly relatively high income groups), 19 percent – rarely, 7.5 percent - once a week. In fact, dried fruits are not of first necessity, for most consumers the purchase of dried fruits is connected with celebrations and special events. Most families buy dried fruits (including sugar processed fruits which many Armenians consider dried fruits) for the New Year celebrations.



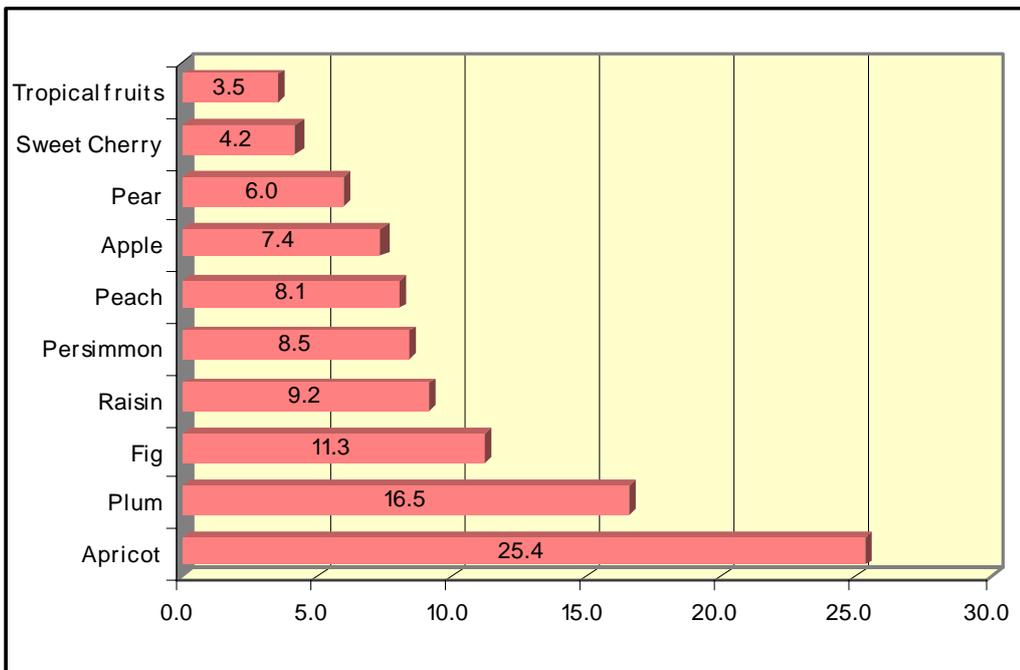
For 47.5 respondents dried fruits without sugar additives are preferable, while 25 percent prefer sugar processed dried fruits. The latter explain their choice with the fact that sugar processed fruits have more attractive appearance, which is important for celebrations. For 27 percent both types are preferable.



For 68 percent of respondents Armenian dried fruits are of preference, while for 23 percent both imported and locally produced dried fruits are acceptable. For 7.2 percent the origin is not important. Only for 1 percent imported products are preferable. This is an important fact for the Armenian producer: the general tendency of preferring domestic food to the imported one is true for the dried fruits, too.

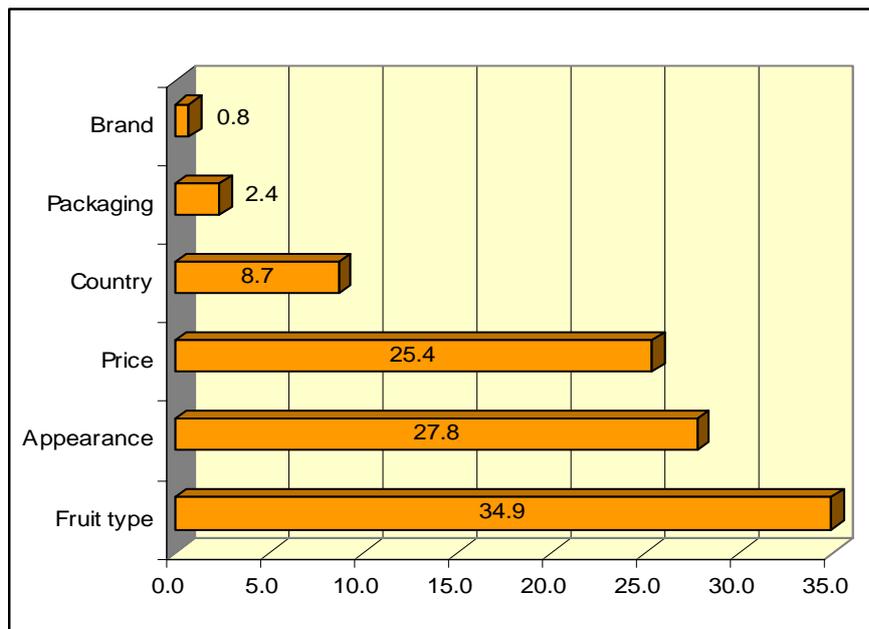


33 percent of consumers buy dried fruits at markets, 27 percent of consumers buy at stores, and 39 percent prefer purchasing at supermarkets. This fact shows the gradual shift to buying dried fruits at stores. However, a significant part of consumers still buy at markets.

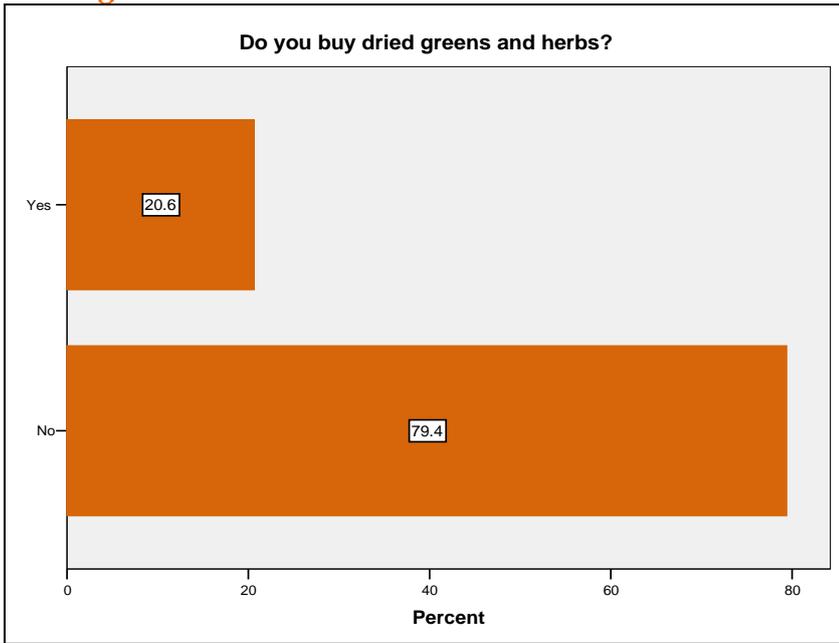


If the consumer preferences of dried fruits are allotted to different fruits, apricots are of 25 percent preference. The second is plum, with 16.5 percent preference, later come figs – 11 percent, raisin – 9 percent, etc. Though this picture was predictable, the survey came to confirm the general assumptions.

In buying dried fruits, consumers pay attention to fruit type in 40 percent cases, appearance – 28 percent, price – 25 percent, country of origin (domestic vs. imported) – 9 percent cases. Packaging of dried fruits is relatively new phenomenon, and its importance for the consumer is still low.

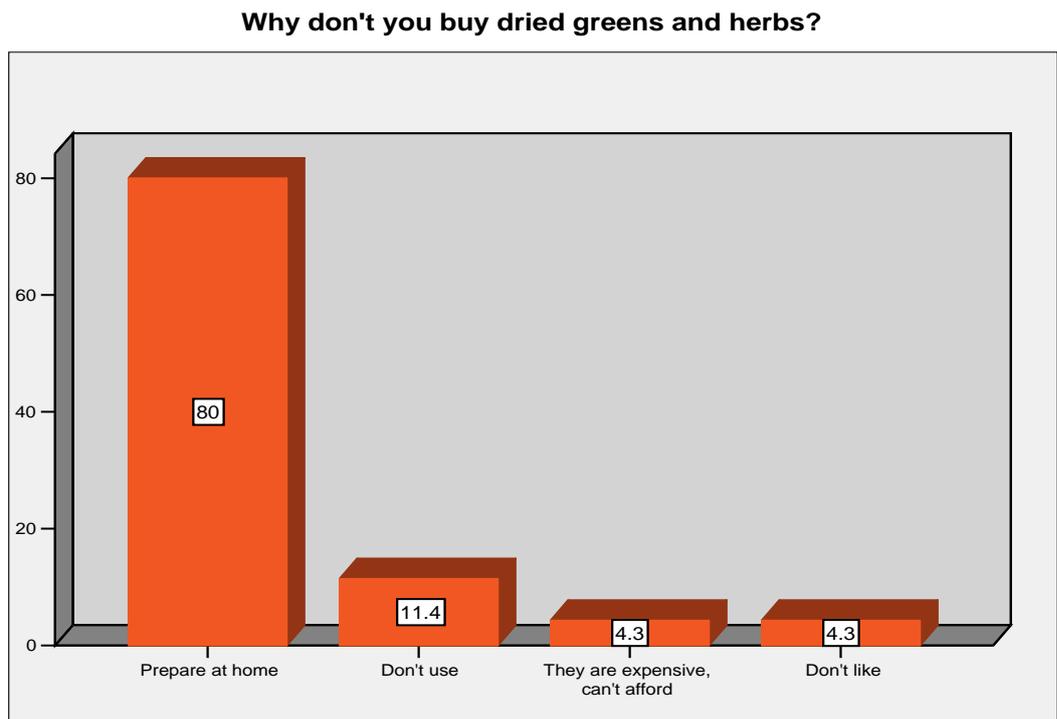


Dried greens

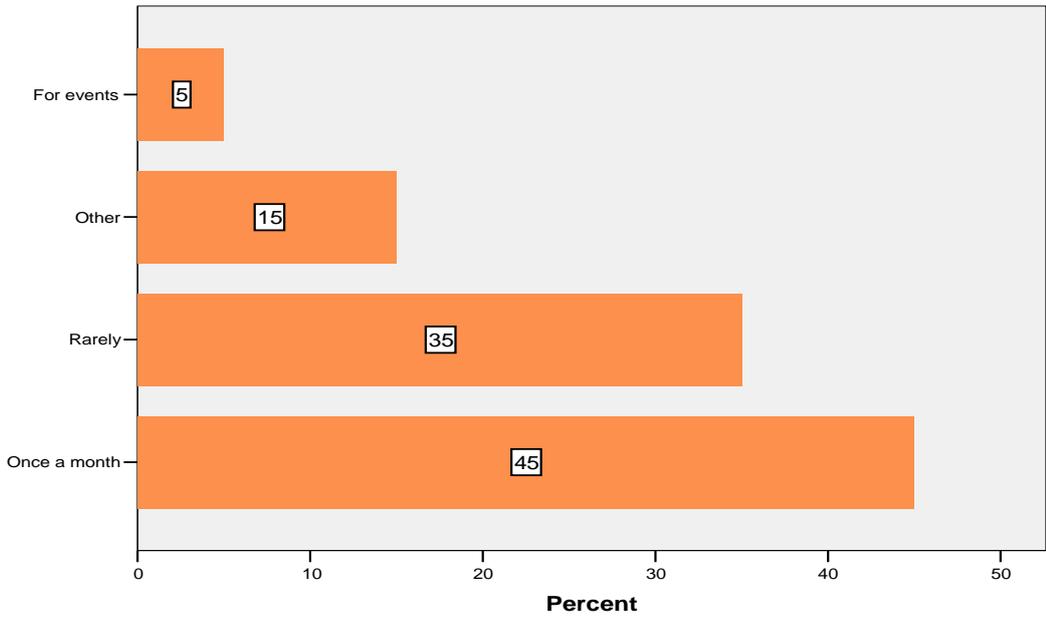


21 percent of respondents buy dried greens, and 79 percent does not.

80 percent of respondents not buying dried greens prepare them at home, which was predictable: greens are dried at home in most Armenian families. 11 percent do not use dried greens.

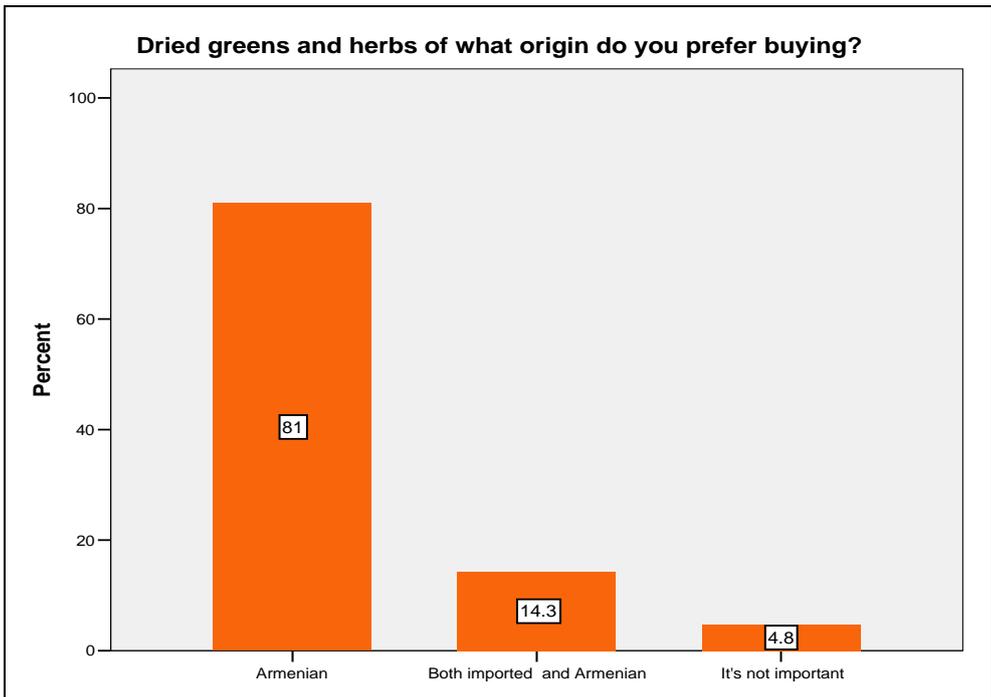


How often do you buy dried greens and herbs?

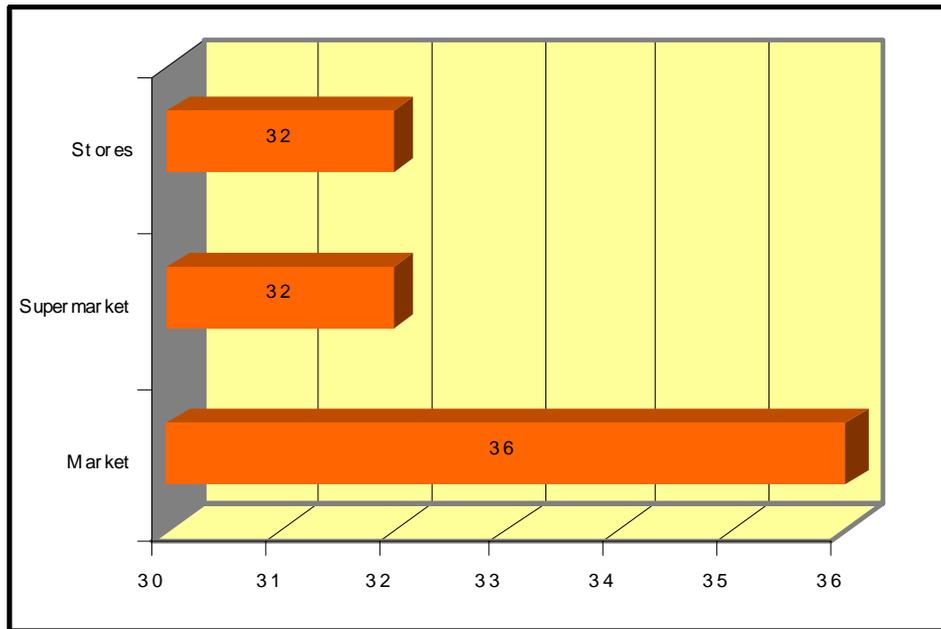


Those who buy dried greens are divided into four groups. 45 percent of respondents buy dried greens once a month. The fact that dried greens are of more usage (meals – almost everyday) than, for instance, dried fruits, for those who use it, explains this figure. 35 percent purchase dried greens

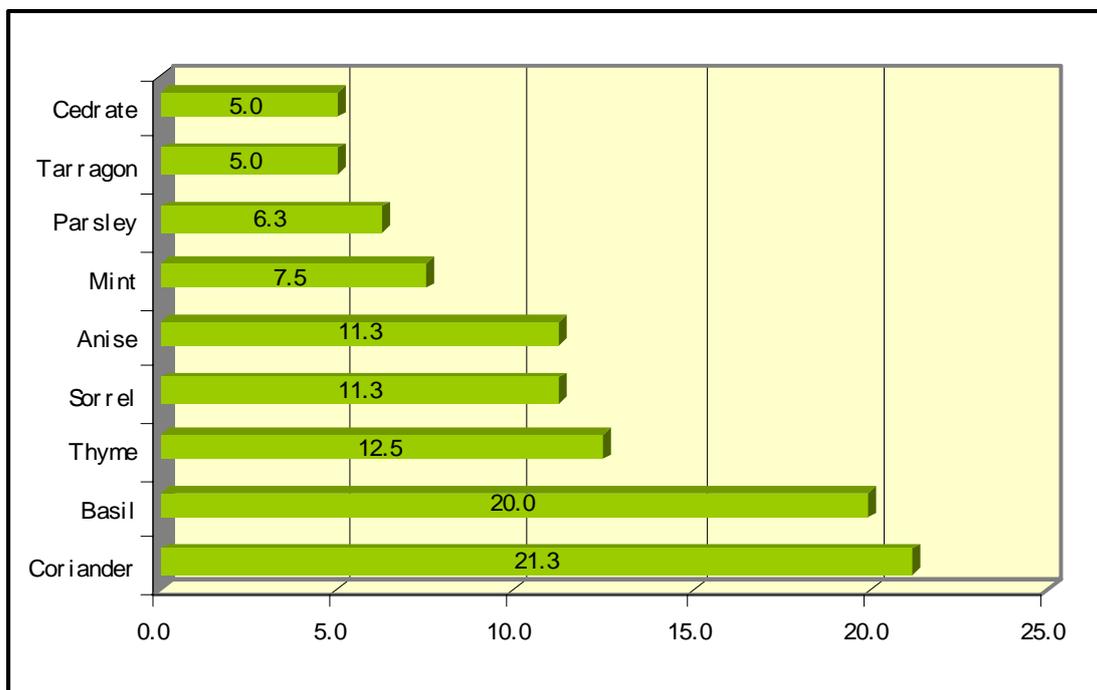
Dried greens and herbs of what origin do you prefer buying?



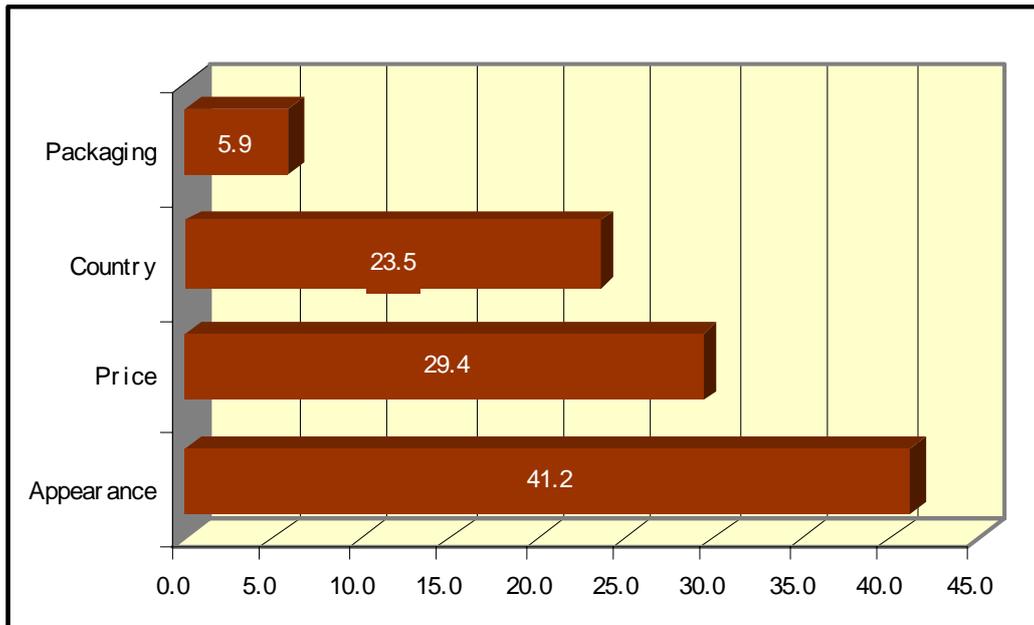
While in the case of dried fruits it was 68 percent, for dried greens preference of Armenian products to non-Armenian is 81 percent (81 percent of respondents prefer Armenian dried greens).



Unlike the case of dried fruits, most consumers of dried greens purchase them in markets (36 percent of respondents). This can be explained by the small choice of dried greens at stores and supermarkets, as well as by the power of tradition/habits.



It is generally known that dried coriander is of wide use in Armenian families. This was confirmed by the survey results. Coriander occupies 21 percent share in the overall respondents' preference of dried greens. Basil is second with its 20 percent preference share. Thyme, bought more as an herb for health-related reasons, is the third, with 12.5 percent share. Dried sorrel is used for salads and meals not as a spice, but as main stuff. It is also associated with health and has a share of 11 percent.

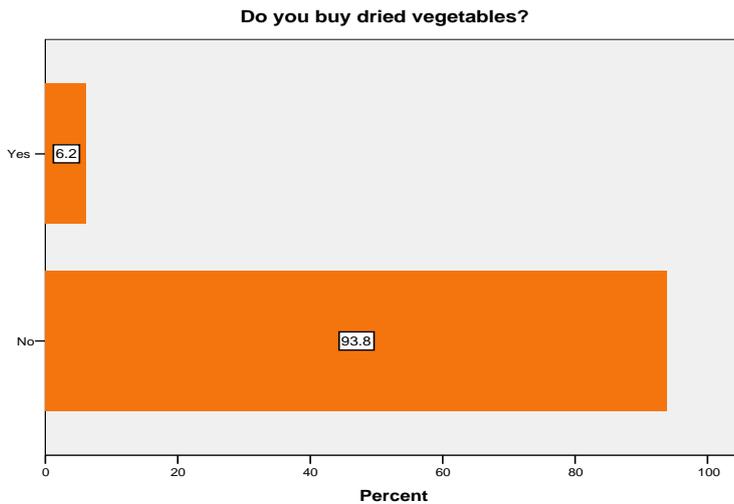


Consumers judge the quality of the dried green based on its appearance. Therefore, the 41 percent of preference for appearance comprises also preference for quality and taste. Price is second in preference, since preparing dried greens is easier and less costly than drying fruits, thus there is price sensitivity with this regard.

Country of origin is of more importance in case of dried greens than with dried fruits, since there is a general perception of Armenian greens having special taste and aroma. And as in general, domestic food products are of higher preference among Armenian consumers.

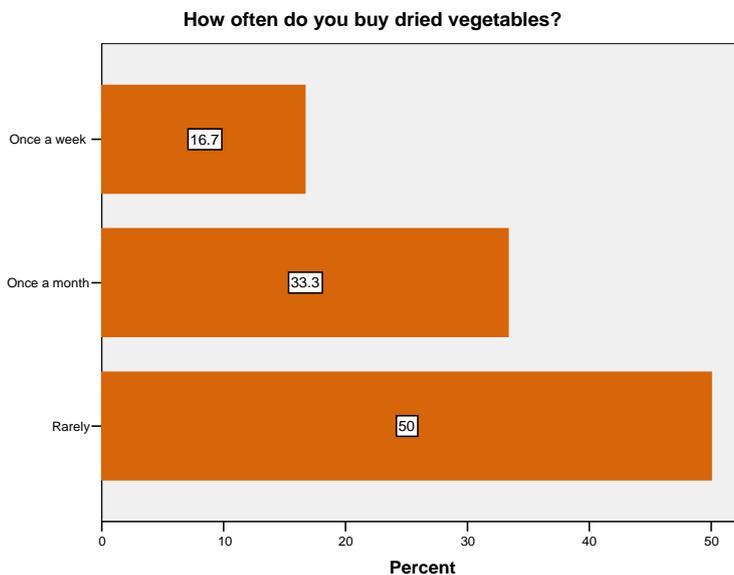
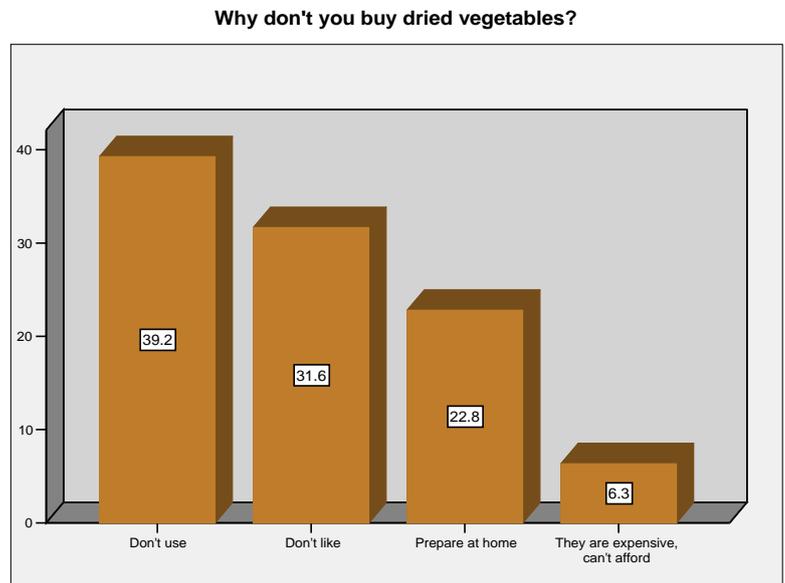
As is the case with dried fruits, packaging is of least importance: this is connected with the fact that majority of respondents prefer purchasing dried greens at markets, where they do not expect to find packaged dried greens. Besides, packaging is strongly associated with high price.

Dried vegetables

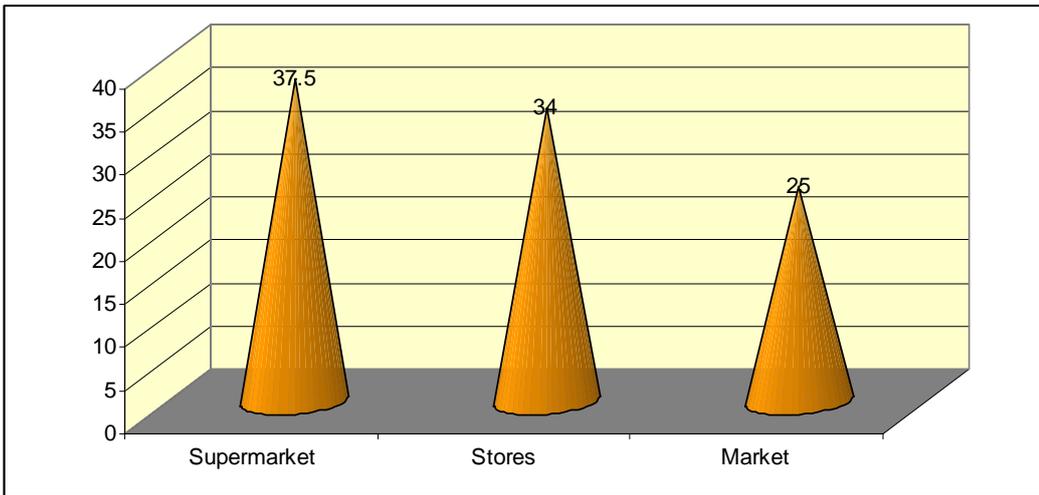


94 percent of respondents do not buy dried vegetables. This is not a surprising fact: dried vegetables are not used extensively. Only 6 percent buy dried vegetables.

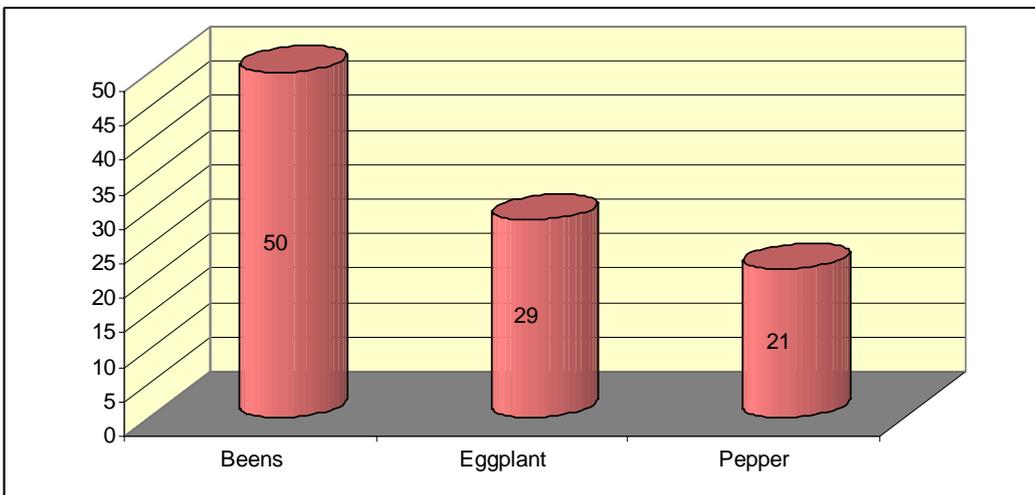
Of those who do not buy dried vegetables, 39 percent do not use and 31 percent do not like them. 23 percent prepare at home (mainly dried beans), and for 6 percent they are expensive.



Among the 6 percent buying dried vegetables, 50 percent do it rarely, 33 percent – once a month, and 17 percent – once a week. It can be concluded that this group is a small target group with high preference of dried vegetables and a frequent use of them.

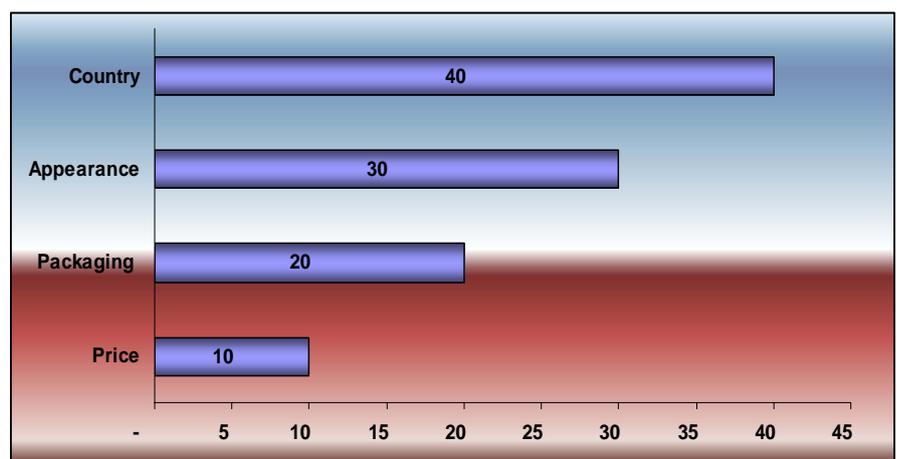


37.5 percent of the respondents buying dried vegetables prefer supermarkets, 34 percent – stores, and 26 percent – markets. As a specific food product, dried vegetables are not of wide sales in farmer market, while packaged dried vegetables have appeared at stores and supermarkets recently.



Among the dried vegetables, dried beans are of highest demand. Second are eggplants and then pepper.

For purchasing dried vegetables, the consumer pays attention to the country of origin, for 30 percent appearance is important, packaging is third by importance and price is of least importance.



This picture of influencing factors is explained by the preferences of consumers to buy dried vegetables mainly at stores and supermarkets where they find packaged dried vegetables. The preference of the consumer to buy Armenian dried food is evident in this case too.

RECOMMENDATIONS

It is true that the dried food sector of Armenia is in its initial steps towards becoming an industry of strategic importance for the agriculture. The market for dried food is new and is still in the stage of formulation. The present research came to confirm some general knowledge and opinions about the sector, as well as to explore a series of its unknown or unexamined characteristics, becoming another step in the development of the sector through taking a closer glance at the dried food market and trying to find a correlation between the market trends and rules and the approach of the producer towards production operations and marketing strategies.

Based on the research findings and the conclusions made about the different parts of the research, a series of recommendations can be provided to the Armenian dried food producer concerning satisfying primary sanitary and hygiene requirements and applying basic marketing strategies. Before presenting those recommendations in detail, it is worth answering to the indispensable question that most readers might ask at this point, namely “What can be done without sufficient financial resources?”. This is a tough question that concerns many small and medium-sized businesses. Development plans without financial investment may seem unrealistic.

However, there are certain activities and steps that can be implemented with limited or no funding. Moreover, in some instances (as several visits to dried food producers showed) producers possessing sufficient financial resources need technical assistance concerning the cost effective organization of the production, implementation of sanitary systems, and most frequently, application of promotion and other marketing activities. Therefore, the following recommendations are suggested for the producers having enough resources to operate in the sector and maintain their position in the market.

Sanitary and hygiene Issues

As it was mentioned in the Section Production and Producers of Dried Food, homemade dried food production, which consists in drying vegetables and fruits in the open air, implies lack or complete absence of sanitary and hygiene conditions due to the open-air dust, bacteria, insects, etc. Though a part of consumers are aware of this shortcoming of homemade dried food, for most consumers it is not evident unless they see the production process. This means that there is a very small consumer resistance to such produce, therefore the last thing that the producer will care about is investing in sanitary conditions and hygiene systems.

The ideal hygiene-related step for the dried food producer, whether it is large, medium-sized or small one, would be implementation of HACCP, though it would sound too unrealistic and expensive for the

latter two. While HACCP is the optimal solution for large producers, small and medium-sized businesses may try to meet elementary sanitary requirements. Painted and tiled plants, stainless tanks and tools, production apparel and gloves, running water and cleaning materials are the primary things that a production needs to be provided with. Required conditions in the storage (painted or tiled rooms, stainless shelves, appropriate temperature and humidity), clean transportation means and sales outlets are also primary conditions in the “journey” that dried food makes from the orchard to the consumer.

Marketing issues: promotion for the local market

The research showed that the imported dried food is a strong competitor of the Armenian dried food in the local market. A significant part of the imported dried fruits are sold under the name of Armenian dried food with the same prices, since if the difference is not obvious in the appearance, often the consumer does not differentiate the imported dried food from the Armenian one. However the main part of the imported dried food (including that supplied to the producers of sweets and other business consumers) is sold at lower prices, gaining competitive advantage.

As it has already been stated, few producers, mainly large ones, apply marketing techniques as means of achieving brand recognition or increasing sales, while packaging and promotion may bring about substantial consumer awareness. Though according to the field study results consumers pay relatively little attention to the packaging and brand in their purchasing decision, the increasing tendency of doing shopping at supermarkets implies increasing importance of packaging. Besides that, for consumers packaging is associated with conforming sanitary conditions and clean production. Among brand names that have achieved differentiation and consumer awareness are packaged products Alishan, Tamar Tatik, Liana and Sateni. Cost-effective marketing measures are the requirement of the market. Therefore, it is recommended that producers implement promotional activities such as in-store promotions, tasting, distribution of promotional booklets and leaflets, small catalogues, for achieving a constant market share and increasing it.

Branding for foreign markets

For the Armenian dried food to survive and to gain market share in foreign countries (especially EU and US markets) it has to resist the fierce competition of the dried food exported from the countries of Middle East and EU. Pricing cannot be competitive edge for the low quantities of Armenian dried food, as it has already been discussed. In this case, too, the main solution is branding of “Armenian dried food”, which should itself become a symbol of and be associated with quality and taste.

To achieve such a status for the Armenian dried food, the Government, NGOs, as well as producers themselves should take part in a long and task-oriented process. The dried food exported from Armenia

under a government defined general brand name should correspond to a set of requirements complying with EU and US regulations. Though the format and the steps of such a process should be based on thorough and substantial consideration, the general essence of such a program should be controlling and supervision of the production conditions, product qualitative characteristics through laboratory analyses, production audits and certification.

A sample process might be the following. A special committee is established including representative specialists from the Ministry of Agriculture, NGOs such as Association of Dried Food Producers, universities such as State Agrarian University, etc. Dried food is gathered from different producers throughout the year. The committee observes the operations of those producers with whom it signs contracts based on the conformity of the plant, production processes and the produce itself to a set of regulations. The observation is in the form of periodical unexpected visits to the plants. After the dried food is received it is checked at the laboratories for content, quality and taste characteristics. After the product is approved, it is packaged for export under a special brand name defined by the committee.

The Government assists the activities of this committee through the Ministry of Agriculture. The committee regulates the marketing campaigns abroad. It takes measures to enter new markets establishing business contacts and gaining market share through promotional campaigns: exhibitions, trade-shows, informative promo-materials, Internet presence, etc. Consistent and target-oriented advertisement will help build a brand providing an opportunity to compare Armenian dried food with Armenian cognac in its popularity. “If you make a product good enough even though you live in the depths of the forest, the public will make a path to your door... But if you want the public in sufficient numbers, you would better construct a highway. Advertising is that highway. – W. Hearst, American Newspaper Publisher” (Boone L., Kurtz D., 2001).

The scenario presented above might seem non-real and impracticable in Armenia at present taking into account the funding and facilities necessary for such an institution to operate. However, if a substantial positive move is expected in this sector, this plan might become an optimal solution for the numerous small producers and for the sector as a part of Armenian agriculture in general. It is through building a strong brand of “Quality Armenian Dried Food” that the local producer can achieve substantial progress and become competitive in the world markets. And it is through achieving substantial progress and becoming competitive that the dried food sector can gain strategic importance for the Armenian agriculture and economy in general.

REFERENCES

- Abovyan Sandro (2007). *Informative Booklet (dried food production)*. Yerevan: Asoghik Printing Hall.
- Alphaplus Consulting (2005). *Dried Food Market of Armenia*. Yerevan.
- Boone L., Kurtz D. (2001). *Contemporary Marketing*. Orlando: Harcourt College Publishers.
- Boriss H., Brunke H., Kreith M. (2006). *Commodity Profile: Raisins (dried grapes)*. Agricultural Issues Center University of California, Rev. September.
- Bovee C., Thill J. (1992). *Marketing*. New York: McGraw-Hill Inc.
- Damania, A.B. (1998). Diversity of Major Cultivated Plants Domesticated in the Near East. *The Origins of Agriculture and Crop Domestication*.
- Damania, A.B. (1998). International Center for Agricultural Research in the Dry Areas (ICARDA). Report No. 21 of *the Genetic Resources Conservation Program*, University of California.
- Dried food market of Armenia. Accessed at www.cheer.am
- History of Armenia. Accessed at http://home.wanadoo.nl/edmond_k/armhist.html+dried+fruit+Armenia+BC&hl=hy&ct=clnk&cd=14&gl=am
- History of Raisins and Dried Fruit. Accessed at http://www.sun-maid.com/healthyliving/history_of_raisins_and_dried_fruit.html
- Importance of branding for businesses. Accessed at <http://www.businesslink.gov.uk/bdotg/action/detail?type=RESOURCES&itemId=1073790777>
- Nutritional value of dried fruits. Accessed at www.intracen.org, www.innvista.com, www.wikipedia.org
- Rules and regulations in the EU. Accessed at http://europa.eu.int/comm/food/index_en.html;
http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31991R2092&model=guichett
- Value of raisins. Accessed at http://www.nationalraisin.com/raisins/health_benefits.shtml

APPENDIX 1

QUESTIONNAIRE: DRIED FRUITS

Please answer the questions ticking checking the preferred option or writing your own option.

1. Do you buy dried fruits?

- Yes If yes, answer question 3.
 No If no, answer question 2.



2. Why don't you buy dried fruits?

- prepare at home
 do not like
 do not use
 they are expensive, cannot afford
 the types sold do not satisfy my requirements
other _____



3. How often do you buy dried fruits?

- every day
 once a week
 once a month
 seldom
 for celebrations and events
other _____



4. Where do you prefer buying dried fruits?

- markets
 supermarkets*
 stores
 kiosks
 open-air sales outlets
other _____



5. Dried fruits of what origin (what country of production) do you prefer?

- local (Armenian)
 imported
 both
 it is not important



6. What brands of dried fruits do you know?



7. What brand of dried fruits do you buy?

8. What dried fruits do you prefer?

- apricot plum pear
 sweet cherry grape apple
 peach fig persimmon
other _____

9. What factors are important for you in buying dried fruits?

- type of fruits
 price
 drying technology natural or artificial
 country of production
 brand
 packaging

10. Please provide the following data:

Gender female
 male

Age group 20-ից ցածր
 21 – 35
 36 – 50
 50-ից բարձր

Average family income below 100 000 AMD
 100 000 – 200 000 AMD
 200 000 – 300 000 AMD
 Above 300 000 AMD

* Supermarket is considered the store or chain of stores that works on self-service basis.

APPENDIX 2

Type of dried food (quantities in tons) produced in 2006

Marz	Peach	Apricot	Plum	Sweet cherry	Cherry	Pear	Apple	Fig	Persimmon	Roseberry	Tomatoe	Pepper	Egg plant	Greens
Armavir	250	5	10	2	2	1	5	0.5	-	-	10	50	2	3
Ararat	180	10	50	3	2	10	5	0.5	300	-	2	30	0.5	2
Aragatsotn	150	5	20	1	1.5	5	10	-	-	-	1	5	0.2	5
Kotayk	100	2	20	1	1.5	5	8	-	-	-	0.5	3	0.2	5
Vayots Dzor	20	1	10	0.2	0.3	5	3	0.5	-	-	-	3	0.1	5
Syunik	-	-	2	-	1	3	5	10	-	-	-	3	-	5
Lori	-	1	5	0.3	0.5	1	3	10	-	-	0.3	5	0.2	5
Tavush	-	2	15	0.3	0.5	1	5	20	-	-	0.2	10	0.3	5
Yerevan	20	2	5	0.5	1	2	2	-	-	-	-	10	0.5	0.2

Source: Association of Dried Food Producers

APPENDIX 3

Types of dried food exported and export countries, 2006

Dried tomato	60.00	France
Dried tomato	1500.00	France
Dried tomato	60.00	France
Dried tomato	1500.00	France
Dried tomato	60.00	France
Dried tomato	1500.00	France
Dried tomato	60.00	France
Dried tomato	1500.00	France
Dried tomato	5600.00	France
Dried red pepper	428.00	France
Dried black plum	1500.00	France
Dried apple	20.00	France
Dried peach	100.00	France
Dried fruits	140.00	France
Dried apricot	4000.00	France
Dried herbs	134.00	Switzerland
Dried apricot	600.00	Switzerland
Dried apricot	20.00	Canada
Dried peach	10.00	Canada
Dried apricot	300.00	USA
Dried fruits	210.00	USA
Dried sweet-briar	12000.00	Ukraine
Dried fruits	4.00	Thailand
Dried sweet-briar	18351.00	Russia
Dried sweet-briar	26490.00	Russia
Dried sweet-briar	4000.00	Russia



Research coordinated and written by: Anita Manukyan

Field study implemented by: Lilit Sargsyan, Ani Sargsyan, Khatun Dolbakyan, Anita Manukyan
Lilt Muradyan, Ani Petrosyan, Anna Boyajyan, Mane Manukyan

Data entry implemented by: Artemis Zeynalyan

Yerevan, 2007