

Report 1.2: ORGANIC TEA CULTIVATION .

ARMENIA

Identifying tea cultivation at partner scale



INTRODUCTION

Some facts about Armenia

Average annual de jure population of RA, 2017, <i>ths. person</i>	2 979.5
The population density, <i>person/ km²</i>	100.2
Area, <i>km²</i>	29 743
Forests, %	11.2
Special protected territories, %	11.3
Agricultural land comprises of the territory, %	68.7
Other lands,%	8.8
Land's lowest point, m	375
The highest elevation, m – Aragats mountain	4 090

Some facts about Organic in Armenia

- The first operator was certified organic in 2005.
- Currently 75 operators are under the certification process.
- 7 Operators of Organic Wild Collection
- 20,000 ha - under management of organic production (including wild collection) and in conversion areas
- Organic producers were supported to exhibit at organic trade fairs in Dubai, Germany and the UK and have close contracts worth more than 0.5 Million Euros
- 1 organic shop
- 7 shops and supermarket chains with separate organic stands
- 20 shops which are selling organic products
- 1 Organic Association Armenia
- In most of regions there are "organic compatible" places as for wild collection as well as for cultivation.

1. Mapping the existing situation in tea production:

Tea cultivation in country

Black and green teas, in the conventional sense, are not produced in Armenia. This is due to natural climatic conditions. In Soviet times, there were some attempts to grow some varieties bred in the Krasnodar region of Russia, but they quickly ended due to the unsuitability of varieties to our climatic conditions.

There are some tea packers, which buy batches from Sri Lanka or China and pack it in various forms. Among them are a couple of packers that make a variety of mixes, based on black or green teas, mixing them with local herbs.

Of these herbs 90% is a wild collection. Mint and lemon balm are the main cultivated varieties. Yet, 75% of this cultivated culture is not used in the production of herbal tea, but used in gastronomy and is consumed by HoReCa sector. Mint is mainly grown indoors, and lemon balm is grown on small plots of land. Besides there are no plantations of these herbs. In addition, none of the farmers, which cultivates these herbs, have received organic certificate.

At the same time, blends and mixes are usually used in teas. For example, many mixes include melissa, chamomile, etc. Both lemon balm and chamomile are cultivated plants and local tea

producers have to import them, because local wild varieties are not suitable for the production of herbal teas.

At some point 2-3 companies made experiments on the cultivated grow of those varieties, which currently are exported. Basically, they succeeded in the technical and agronomical terms; the cost of products produced was higher than the imported ones. Currently, there are only a couple of companies, that cultivate some species of herbs, for their own needs, but these are only companies that produce medicinal teas and sold them in pharmacies, because the price is several times higher; yet that high cost, which is critical for tea producers (even organic ones), is not critical for them. These 2-3 companies have now begun to use the outsourcing system i.e. they reach verbal agreements with some well-established farmers, train them, and these farmers produce on request of producers, herbs like calendula, valerian, flaxseed, echinacea, milk thistle, melissa, etc.

As the entrance to the market currently is very easy, there are around 150-200 non-registered herbal tea producers. Typically, some \$200-\$300 is enough to start this business in small scale.

Processing are generally located in Yerevan or nearest cities. In organic production are engaged only 6-8 producers.

At the same time, there are more than 15 relatively large producers of herbal tea producers, are operating in Armenia that produce final products - herbal teas in the package. There are about 30 other companies that are legally registered, vast majority of which are regional, that sporadically engaged in the collection and drying of herbal raw materials, do it irregularly, poorly and do not consider this business as the main activity. According to reliable estimates, 50-60 tons of herbal teas are produced annually in Armenia, of which only 3-5 tons are considered to be Organic.

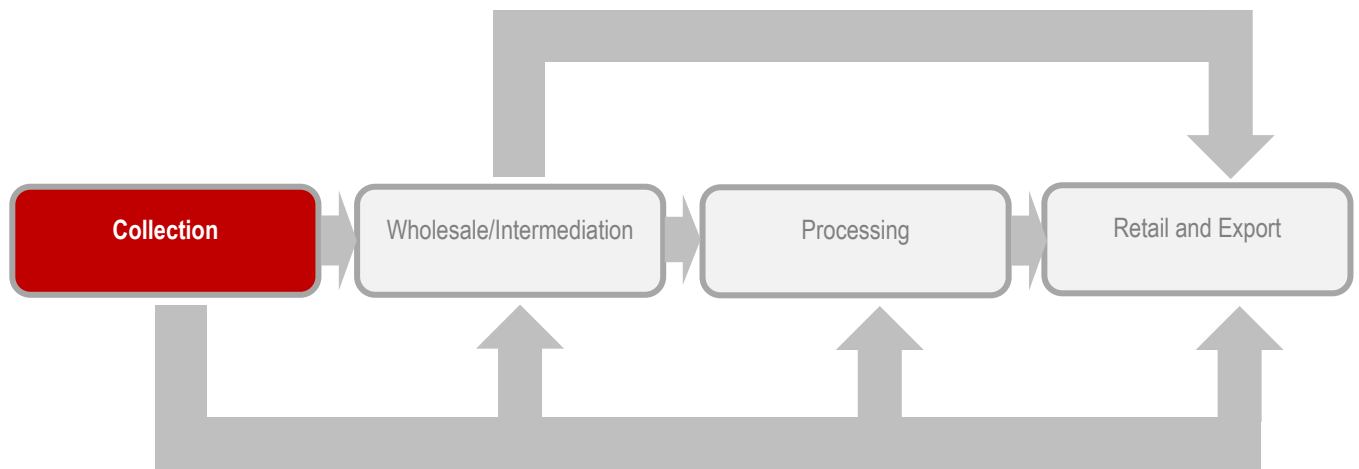
The main players of wild collection value chain in Armenia, generally, include collectors, wholesalers/intermediaries processors, retailers and exporters (Figure 1).

The wild collection are spread in almost all regions, with exceptions of some territories of Ararat valley

The wild collection value chain is not linear in Armenia and, particularly, the collectors of wild collection can be directly linked to all other stages of the value chain. At the initial stages of the value chain, the collector has multiple channels to realize his or her harvest – it could be sold to wholesalers, processors or directly to final consumers in retail market. Collectors can also be involved in preliminary processing of the wild collection, such as sorting and drying.

Wholesalers provide the link between collection and processors or collection and retail. Their role could vary from simply acquiring produce from various collectors and supplying it to processors/retailers to organizing collections of individuals and providing preliminary processing services such as sorting, drying and packaging. Wholesalers are not popular with processors, who prefer to work with individual collectors and suppliers to ensure the lowest price possible.

Figure 1: Main Stages of the wild collection Value Chain



Processors use wild collection as raw material for producing juices, jams, marmalades, teas, oils and other processed and canned products

Retailers include supermarkets, food stores, shops, kiosks, agricultural markets and other retail outlets that sell tea and other herbal production to final consumers.

Tea processing

There are more than 15 relatively large producers of herbal teas, operating in Armenia that produce final products i.e. herbal teas in the package. There are about 30 other legally registered companies, vast majority of which are the regional ones that sporadically engaged in the collection and drying of herbal raw materials, do it irregularly, poorly and do not consider this business as the main activity.

According to reliable estimates, some 50-60 tons of herbal teas are produced annually in Armenia, of which only 3-5 tons are Organic ones.

A typical scheme for the producer is as follows - some 10-20% is imported dry raw materials and the remaining 80-90% is the wild harvested raw materials. Only two companies included cultivation in this scheme, which makes some 20-30%. Both companies mainly market their products through the pharmacy chain and only one of them is certified as organic.

The whole process involves a manual labor. The process of procurement of raw materials consists of the following chains: collection, separation from plants of other species, separation from unsuitable parts of the plant, which is not suitable, like too thick stem, dried out or rotten parts, parts with insects, etc., sifting, cutting raw materials into parts suitable for drying, sieving, drying (natural and artificial), grinding and packaging.

Figure 2. A simplified schematic diagram for the production of all types of herbal teas:



According to the producers, the most important stage in production is drying, so this stage will be described in more detail.

Drying, depending on the weather, the type of plants, etc., can occur in two main ways - natural and artificial.

When drying leaves, flowers and grass, it is necessary to organize protection from sunlight. Otherwise, the leaves may turn yellow, the flowers fade, and lose their natural color. But there are exceptions to every rule. For example, it is better to dry the cornflower flowers in a good sunny weather. At the same time its natural color will be preserved. And, vice versa, with a slow drying in the shade, the flowers will lose its color. Fruits, seeds and many underground parts of plants can also be dried under the sun.

A well-ventilated room is required for drying the buds of medicinal plants. During the drying process they are laid out evenly and should be often mixed. The room must be cool, otherwise the buds may bloom. The bark can be dried both outdoors and in a well-ventilated area. If the bark is dried correctly, it becomes brittle.

For drying leaves, the attics or rooms with good ventilation may be used as well. They are laid out in 2-3 layers and shall be turned over in the process of drying. If leaves have very thin leafy plates, they will dry unevenly. The leaf plates dry first. At the same time, the venetions and scapes will still remain soft. The drying process should be continued until they become brittle. After drying, the leaves must be raked into a pile. So they should lie a few days. The leaves have good hygroscopicity and during this time will absorb moisture from the air, which will reduce their fragility during packaging.

The flowers must be laid out in a slightly thinner layer than the leaves. This is done so that when drying they do not need to be turned over. However, it is quite possible to rake up headings of such composite flowers like chamomile, arnica, tansy. Drying herbs is similar to drying leaves. In dried grass should break not only the leaves, but the stems. It is practiced to dry grass in small bundles, suspended on ropes. It is not necessary to dry dry fruits and seeds, since they no longer contain moisture. If necessary, they can be dried in the open air or in a ventilated room. For raw fruits, is necessary to carry out preliminary wilting under the sun. Drying temperature ranges from 70 to 90 degrees. Drying is carried out in dryers or furnaces. If the fruits are properly dried, they do not paint the hands and do not stick together while smahed.

If the roots and rootstocks of plants do not contain essential oils, they can be dried under the sun. For the aromatic rootstocks of calamus, valerian, drying in the shade or indoors with good ventilation is necessary. Thick roots and rootstocks should be cut lengthwise into two parts. The longest ones should also be cut crosswise. Some very thick roots may be cut into circles. Drying the whole (uncut) roots should be made under a sufficiently low temperature, which allows the internal parts to dry. Well dried roots and rootstocks become brittle.

Drying temperature depends largely on the chemical composition of the raw materials, as well as certain properties of biologically active substances. If the raw material contains essential oils, the drying process should be carried out rather slowly. Raw materials should be laid out in a thick layer. Drying temperature is 25-30 degrees. Under such conditions, the formation of an essential oil will continue. This will lead to the fact that there will be more of essential oil in the dried product than in the raw material. Drying the buds of trees is carried out simply in the open air or in a well-ventilated cold room. Cold condition is necessary to prevent bud blossoming. Quick drying is also required for raw materials containing vitamin C, etc. The optimum process temperature is between 80 and 100 degrees. This prevents the oxidation of ascorbic acid. However, this temperature may not be effectively applied in all cases.

Figure 3. Open air and artificial drying



After the first drying, the raw materials are checked for moisture content, and if this content exceeds the standards, the second drying or finish drying is carried out in the drying cabinet.

Washing of raw materials before drying is usually not carried out, which imposes additional requirements on collection sites - they should be in places where there are no dust-forming agents, like roads, industrial enterprises, and have a comfortable wind rose.

In the cases when washing is performed, it should be accompanied by sorting.

There are only several types of machines, which are commonly used, for example grinding, machine for removing impurities (separation from dust) packaging

Tea packaging and dissemination

As a rule, manufacturers prefer to manufacture products in the final packaging, especially for the domestic market. Some 65-75% of manufacturers produce it in final packages. Packaging can also be a vacuum and three-layer aluminum vacuum packaging. Since a dry semi-finished product is very cheap, it takes some financial resources to purchase the package and packaging equipment and produce the finished product, rather than to sell raw materials for a penny.

It should be noted that according to various sociological researches, consumers who prefer a healthy lifestyle (they are the main consumer of eco and organic products) are very attentive to labeling and product design. In particular, of them more than 40% noted that they always study the labeling and ingredients information on the package. Thus, Armenian tea producers (and especially organic teas) have a very proper packaging and labeling policy. All producers pack their products in original and convenient packaging with informative labeling.

Actually, all producers produce herbal mixes of dried herbs and get original blends. At the same time, blends are distinguished by their huge variety. Some manufacturers make blends based on taste and flavor combinations of different herbs. Others chose the mixes, which are indicated in certain health conditions, like to raise the level of immunity, relaxation, better digestion, etc. There are special, very small groups that make mixes solely for medical purposes, mixes designed for specific diseases like for kidney, heart, digestive or nervous system. As a rule, professional physicians are the owner or CEO of these companies.

It should be noted that the same manufacturers usually have different product lines. For example, exclusively organic, made only from organic raw materials (with appropriate labeling), mixes - organic and inorganic (marked Bio or Natural), as well as conventional tea - labeled simply as herbal teas.

Almost all organic producers supply (or, at least) strive to export their products to foreign markets. Half of the manufacturers export only packaged products ready for the final consumer, and half of which export both packaged and unpacked. It is worth to mention that in terms of volume of the unpacked products (not in terms of final price) unpacked products significantly exceeds the packaged ones.

The buyers of the packaged products are usually large (mostly Russian) aggregators or supermarket chains. Bulk buyers are large producers of organic teas, such as Gschwender, Sonnetor etc., which make blends of raw materials received from different countries, including Armenia. At the same time, these large buyers with well-known brands enable virtually all legally registered organic producers to sell their products. Buyers clarify this fact with diversification of supplier. In their rather reasonable view, Armenia is not a country with stable business environment and small producers are always subject to one or another business stress, and thus it would not be reasonable to deal with only one or two suppliers.

It is interesting how the process of selection of local producers by large buyers, took place. Basically, customers and suppliers meet at fairs that are well-known in the organic world, such as BIOFACH, GreenWeek etc. According to local organic producers, in the first meeting, buyers almost never respond to an offer to buy or even at least analyze products in their laboratories. At the same time, as it turns out, buyers record in detail all the data for the next year, if you come up again, then you already remember and the conversation becomes more substantive.

Buyers take small samples of herbs for testing. If the laboratory test results proved to be satisfactory, customers order the first test batch, typically 50-100 gram of dried product / herb. If

the first few purchases proved to be also normal in terms of logistics, documentary registration, meeting deadlines, etc., buyers increase the volumes to bring them up to 2-3 tons per year. Although such a scheme, is time-consuming and labor-intensive for a manufacturer, nevertheless all manufacturers are very pleased with both the price of contracts and the possibility of cooperation with large companies.

Most consumers of tea in Armenia are residents of Yerevan. Some 10-20% of the total volume produced is consumed on the domestic market.

2. Organic cultivation existing situation

Only legal entities (i.e. companies, NGOs, cooperatives etc.) can apply and receive organic certification for wild collection. If a processor wants to source organic supplies, it has two options: to obtain the certification of wild collection and control the entire process of the collection from certified areas or to work with a supplier who has an organic certification for wild collection. The first option is applicable if the processor is working with individual suppliers who cannot have organic certification. The second option can apply if the supplier is a legal entity (e.g. limited liability company or cooperative), who has acquired its own organic certification. However, in some cases even if the supplier is a legal entity it is still the processor who obtains the wild collection certification and controls the collection process. Since the costs of acquiring organic certification can be significant small-size supplier companies are often not able to obtain it leaving it to the processor.

The general procedure for organic certification is the following.

- Submission of the completed application form including the organic management plan and supporting documents, including a certificate from “Hayantar” State Non-Profit Organization (SNPO), stating the absence of harmful substances and contamination in the to-be-certified areas;
- Initial assessment of the application, mainly consisting of examination of the organic management plan;
- Signing the agreement between Ecoglobe and the applying organization;
- Planning and scheduling the inspection of the area, appointment of the Inspector.
- The inspection of the area, which can include the general examination of the area, soil and water analysis (or other similar procedures deemed necessary by Organic Certification body) and training of the personnel.

The entire process can take up to 1 year. After the certification is issued Organic Certification body maintains the right of annual inspections. Unannounced inspections, surveillance and audits are carried out to ensure the compliance to organic standards.

The costs for obtaining a certificate can vary significantly depending on a range of factors relevant to each specific case.

Certificate on the wild collection can be obtained quickly enough. There are no such long procedures, transition period etc. But as in any case the company should undergo an annual audit.

Only one company, in 2014, was certified by the Swiss certification body. All other certificates in the Armenian market were issued by the company local certification body.

Selection of site

Since there are no raw materials for organic herbal teas, which will be grown or cultivated in Armenia, and the whole process takes place through the wild collection, so the selection of sites for them also takes place according to the rules of the wild collection organic.

There are several important rules to choose from:

- The collection of plants and parts thereof, growing naturally in natural areas, forests and agricultural areas that have received no treatments with products other than those referred to in relevant documents for a period of three years before the collection and the collection does not affect the stability of the natural habitat or the maintenance of the species in the collection area.
- Those areas have received no treatments with products other than those referred to in relevant documents for a period of three years before the collection;
- Areas shall be situated such that contamination does not reduce the value of the products as food for human consumption or animal feed.

Conversion period

According to the requirements of the BioSwiss standard: “There is no conversion period for the wild plants. The produce may be Bud labeled (fully organic) following certification. ”

Nevertheless, auditors pay attention to risk factors, which can pollute wild crops. The risk factors for Armenia in particular can be the followings, the presence of mining enterprises within a radius of 7-12 km, plus unfavorable wind rose, the presence of tailing above collection sites, the results of national soil studies, and some other factors. The auditors, summing up and making a risk assessment, may request additional laboratory tests, and, subsequently, issue a certificate or refuse to issue it.

Chemicals are used only on forestlands and only if there is a danger of reproduction by forest pests. Even in these cases, such applications should be made no more than once in 5-7 years. In case of the wild collection it does not play any role, since 90% of the collection is not in the forests, but in more open areas.

Livestock

Since the raw materials for herbal teas are not grown but collected, we can talk about the lack of mutual impact of livestock and wild collection. As a rule, areas of wild collection are far from cattle grazing paths. And vice versa, since collectors, as a rule, comply with the rules of collection and do not collect more than necessary, there is no effect of collection on animal husbandry.

There is a special provision/rule for wil collectors — that wild harvest is collected from those places, which are not considered to be a pasturage.

Manual workers

In most of companies all processes are artisan (manual), but in medium or big size companies at least cutting/siftng/sorting/packaging are mechanized.

The production of organic products involves additional costs in terms of labor. Since wild organic requires careful treatment of nature and biodiversity, the laboriousness and time consuming nature of wild collectors increases significantly. Since they are required to follow very specific rules that limit areas such as *Collection frequency*, *Collection periods*, *Collected quantity*, *Collection area*, etc.

The collection of edible plants and parts thereof, growing naturally in natural areas, forests and agricultural areas, is considered an organic production method provided that:

- the products are from a clearly defined collection area that is subject to the inspection/certification measures set out in relevant section of the standards;
- the collection does not disturb the stability of the natural habitat or the maintenance of the species in the collection area. To avoid over collection and guaranty stability of ecosystem only following percentages of plants part can be harvested:
 - Roots, bulbs: 20% of the population
 - Leafs (bushes, trees): 30 % of the leafs
 - Flowers: 70%
 - Seeds/Fruits: 80-70%
- The permission for collection of wild herbs must be obtained from authorities and presented to certification body, the responsible entity/authority must set up detailed collection rules for all plants
- The products are from an operator managing the harvesting or gathering of the products, who is clearly identified and familiar with the collection area
- organic wild collection must be performed in unpolluted areas and on clean places.
- Organic wild collection must be performed in unpolluted areas and on clean places. Also it must be well documented and the product can be traced back to its origin.
- Red list or otherwise threatened species must not be collected
- Damage to the plants must be reduced to a minimum.
- Collection must not destroy or threaten the habitat or feed for other organisms
- Collectors must not leave behind litter; contribute to forest fire, illegal hunting, etc.
- Collection must not take place close to bigger cities, industrial centres, and nuclear facilities and close to roads.
- Collectors must be adequately trained, with regard to harvesting techniques, maximum harvest quantities, environmental damage and suitable collection places, this can be achieved best, when collection takes place in organised groups.
- The responsible company or person has to present an organic management plan

- A detailed map (preferably 1: 50.000, but not smaller than 1: 250.000) of the collection region must be presented; collection places, wholesale points, and critical areas must be marked on the map
- Records on purchased, stored, transported, and sold quantities must be kept at all levels
- Operators should strive for traceability at least until the level of local collection points
- All stored, transported, and sold products must be adequately labelled, labels including information on product, quantity, origin, packing date, organic condition, and certifier
- Contact with polluting substances must be avoided during postharvest management (transport, drying, freezing, storing, etc.)
- Possible pollutants include detergents, disinfectants, rodenticides, fumigants, wood preservatives, etc.
- During harvest and at all post-harvest levels, products must be handled in adequate sanitary conditions.

Thus, the fulfillment of all the above rules in addition to the fact that it increases labor and time costs for the wild collectors themselves significantly increases the cost of raw materials for producers. Also, producers note that there is a certain lack of training in wild collectors on the rules of lean collection.

But there is a certain social-age factor in the above limitations. The one that in order to fulfill all these requirements, wild collectors must be in good physical shape, since to fulfill the requirements, collectors must travel longer distances than in normal (inorganic collection). This leads to the fact that more young people are involved in the collection process, and more age groups are already engaged in the process of drying sorting, etc.

Cultural practices

Since almost all tea producers produce their raw materials from the wild harvest and, if the above rules are followed, there is no significant pressure on natural resources, then, according to environmental experts, no remedial measures are required. Nevertheless, the processors themselves encourage assemblies to take certain steps aimed at even greater

In particular, almost all processors noted that they ask, if possible, not to collect one and the same plants in the same place for more than 3 years and at least take annual breaks. Also, processors are asked to plot on map new natural formations, like streams, changes in the river bed, reduction of the forest borders, etc.

Trends

It is not customary in Armenia to make nettle tea. At the same time, it is a very common tea in Europe. Some producers have already begun to dry wild nettle, in order to offer it as a raw material for European tea producers. Perhaps in the future they will also pass an organic certification.

Tea and health become global new trends. Physically healthy people with the help of tea tend to maintain and strengthen their physical condition. It is believed that the main competitors of tea -

coffee, cocoa, hot chocolate - do not contribute to this. Recently, European consumers are wary of coffee. They believe that caffeine is addictive and harms the body (at least, if you use it often).

Tea is also a popular drink for people suffering from digestive and nervous system disorders. It is believed that herbal tea has preventive and regenerating properties.

Chamomile and ginger drinks are especially popular among aromatic and herbal teas. At the same time, there is a trend in the developed markets to reduce the consumption of sugar, sweeteners and other artificial ingredients. Consumers believe that the first causes diabetes and obesity, the second - serious diseases like cancer.

Development of products with unique properties and characteristics plays a key role in entering to competitive markets in developed countries like the EU. The European market of consumer goods is oversaturated with offers that are similar in price and quality, which forces producers to revise the principles of successful competition, focusing on the release of innovative products.

3. International market

Armenian organic products are exported to Europe, the United Arab Emirates, the Russian Federation, Japan and UK. At the same time, there is a problem with the diversification of eco-products. That is, basically the same products are produced in Armenia i.e. dried fruit, tea, wild harvest, honey, juices, in general, no more than 10 items. One cannot find, for example, organic fresh vegetables, various fruits, eggs, etc. Organic matter in our country develops only in those areas that are easiest to deal with. Consequently, the producers have to work in the direction of expanding the range.

Armenian teas are also popular in the Russian networks of farm stores and in the networks of organic stores. For example, in networks Lavkalavka, Farmerskiy Dvorik, Eco-Village, etc.

The fact that Russia is the main importer of Armenian tea is determined by several main factors:

- The proximity and clarity of the market
- According to sociological studies, more than 50% of Russians are willing to pay a high price for products containing the best and additional nutritional properties
- 33% say they are already regularly buying Organic products, even though they are more expensive.
- 29% russians approve that the statements on the packaging “Natural Product” and/or “Organic” will be a stimulus for the selection of these products
- In Russia, herbal teas (both, organic and conventional) from Armenia are being sold both in all Armenian national stores in almost all cities of Russia, and in online stores.

Like:

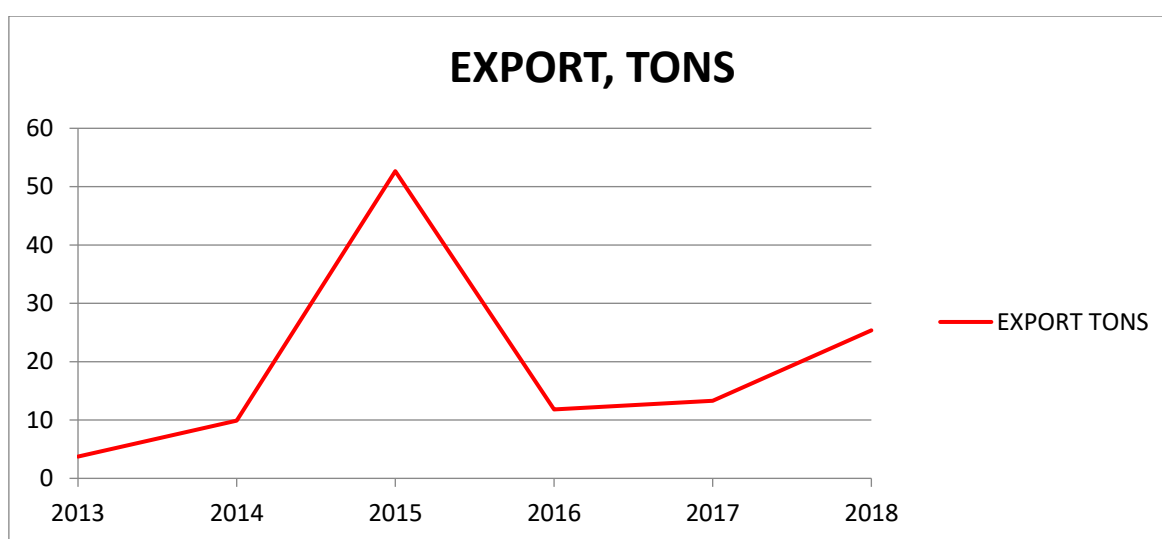
- <http://country-shop.ru>
- <http://www.armeniaonline.ru/>
- <https://armshop.ru/>

2013-2018 export-import figures and trends are presented in the Table 1

Table 1

Year	Time Period	Export in Tons	Export in 1000\$	Import in Tons	Import in 000\$
2013	year	3.74356	79.52243	327.35142	2404.12523
2014	year	9.91708	150.64637	291.29705	2435.55691
2015	year	52.66622	271.01894	323.09913	2506.80797
2016	year	11.81655	86.28203	378.15849	2389.61523
2017	year	13.31689	97.8495695	339.48886	2475.47111
2018	year	25.368414	86.6219973	368.523028	2869.76992

Source - RA Foreign Trade in 2013-2018



4. Research and innovation

Since the implementation of innovative technologies is quite a costly process in terms of financing and timing, so there are merely few companies dealing with it in Armenia. Only two companies have been identified and certified with Organic standard, which to certain extent are considered to be innovative. By the way, both are headed by the former scientists, the fact that explains their choice of an innovative way of development. Due to the world is now getting faster and faster. This puts herb teas in a somewhat disadvantageous position, because they are brewed slowly, even more slowly than ordinary black or green teas. Thereby, it is necessary to find an innovative form of serving / packaging, whereby all useful substances are preserved and the brewing speed of such tea would increase. This task was set and solved by one of the Armenian producer that invented the form of instant natural herbal tea, which retains both all the useful properties and the natural smell and taste of the herbal or berry blend. Natural berry drinks within their organic line are in six forms, rosehip - 100%, rosehip-85% with seabuckthorn - 15%, rosehip - 80% with raspberry - 20%, rosehip - 80% with blackberry - 20%, rosehip - 80% with cornel - 20%, rosehip - 85% with haw - 15%. This producta are made only by low temperature extraction and preserves all vitamins from berries.

They also produce organic oils from seabuckthorn, seabuckthorn kernels, rosehip kernels, pomegranate kernels, apricot and peach kernels, blackberry and raspberry kernels. These oils are being made by cold pressing and can be used as food, in medicine and cosmetics.

The second company produces only cosmetic products. Their products contain essential oils, phytoncides and bioflavonoids of wild herbs of ecologically clean highland. Wild collection of herbs is conducted according to requirements Fair Wild standard and the innovative process of storage, processing and plant extraction make the products highly effective and useful for health.

At the same time, the level of innovations among Armenian producers still remains quite a low.

Benefits of tea in health

Herbal treatment or herbal medicine is based on the method of healing of human being, by using various herbs or medicines made of herbs. As a rule, this term includes not only medicines made from herbs, but also from other types of plants.

Medicines from natural herbal products have been used throughout the history of mankind for the treatment of various diseases. Written recipes for preparation of herbal medicines, which were compiled more than five thousand years ago, have been preserved. For most of the history, herbal remedies were essentially the only drugs available.

Today, plants are used to treat a number of problems and diseases such as allergies, arthritis, migraines, fatigue, skin infections, wounds, burns, gastrointestinal problems, and much more.

Also medicinal teas made of medicinal herbs increase the body vitality, its resistance to diseases and adverse environmental factors. As a rule, herbs are cheaper than traditional drugs, and they are considered safer treatment remedies, that is why so many people prefer to return to this traditional idea of medicine.

Herbal medicine is widely used throughout the world.

The global market of medicinal herbs is about 60 billion dollars a year.

A huge amount of drugs and biologically active supplements, on the basis of medicinal plants, are produced today. The leaders in the production of such drugs are China, India, Nigeria, the USA, which annually make significant investments in the development of new herbal medicines.

Since 90-95% of all the products of medicinal and herbal teas (both organic and conventional) are exported to Russia, which is considered to be one of the most interesting markets for Armenian herbal producers.

Currently, about 100 manufacturers of herbal preparations are registered in Russia. The total annual sales in Russia amount to about 5 billion rubles (approximately 81 million packages).

Transportation of both the herbs and the drugs is not a problem due to their low weight and the absence of lack of transportation requirements.

Growth of the market of medicinal herbs in Russia, according to experts, makes some 5-6% per year. These are not very high rates, but they significantly exceed the growth rates in other sectors of the Russian economy.

Sales of medicinal herbs in Russia account for about 2-3% of the total market for the sale of medicines. This is quite a modest indicator, since in developed countries this indicator hovers around 10%. Since Russia, in general, follows the general economic trends of developed countries, in the coming years we should expect a multiple increase in sales of drugs made on the basis of herbs.

According to the experts, preparations based on plant material like chamomile, senna, sage, bearberry, valerian, linden and oak bark are in the greatest demand among the population of Russia. Particular success enjoyed medicinal herbs mixtures for treatment of respiratory, urological, sedative, choleric, antihemorrhoidal mixtures and diseases.

It should be noted that Russia is also an exporter of medicinal herbs. According to the customs service, in 2017 Russia exported 1.8 thousand tons of medicinal plants in the amount of 4.7 million dollars. Since 2016, sales have increased 3 times in weight and 1.8 times in monetary terms. By 2020, it is planned to create three pilot agroparks for growing medicinal plants.

In Russia, the best selling herbs and plants are as follows:

Ortilia secunda, Azarole hawthorn black and red, Yam Disocorea, Goat`s rue, Marjotam, French willow, Calendula, Lavender, Linden, Pepper mint, Balm Melissa, Holy thistle, Camomile, Thyme, Spanish needles, Hawthorn roots, Echinacea, Purple sage and some others

5. Legislative framework and funding opportunities

Basically, the production of herbal (both organic and conventional) teas falls under the following legal acts.

1. THE LAW OF THE REPUBLIC OF ARMENIA ON THE ORGANIC AGRICULTURE; Adopted on April 8, 2008
2. THE LAW OF THE REPUBLIC OF ARMENIA ON MEDICATIONS, Adopted on 17 May 2016
3. THE LAW OF THE REPUBLIC OF ARMENIA ON FORESTRY; Adopted on October 24, 2005
4. The Executive Order N 142-N of the Minister of Agriculture of the RoA, adopted on September 5, 2012. The Executive Order on Forestry and Deforestation
5. LAW ON ENVIRONMENT PROTECTION AND PAYMENTS FOR NATURE UTILISATION; ADOPTED ON DECEMBER 28, 1998.
6. TAX CODE OF THE REPUBLIC OF ARMENIA; ADOPTED ON 4 OCTOBER 2016
7. CODE ON ADMINISTRATIVE MISCONDUCT OF THE REPUBLIC OF ARMENIA.
8. THE LAW OF THE REPUBLIC OF ARMENIA; ON NATURE PROTECTION AND NATURE UTILIZATION PAYMENTS.
9. DECISION OF THE GOVERNMENT OF THE REPUBLIC OF ARMENIA ON THE APPROVAL OF THE PROCEDURE OF STATE CADASTER OF FLORA, NOVEMBER 13, 2008.

10. Administrative offenses and penalties; Summary state statistical report on "Identified administrative offenses, number of persons subjected to administrative liability and amounts of fines imposed"

11. The Law on Medicinal Preparations of the Republic of Armenia states:

THE LAW ON MEDICINALS; Article 20. Drug packaging, labeling and marking.	5. It is forbidden, for any product which is not considered to be a medicinal (including cosmetic products, bioactive additives) to indicate on the package or instruction for use, therapeutic indications.
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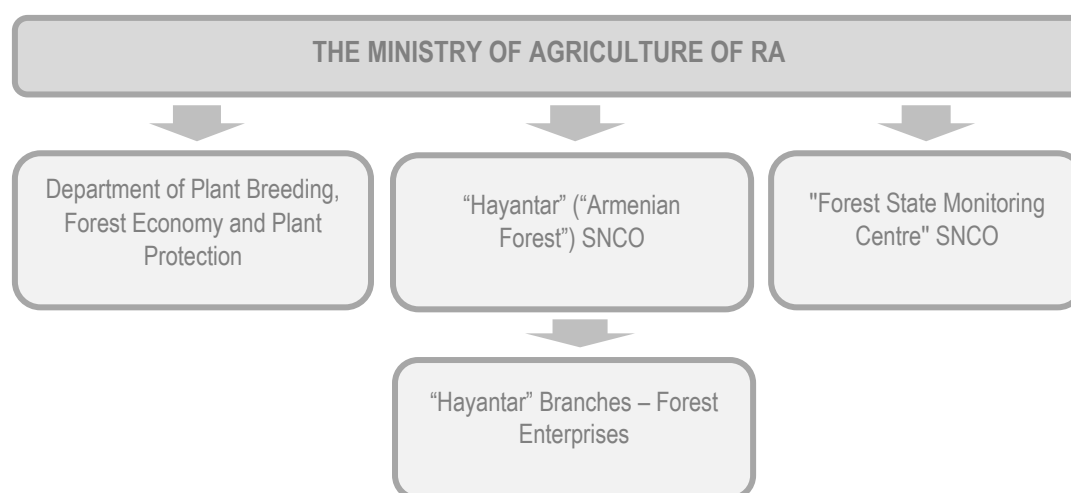
That is, in order to use herbal raw materials for medical purposes, the producer must firstly register it as a drug. In this case, the supervisory authority is not Food Safety Inspection Body, but the State Scientific Center of Drug and Medical Technologies Expertise (SCDMTE).

The forestry in general and wild collection in particular sector in Armenia, including the collection and usage of wild collection is regulated based on the Forest Code of RA, the Law of the RA on Specially Protected Nature Areas and a number of bylaws. Based on the Forest Code of RA a number of policy documents have been developed including National Forestry Policy (2004), National Forestry Program (2005) and State Forest Monitoring Program (2006).

The legal and regulatory framework of wild collection sector is not comprehensive: laws governing the collection and usage of wild collection contain regulatory and procedural gaps, uncertainties and functions duplication cases among involved state governing bodies. In addition, some regulations are not implemented and remain on paper due to lack of control mechanisms and incomplete procedures. Particularly, the coupon-based mechanism of regulating the wild collection collection for commercial purposes is ineffective and officially no coupons have been issued and no related fees collected during 2013-2018.

The official body in charge of controlling, managing and protecting forests in Armenia is the Ministry of Agriculture. The Ministry implements the government's policies in the area of forestry through its entities managing ~75% of forest areas of Armenia, including 13 sanctuaries (Figure 4). The remaining 25% of forests, mostly consisting of specially protected natural areas are managed by the Ministry of Natural Protection of RA and its entities (Figure 5).

Figure 4: Forest-related Entities in the Ministry of Agriculture of RA

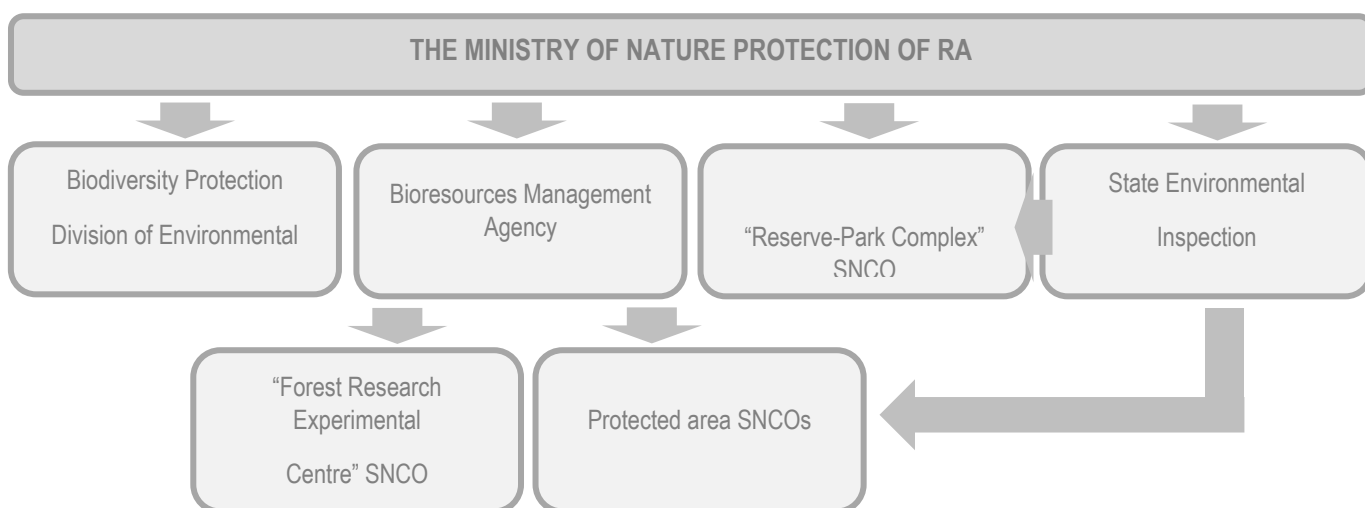


The Department of Plant Breeding, Forest Economy and Plant Protection is responsible for development of policies and legal acts in the sphere of forestry, including forest protection, conservation, reproduction and effective use.

"Hayantar" SNCO is responsible for implementing the policies in the forestry sphere. This includes the management and allocation of forest areas for temporary use and issuance of permissions, coupons and agreements for using forest resources. "Hayantar" has 19 branches throughout Armenia.

"Forest State Monitoring Centre" SNCO collects and provides data and information for the management and supervision of the forestry sphere.

Figure 5: Forest-related Entities in the Ministry of Nature Protection of RA



Biodiversity Protection Division of Environmental Protection Department of the Ministry of Nature Protection of RA is responsible for development of policies, strategies and legal acts in the areas of biodiversity and environment protection, reproduction and use.

Bioresources Management Agency is engaged in research in areas of conservation, reproduction and sustainable use of landscape, fauna, flora and natural heritage as well as registering, inventorying and monitoring the natural resources of Armenia.

State Environmental Inspection is in charge of controlling the implementation of environmental legislation in Armenia.

Regulations Pertaining to Collection of herbal raw materials

According to the Forest Code of RA the population can engage in the collection of herbal raw materials, including fruits, berries, nuts, mushrooms, edible plants and medicinal plants without any permissions and limitations, if the collected herbal products is intended only for personal use. The Forest Code states that the collection of herbal products should not cause any damage to the fauna and flora of the forest; however, no limitations on the quantity of the collected herbal products are specified neither any procedures of overseeing and tracking the volumes of collected resources. The Code states that if a person wants to collect herbal raw materials with commercial intentions, they must obtain a special permission from “Hayantar” and pay relevant fees. The official document verifying the permission of a person to collect herbal raw materials for commercial purposes is the forest coupon. The coupons are issued by the branches of “Hayantar” and contain information on particular locations where the coupon holder is allowed to collect herbal raw materials. The volumes of collected herbal raw materials must be recorded in the coupon, based on which the coupon holder must pay relevant fees by which the calculation and accounting of collected herbal raw materials and related payments should be implemented. The coupons are applicable to not only individual collectors but also legal entities and private entrepreneurs engaged in wild collection. An alternative way to legally collect herbal raw materials for commercial purposes is to enter in agreement with “Hayantar” and lease an area in the forest.

Table 2: Fees for Wild Collection (Fees for Using the Natural Resources), AMD/kg

Wild Collection Plants	Collection Fee	
	flowers	roots
Widely Used Herbs	100	300
Other Herbs	50	200
Widely Used Edible Plants	15	50
Other Edible Plants	10	30
Technical Plants	50	150
Ornamental Plants	100	
Resin plant	500	
Fruits and Berries	30	
Nuts	60	

Source: Decree of the Government of RA on Fees for Using the Natural Resources

The coupon-based mechanism of regulating the wild collection for commercial purposes is ineffective due to imperfections in regulations and difficulties of its enforcement. The laws do not provide specific procedures of control nor the state authorities can effectively oversee the usage of coupons. In practice, the vast majority of wild collectors do not cooperate with “Hayantar” and collect NTFP without obtaining any permission. A large number of collectors are not even aware of the requirement to obtain a coupon and pay fees. In 2013-2018 “Hayantar” officially did not issue any coupons.

Regulations on Realization and Processing of Wild Collection in Armenia

The documents supporting the realization of all types of Wild Collection and relating tax payments vary depending on the status of the seller. What is actually practiced in the industry do not necessarily comply with regulations. However, regulations themselves are incomplete and contain uncertainties.

The accepted practice is that Individual collectors of herbal raw materials who sell their produce to processors provide the copies of their passports, certificates from community municipalities and sign a purchasing act provided by the processor. In some cases, they may also sign an agreement. The certificate from municipalities is a document certifying the agricultural harvest. Meanwhile, nowhere in legislation wild collected herbal materials are defined as agricultural products. According to the law, wild collection industry must be regulated through the usage of forest tickets and fees for using natural resources. Strictly speaking, many wild collectors are more entrepreneurs under the law. If they do even simple processing such as cleaning from leaves or sorting, they may be considered as processors. The definitions related to preliminary and simple processing of products are debatable, however drying is clearly defined as processing. This means that a collector who dries his or her harvest before selling is a processor under the law.

In practice, wild collection herbal materials are generally sold as agricultural produce, which is exempt of taxing. Thus, the regulatory mechanisms are not working at various stages of the value chain, starting from the very beginning, when wild collectors do not have forest tickets and individual wild collection herbal raw materials suppliers do not pay taxes as entrepreneurs.

Taxation of Export and Import of Wild Collection herbal materials

In Armenia, there are no customs duties on the export of fresh and processed Wild Collection herbal materials. Customs fees are the same for export and import.

Table 3: Customs Fees for Import and Export of Wild Collection Plants in Armenia, AMD

Procedure	Customs Fee
Customs Control of Vehicles	5,000 for each vehicle
Customs Declaration	3,500
Cargo Operations	1,000 for the first 1,000 kg and additional 300 for each next 999 kg

Custom duties for import depend on the country/region of the origin (Table 4). Duties apply to almost all imports from the EU and are calculated as percentage of customs value of the product. After the customs duty is applied, the VAT is calculated. There are no customs duty for imports from the CIS and ECU, the VAT, however still applies. For imports from CIS the VAT is collected on the border, for imports from ECU VAT can be paid after the crossing the border and until the 20th day of the next month.

Table 4: Table Customs Duty and VAT for Import to Armenia

Imported Good	Customs Duty		VAT	
	EU	ECU	EU	ECU
Edible Herbs	3%	0%	20%	20%
Berries	6.7%	0%	20%	20%
Juice	5-14%	0%	20%	20%
Fruits and berries frozen or canned	10%	0%	20%	20%

Source: Customs Service of RA

According to the law, the import and export of any plants and products of plant origin, including all types of NTFP from/to Armenia must comply with phytosanitary rules. The document proving the compliance with the phytosanitary rules is the phytosanitary certificate. The details on the certification are provided in the next paragraph.

Phytosanitary Certification

The authorized body responsible for ensuring phytosanitary rules and norms and providing relevant certificates is the Food Safety Inspectorate under the Government of RA. The service includes the laboratory which conducts the relevant analysis in all regions of Armenia and at border checkpoints. Phytosanitary certificates are required for both export and import of plants and products of plant origins. In order to obtain a phytosanitary certificate the exporter must first get a phytosanitary passport.

Phytosanitary passport is a document accompanying the product and verifying the absence of harmful pests. In order to obtain the passport, the exporter applies to one of the offices of the State Service for Food Safety. The inspector assigned to the application carries out the inspection and if the product complies with phytosanitary requirements issues the passport. After obtaining the passport the exporter fills in application for the certificate which is issued by the inspector within 3 days. According to the law, the issuance of phytosanitary certificate is free. Each certificate is valid for up to 14 days.

Funding opportunities

There is a very limited number of international organizations that promote the organic sector in Armenia. In particular, the OASI (Organic Agriculture Supporting Initiative) program, initiated in January 2015 by the Austrian Development Agency in cooperation with the Ministry of Agriculture, is approaching its completion.

The goal of the program is to support farmers and agribusiness to ensure the transition to organic agriculture, increase agricultural production, develop new international markets, and market bioproducts to the local market. The initiative managed to involve 45 beneficiaries (small producers), who got various types of assistance, ranging from the seminars to participation in international exhibitions.

6. SWOT

Strengths

S. Tea, compared to processed fruits and vegetables, has significantly lower shipping costs as a percentage of the value of the product.

S. Organoleptic characteristics of local raw materials are at a very high level. Vitamin set of berries, which are used for making tea, for example, wild rosehip, wild cornel, sea buckthorn, etc

Weaknesses

W. A significant increase in the cost after the first technological operation, sorting, can also be attributed to the bunch of problems. The point is that collectors, willingly or not, collect everything, not just a specific wild plant, which they should have been collected, but everything that grows near herbs. This increases the number of kilograms handed in, which is very beneficial to collectors. But it is extremely unprofitable for producers, since after sorting, some 20% to 40% of the collected raw materials are rejected.

W. The government does not consider this industry (production of herbal teas) as a priority and therefore does not provide. There is only a sporadic support from some international organizations.

W. The almost complete lack of sanitary and hygienic conditions during drying and the initial technological operations. Collectors cannot (and in some cases are unwilling) to carry out primary technological operations - sorting, drying, while observing sanitary and hygienic conditions. In general, there is no understanding among the collectors, that the raw materials collected by them are food grade raw material and eventually become a food product.

W. High cost of organic products in Armenia. For example, organic thyme from Egypt on CIF Poti terms costs \$ 4.5/ kg, at the same time the price of the Armenian organic thyme is \$ 6-6.5/kg. This is due to the fact that organic (including wild organic) products in Armenia are in small quantity. During exporting, while issuing a certificate and some other operations, local producers have fixed costs, which are divided to one unit of exported products. Since the exported products are very small in volume, the price is quite high. If the large European organic producers would not strive to diversify the purchased raw materials, Armenian producers would not have a chance to sell their products abroad.

W. In order to get the organic certificate, manufacturers must keep the necessary records. In the case of the wild collection, these records must be kept by the wild collectors themselves. Since wild collectors are mainly simple farmers, even such a simple action as filling out a ready-made template becomes a big problem for farmers. According to the processor, it is necessary to constantly train wild collectors to correctly fill out in the necessary forms.

W. Organic agriculture requires a large number of workforce and intensive control of work.

W. Organic farming or farming is smaller than the conventional farm, and for this reason it cannot save money at the expense of volume production and reduce the cost of the product

Opportunities

O. There are a large number of herbs which actually unfamiliar in Europe or for those which are incomprehensible and unfamiliar for the European consumer. In particular, many local manufacturers of herbal tea participated in various fairs such as BioFach, Green Week, and European consumers were surprised with the dissimilarity of taste, its greater intensity and sharpness. The wild collectors and processors explain this phenomenon by the uniqueness of the natural climatic features and areals of the Armenian herbs, in which there is a greater accumulation of essential oils and spicy plants.

O. One or two companies have experience in using some sort of collection centers, where wild collectors bring their daily collection or collection for 2-3 days where centralized processing of this raw material takes place, like sorting, sometimes washing, culling, preparing for drying, etc

Threats

T. Lack of skilled and responsible raw materials collectors. Even despite the fact that in rural areas, where the collection of raw materials takes place, there is a shortage of jobs, the local residents are not willing to collect herbs. The point is that, especially for organic collection, one have to be very attentive and comply with the requirements of both the standard and the buyer's requirements - that is, collect them in specially selected and designated places (and they are usually far away from the collectors' residence); do not pick a lot from one place, and collect only healthy plants and so on. This all leads to the fact that the packers either unreasonably increase the price or refuse to collect herbs for organic producers. The fact is that it is much more easier for the collectors to pick more and sell it on a cheaper price to producer of non-organic raw materials, than to spend a lot of time and pour a lot of effort on complying the requirements of organic producers.

T. Competition for raw materials and customers of inorganic products producers.

T. There is a significant problem in the promotion of Armenian organic products. For instance, the main channel for international promotion is participation in exhibitions. In recent years, the participation of our manufacturers has been funded only by 1-2 international organizations. Of course, this funding does not allow to be represented as good as necessary. The government does not co-finance the participation of manufacturers.

T. Farm, which is engaged in the production of organic food, does not receive subsidies from the state budget, unlike ordinary farms. Actually it reveals the real value of organic food.

T. The price of traditional food does not reflect the cost of ecological purification of the latter, paying thus for something that actually does not exist.

7. Targets towards organic tea cultivation

A study of the EU's herbal and fruit tea markets showed that this sector has been increasing slowly but steadily over the past five years. Until 2020, it will continue to increase, in terms of physical volume, by some 1–2% per year.

The leader of the herbal tea retail market among the EU countries is Germany. In 2017, sales reached 925 million euros, which accounted for 44.5% of the European herbal tea retail market. It is projected that sales will grow by an average of 2% per year and will amount to 1.1 billion euros by the end of 2021.

Poland is in second place. The turnover of the Polish market for retail sales of herbal tea in 2017 reached 209.5 million euros, which is 2.2% more than in 2016. In terms of physical volume, sales growth was 1.8%. In the forecast period to 2021, sales of herbal tea will increase from 10.47 thousand tons to 11.5 thousand tons.

France is in third place, with the retail market for herbal tea in 2017 at 185.9 million euros. With an average annual growth rate of 1%, it is estimated that by the end of 2021, it will reach 213.7 million euros. Good growth in sales of tea is provided by catering sector.

Germany is the largest market for herbal tea exporters. It is far ahead of Poland and the UK. This means that when exporting it is necessary to target on these countries. The competition there is quite tense, but the “prize” is worth fighting for it. Of the three countries listed, the UK is the least attractive. The consumption of tea there is quite high. However, UK launched the process of leaving the EU. This will impose certain (possibly serious) restrictions for the exporters (for example, the need for certification in two bodies). The Armenian producers need to be ready for double-certification. By the way, double certification may also be applied for Food Safety, and it may be necessary to be certified according to the BRC standard.

Outlooks for Poland and the Czech Republic look promising. Their prospects are explained by a complex of catching-up countries. Trends that are becoming noticeable in Western Europe over the course of a year and a half reach Eastern Europe.

This means that sooner or later the fashion for a healthy lifestyle will reach this territory. So Armenian producers simply need to attend the grocery and bio / organic exhibitions in these countries.

One of the fastest growing segments of the tea market in Europe is herbal and fruit teas, which contribute to the normalization of the digestive tract, nervous system (and other body systems). If Armenian teas succeed in proving their superiority over competing European, Chinese and other countries, they may well become a niche leader in one of the European countries or in the EU as a whole. The potential of Armenian companies is great, but it is necessary to develop and promote brands, such as “Ancient Armenian Tea” etc.

One of the most promising ways to enter the European market goes through the specialized tea shops (boutiques), which are simultaneously selling tea, tasting it and educating consumers. This can just help the brand, attach a kind of elitism. In this regard, Armenian producers can better use the network and influence of the Armenian diasporas in European countries.

Recently, the consumer pays a lot of attention to packaging. It is obvious that Armenian exporters of herbal teas should offer the European market something especially from this point of view.

Herbal and fruit tea exported to Europe must be certified. In the EU, the largest certifiers are:

- UTZ: The main European markets for UTZ certified tea are the Netherlands, Germany, the United Kingdom and Switzerland.

- Rainforest Alliance: Most of the Rainforest Alliance certified teas are sold in the United Kingdom, the Netherlands and Germany.
- Fairtrade: in 2015, the global tea market, certified by Fairtrade International, increased by 3%, reaching 12 thousand tons. 71% of Fairtrade certified tea is also technology certified. The UK is the largest market for Fairtrade.

8. Proposals for further development

1. It would be advisable to continue and develop the collection centers experience. In particular, firstly, to increase the number of such collection centers, setting up them in all centers of the wild collections. Secondly, increase the number of operations performed in these collection centers. In addition to the secondary operations like sorting, rejecting, and so on, to start producing purely production operations in these centers, like drying, finish drying, grinding, and possibly pre-packaging, etc.

In addition, such collection centers are very convenient for monitoring correctness of collection. The fact is that when the collector brings every day a certain amount of collected raw material, the head of the collection centers can immediately give the necessary feedback, indicating whether the collected plant is proper, its parts are proper, the raw materials are of high quality or not, etc. Otherwise, if this process is not done on the daily basis, a collector may collect improper or low-quality materials for several days, which will not be accepted at the end.

In addition, the development of the collection centers system is actually the only way to solve sanitary and hygienic problems during drying (see the problem section). Otherwise, should be conducted large-scale training for collectors on topics related to the sanitary conditions of collecting and drying raw materials.

2. Promotion of products through retail. According to one of the Russian famous consulting agency, the main sales channels for environmentally friendly products are retail chains, including discounters. In Austria, up to 67% of bioproducts are sold through the retail chains. The activity of supermarkets and discounters (Plus, Rewe, Norma, Aldi, etc.) in the promotion of products led to a noticeable increase in sales volumes. Many retailers carry out advertising campaigns of bioproducts under their own logo, pay great attention to the expansion of the range, and introduce organic novelties for sale. Prices for bioproducts in European supermarkets suggest that it meets the needs of all social groups, and not just the wealthiest buyers.

3. Participate in the International Federation of Organic Agriculture Movements (IFOAM). Assistance in the form of subsidies and carrying out research. For example, the IFOAM World Congress is held regularly, at which scientific papers reviewed by an expert committee are presented.

4. Create new, authentic blends associated with something purely Armenian. It is possible to use not only purely herbal composition, but also composition with the inclusion of black or green teas. However, it is necessary to comply with the strict requirements of the consumers for packaging, flavoring and mixing.

5. Actively work not only with distributors of organic teas but also with regular distributors of distributors. For example, to establish contacts with such key players as VAN REES GROUP BV, THE BIO TEA COMPANY, S.L. and others.

6. To try a model of not a wild collection, but the cultivation of the same herbs, by growing them with organic method. One can also cultivate those species / varieties, required for the production

of tea mixes, for example chamomile (that does not grow in the wild), lemon balm, etc., and thus making import substitution.

7. A few weeks ago, with the support of OASI, the FiBL research institute, the CARD foundation of some others, the Organic Armenia Agricultural Association was founded. The aim of the Organic Armenia Agricultural Association is to provide a strong and unified national voice for domestic certified organic farmers, producers and processors and to build and support a producer-led national organic movement and national policy platform.

8. Introduction of Food Safety Management Systems in the companies. Receive certificates of ISO 22000 or higher.

9 The development of the industry requires a high degree of process mechanization. As a pilot model, the following scheme can be used i.e. the setting up a collection center, which will be equipped with a variety of machine tools.

10 Berry consumption is increasing in Europe. Currently it is consumed in the fresh form, but consumption of dried berries, as well as berries in the form of teas, will obviously also increase.

11. Create a special line of teas for vegetarians. For example, vegans do not get enough iron and calcium. To make herbal / berry / dried fruit teas, containing sufficient level of these substances.

12. Amend the organic law to specify the competent authority for organic agriculture and mandate the MoA to create an “organic unit”, or at least an “organic desk” with ministry staff dedicated to organic agriculture.

13. Maintaining the national register of certified organic operators in Armenia. Amend the national organic standard.

14. Conduct market surveillance and follow-up on complaints to detect products fraudulently marketed as organic in Armenia.

15. Manage government Organic Agriculture support programs, such as subsidy programs, capacity building programs, etc.

16. Liaise with international organizations and other governments on matters related to organic agriculture in Armenia.

17. Provide information related to OA legislation interpretation and implementation to other government bodies and private stakeholders

18. Application of new technologies, which allow increasing the FS level of the products. For example, deep freeze technology after drying, or raw materials storage technology in a gas-modified atmosphere.

19. Armenian herbal organic tea also can be very successful in USA. But, in the US there is a strong competitive advantage to new varieties of good tasting organic blends that have a "story". Armenia has a long tradition of herbal teas with wonderful stories about each type. With the right positioning, branding, and packaging this sub-sector could be very successful and profitable. By local marketers estimation, the correct packaging for herbal tea is 20-24 tea bags in a small box that would sell for \$4 - \$10 retail. Most Armenian tea producers sell loose tea in bulk. The retail price for the actual tea in a box of bags is 15 or more times that of the price for

the same amount in bulk. Yes, there is a cost for bags, filling, packaging and shipping charges will be higher but they are relatively small compared to the increase in the price that would be paid to the Armenian producer.

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