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ENTERPRISE DEVELOPMENT AND MARKET COMPETITIVENESS (EDMC)



**RAPID ASSESSMENT OF TRAINING NEEDS OF FOOD
PROCESSING COMPANIES IN ARMENIA**

ENTERPRISE DEVELOPMENT AND MARKET COMPETITIVENESS PROJECT

RAPID ASSESSMENT OF TRAINING NEEDS OF FOOD PROCESSING COMPANIES IN ARMENIA

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Introduction

The goal of this research is to improve the perception of the practices and needs of fruit and vegetable processing companies in Armenia as well as identify needs for training and further technical assistance. During the research, telephone interviews were held with persons responsible for the food processing technology in 36 fruit and vegetable processing companies as well as those who are most proficient in the field.

The results of the research do not reflect the answers of MAP LLC, SAVA LLC, and Martin STAR LLC, since MAP LLC will stop its production of canned fruits and vegetables and therefore the company did not participate in the survey; SAVA LLC informed that it does not operate; and Martin STAR refused to participate. Therefore, the final results of the research reflect answers received from total of 33 companies.

Although the official statistics contains discrepancies in terms of the actual number of the fruit and vegetable processing companies operating in Armenia¹, we can affirm that the collected data can be considered as representative, and the results can be generalized.

¹ The RA Food Security Concept (approved on 18.05.2011) states that 53 fruit and vegetable processing companies are operating in Armenia (wineries and brandy factories are in a different register). The website of the RA Ministry of Agriculture says this number is 40, while the RA National Statistics Service reports about only 26.

Brief Outline of Food Processing Industry in Armenia

The driving force of the agrarian sphere in Armenia is the agricultural product processing sector. It is also the main precondition for developing an export-oriented agriculture in the country. This sector is considered important also for ensuring employment and incomes for the rural population. The Armenian food processing sector is rather diversified and includes nearly all fields of food industry, with grape, fruits and vegetables, dairy and tobacco processing providing the largest production volumes. At the same time, the production capacities available in the mentioned sector contain a great potential for the development of the sector and increase production volumes; currently only 50% of the available production capacities is used (in some enterprises – only 3%-5%). The sustainable development of the food processing sector is very important since the development of the two main agricultural industries, crop production and livestock production, heavily depend on the processing sector².

During the Soviet era Armenia used to produce different canned (fruit and vegetable based) products, and export to the rest of the Soviet republics. In the processing sector (except for beverages, e.g. brandy, vodka, etc.), the production of tomato paste and sauces was in the first place, followed by production of different jams, concentrates, preserves and dried fruits, canned tomato, pickled vegetables (mainly cucumber), etc.

The peak in fruit processing was recorded in 1987-88; following this peak, Armenia never achieved these results, and continuous decrease in production volume was recorded, which came to its lowest level in 1997. Over the last decade, the production volumes of the Armenian canneries have been quite unstable, reaching to as low as 8,000 tons in 2004 and to its new peak, 14,167 tons 2006³.

This was a period when Armenian processors, supported by state and foreign programs, were trying to find new export markets and they achieved a definite success.

The modest positive trends recorded in the Armenian processing industry during 2007-2008 ended up with a notable decrease in the production volume: as a result of 2009 global financial and economic crisis, the volumes of fresh fruit procurement and that of readymade products. In 2011 a new growth tendency was recorded; however in 2012 the production volumes were reduced by about 20 percent, and only 9,300 tons of canned food was produced (See Table 1).

² RA Ministry of Agriculture, 2013

³ FREDA 2010 – Study of raw product base for fruit processing in the RA marzes.

It is interesting that in 2010, even with the lowest level of production volume over the last 12 years, the canneries were able to slightly increase their production volumes.

Table 1: Production of Canned Products in Armenia, 2006-2012.

	2006	2007	2008	2009	2010	2011	2012
Canned Products (tons)	14167	12411	12910	7629	8029	11773	9315
of which							
Vegetables	1741	2569	3122	2830	4559	4248	2951
Tomato	8298	6187	4169	2657	1823	4945	2919
Fruits	3440	2723	4717	1368	1134	2293	2666
Natural Juices (1000 liter)	4765	5722	6659	7508	11690	14615	16747

Source: NSS, 2013

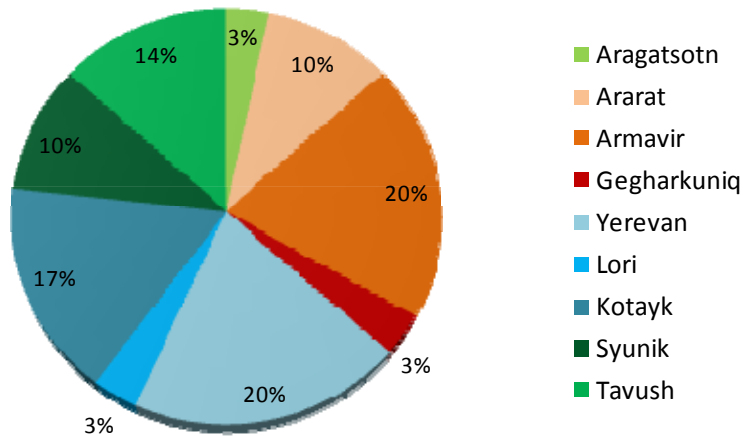
A sustainable growth was recorded in natural juice production. Compared with 2006, the volume of the natural jounce production is almost quadrupled. This is explained by starting new juice production factories, comparatively cheap imported raw product (purées, concentrates, etc.) and increase in the demand of natural juices mainly in CIS countries.

In the Soviet era, 18 canneries were in operation in Armenia and were producing the above mentioned products using equipment and technologies of different sophistication. Some of the factories are still in operation, while some large ones do not operate for different reasons: the area is privatized, equipment are dismantled and sold (some of those equipments are now used by other companies) and/or are used for other business purposes. Starting form 1990-es, Armenia slowly recovered the food processing industry. New canneries and juice factories were built such as SIS Natural, Artashes, EuroTerm, and others⁴.

According to data brought in the RA Food Security Concept, currently 53 fruit and vegetable processing companies operate in Armenia. The website of the RA Ministry of Agriculture says that 40 companies have procured and processed fruits and vegetables in 2012. According to the sample of our survey (36 companies), we can state that the main processing companies are concentrated in Yerevan or within the distance of only 60-70 km from the capital city (See Figure 1).

⁴ FREDA 2010 – Study of raw product base for fruit processing in the RA marzes.

Figure 1. Location of companies by marzes

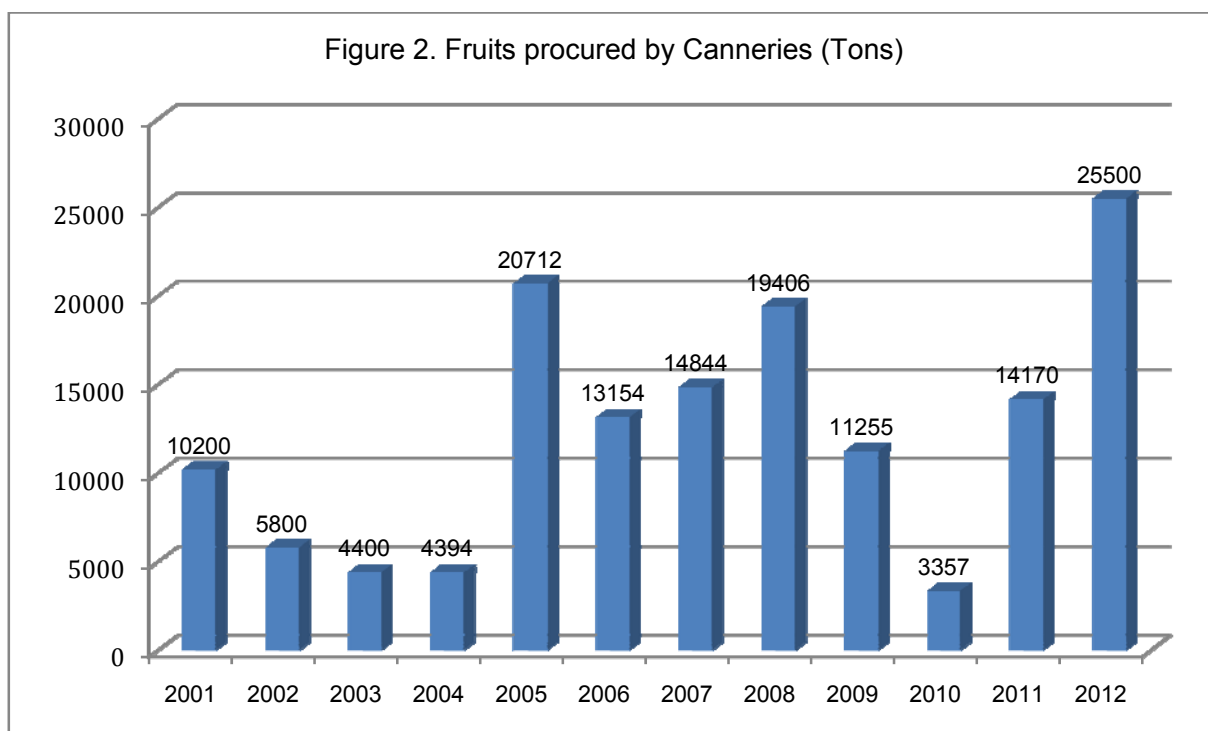


Source: ICARE Survey.

Enterprises producing canned products, except for several local factories with comparatively small production volumes and working in a certain geographic areas, procure raw products across the country; therefore their location does not play any significant role from the point of view of organizing the procurement process. Thus, the profile of a particular marz is much more important than the availability of processing organizations.

For example, the stone fruits (apricot, peach) in which all processors are interested are procured from the same areas – Ararat and Armavir marzes (more than 70% of the total volume). Seminal fruits (such as apple) are mostly (more than 60% of the total) procured in Kotayq and Aragatsotn marzes. Subtropical fruits (such as fig) are procured in Syunik (Meghri Area) and Tavush (Noyemberyan Area) marzes.

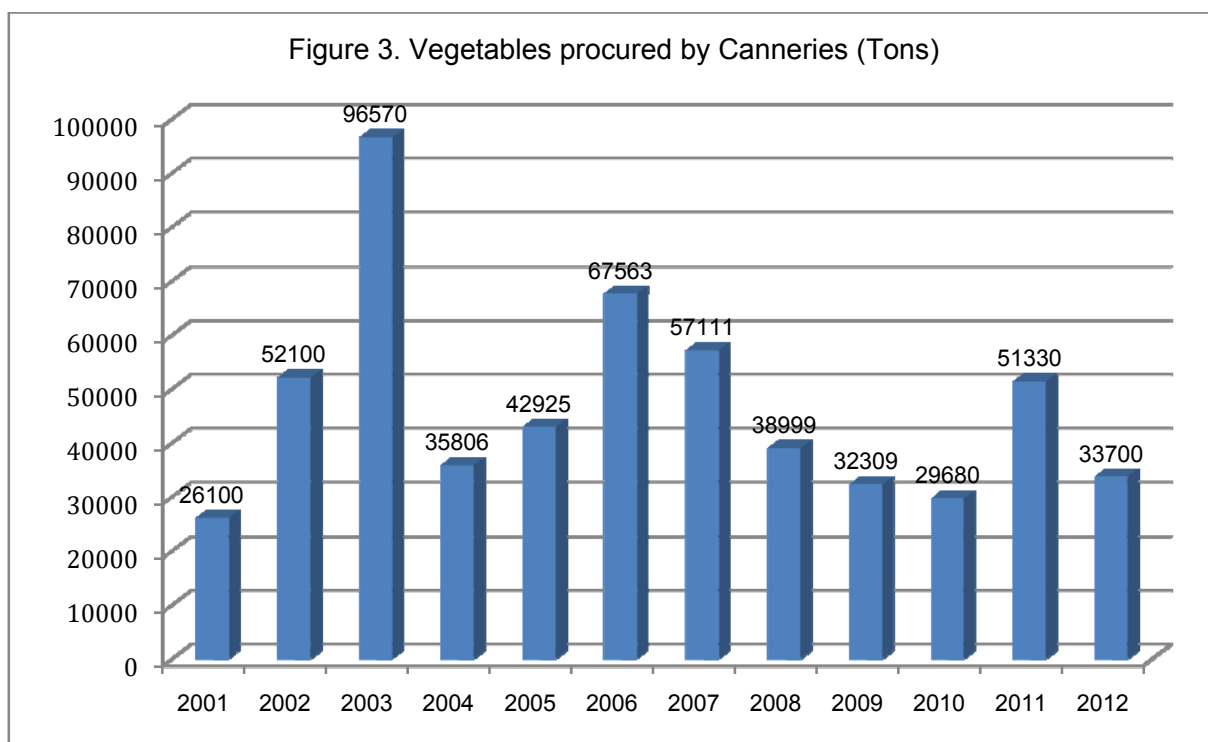
Below are the amounts of fruits and vegetables procured by processing enterprises during 2001-2012 (See Figure 2).



Source: NSS, 2013.

Over the last 12 years, fruit procurement has had a growth tendency, recording, however, both ups and downs. Naturally, in the years of low yields, the processed amounts were also low. The worst indicators were recorded in 2010 when the weather conditions were very unfavorable. Record high indicator was recorded due to the unprecedented volume of fruit procurement in 2012 - 25,500 tones; this is the highest indicator over the recent 20 year period (See Figure 2). The top five most demanded fruits (for procurement) are: apricot, peach, plum, sweet cherry and apple.

The situation in vegetable processing can be assessed as unstable with ups and downs. The figure makes it clear that the curve of the procured amounts is a downward sloping one. The processing enterprises are still far from the indicators recorded in 2003, 2006 and 2007 (See Figure 3). This sector of the processing industry is marked by a high level of centralization. About 95 percent of procured products is the share of 5 leading companies, while about another 95 percent of procured vegetables is the share of tomato only, followed by eggplant and cucumber.



Source: NSS, 2013.

Below is the data of 33 companies having participated in the survey.

Table 2: Interviewed Armenian fruit and vegetable processing companies.

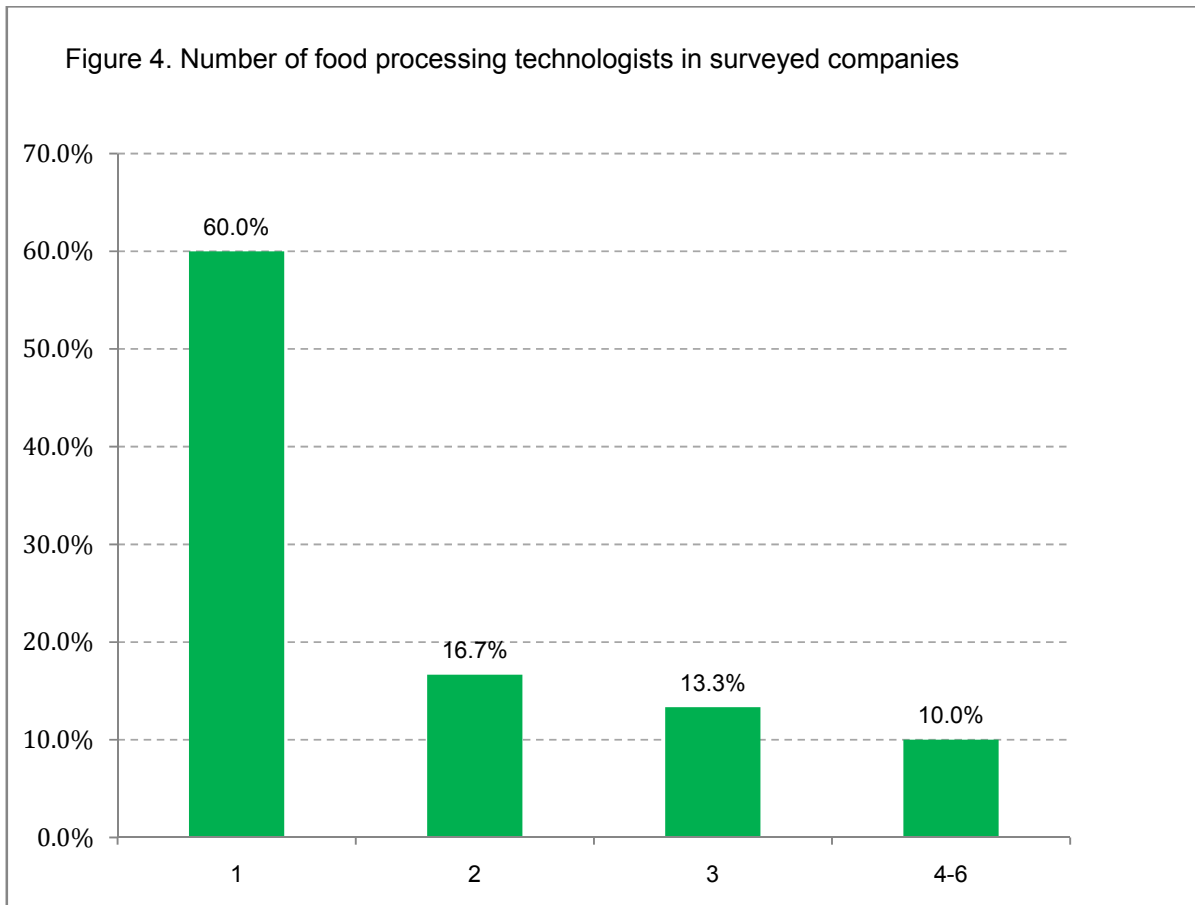
N	Company name	Location	Brand
1.	Artur & Edita LLC	Jujevan, Tavush marz	Jujevan Cannery
2.	Ragmak Cannery LLC	Yerevan	Ragmak
3.	Artashes LLC	Jrvezh, Kotayq marz	Artashes
4.	Eco Garden Manufacturing Cooperative LLC	Aygedzor, Tavush marz	Vital
5.	Nicola International LLC	Aramus, Kotayq marz	Ayello
6.	Borodino Cannery LLC	Aralez, Ararat	Dolina Vkusa
7.	Shamb Cannery LLC	Shamb, Syuniq marz	Shamb
8.	Tamara Fruit CJSC	Karbi, Aragatsotn marz	Tamara Fruit
9.	Meghry Cannery CJSC	Meghri, Syuniq marz	-
10.	Lchkadzor CC	Ayrum, Tavush marz	-
11.	Alishan LLC	Masis, Ararat marz	Alishan
12.	Ashtarak Kat CJSC	Yerevan	Legends of Armenia

13.	Yerevan Garejur CJSC	Yerevan	Kilikia
14.	Sam-Har LLC	Abovyan, Kotayq marz	Sipan
15.	Levon LLC	Armavir, Armavir marz	Dalarik
16.	Konser LLC	Echmiadzin, Armavir marz	Rega
17.	Avshar Prod LLC	Avshar, Ararat marz	Avshar Prod
18.	Samelon LLC	Vardenis, Gegharqunik marz	-
19.	Cheer CJSC	Sardarapat, Armavir marz	CHEER
20.	Arega LLC	Jrvezh, Kotayq marz	Arega
21.	Ararat Food Plant LLC	Yerevan	Ararat
22.	Van Stock LLC	Shahumyan, Lori marz	-
23.	Proshyan Brandu Factory OJSC	Artashat, Armavir marz	Royal Preserve
24.	Harzhis OJSC	Harzhis, Syuniq marz	-
25.	Agrar Armavir LLC	Armavir marz	ArFood
26.	Byurakn LLC	Echmiadzin, Armavir marz	Aygi
27.	Euroterm CJSC	Jrvezh, Kotayq marz	Noyan
28.	Sis Natural CJSC	Yerevan	SIS, YAN
29.	Spayka LLC	Yerevan	Ararat Food, Ararat Fruit
30.	MAGA Cannery LLC	Varagavan, Tavush marz	-
31.	Hayasi Group LLC	Voskevaz, Aragatsotn marz	Hayler, HyeFood
32.	Artashat Cannery OJSC	Artashat, Ararat marz	ArtFood
33.	New Wave LLC *	Armavir marz	Sardarapat

*New Wave LLC, the legal successor of the Sardarapat Cannery (former Hoktemberyan Cannery), was in operation until 2010. Later the area and the equipment of the cannery was sold to Levon LLC, however until now you can find products with Sardarapat brand in the local market.

Results

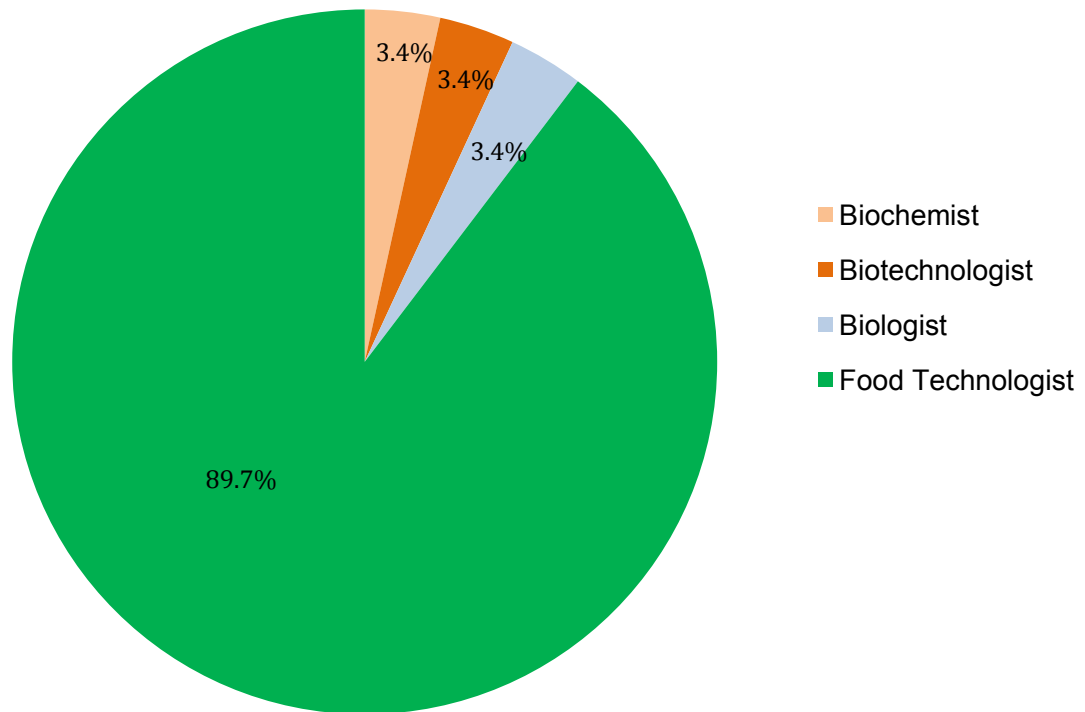
The majority of the interviewed processing companies (60%) uses 1 food product processing technology specialist for implementation of its activity; some companies (30%) consider reasonable employing 2-3 technologists; while only a few (10%) have 6 food technologists in their staff (See Figure 4).



Source: ICARE Survey.

About 90% of food technology specialists working in food processing enterprises are canned food technology specialists and graduates of different years of the Armenian National Agrarian University (formerly Armenian Agricultural Institute, Armenian Agricultural Academy, and Armenian State Agrarian University). In some cases (10%) the technologists working in the enterprises are qualified biologists, biotechnologists and biochemists and are graduates of the Yerevan State University and Vanadzor State Pedagogical University (one technologist) (See Figure 5).

Figure 5. The academic qualifications of the highest trained food technology specialists in the surveyed companies.

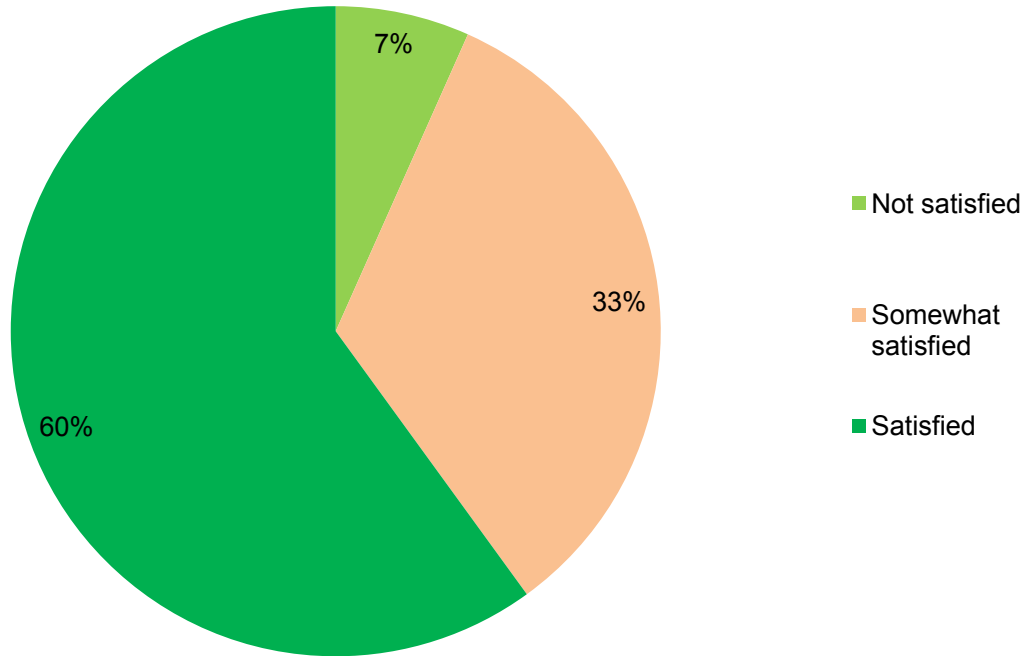


Source: ICARE Survey.

Most of the technologists working in food processing enterprises have multiyear working experience; and the main part of the employers is satisfied (60%) or somewhat satisfied (33%) with the quality of their work. There are employers (7 percent of those interviewed) who are dissatisfied with the quality of work done by the technologist who work for them and they would like to hire more competent and prospective employers (See Figure 6).

Good to mention that there are employers who irrevocably trust the technologists working in their enterprises who, in some cases, have been trained in leading foreign companies and still do not have anything to learn from local specialists (Ararat Food Plant LLC, Agrar Armavir LLC) and, according to them, they are considered to be the best in the country (e.g. Van Stock LLC):

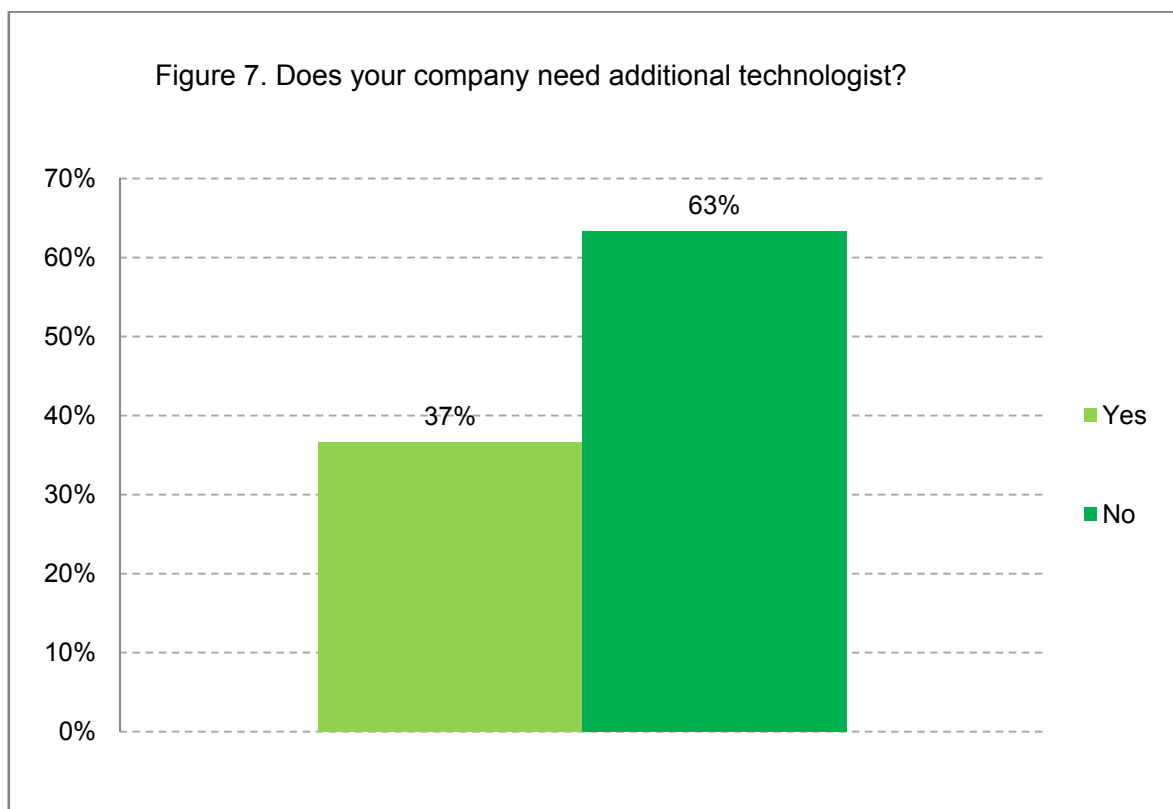
Figure 6. To what extent you are satisfied with the quality of work performed by your food technologists?



Source: ICARE Survey.

Thirty-seven percent of interviewed companies say there is a need of an additional food technologist, which will become even more acute close to the season (See Figure 7). Although 63% of the companies do not yet have additional need of technologists, however they state that the technologists working in their enterprises are mostly in their middle years; and in future these enterprises also will need young and knowledgeable personnel for alternation of generations. Here comes up the issue of providing high quality education for young people that meets the modern technological requirements; this issue should be under the control of the policy makers in the field.

There is another fact worth of attention: the processing enterprises have an intensive demand for specialists in related sectors of food processing industry. The problem is particularly acute for companies operating in remote marzes, who have small-scale and seasonal production volumes. First and foremost, young specialists do not go to those marzes from Yerevan and nearby marzes; in addition, the local specialists work only during the season, while during the forced outage they find a different job and leave the company.



Source: ICARE Survey.

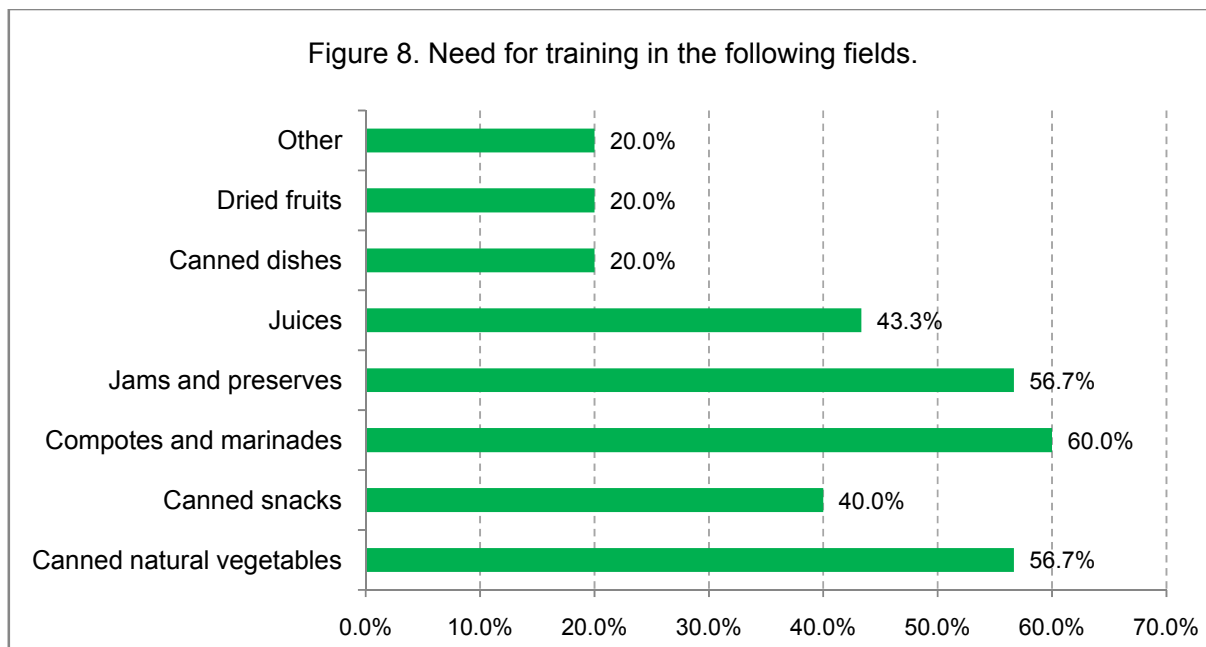
The list of demanded specialists in food processing enterprises include, in particular:

- Chemist-technologist (Euroterm CJSC, Conser LLC, Proshyan Brandy Factory OJSC);
- Mechanic-adjuster (Ararat Food Factory LLC);
- Laboratory Assistant, Microbiologist (Euroterm CJSC, Arega LLC, Levon LLC, MAGA LLC, Avshar Prod LLC, Artur & Edita LLC, Shamb LLC, Meghru Cannery LLC);
- Botanist, (Lchkadzor Consumer Cooperative);
- Winemaker (Samelon LLC (sea-buckthorn processing));
- Accountant, audit specialist (Harzhis OJSC).

Since the food processing factory of Spayka has been just built, some equipment and production lines have not been installed yet; production will start next year, and the staff has been fully recruited yet. In the near future the company will need different specialists in food industry.

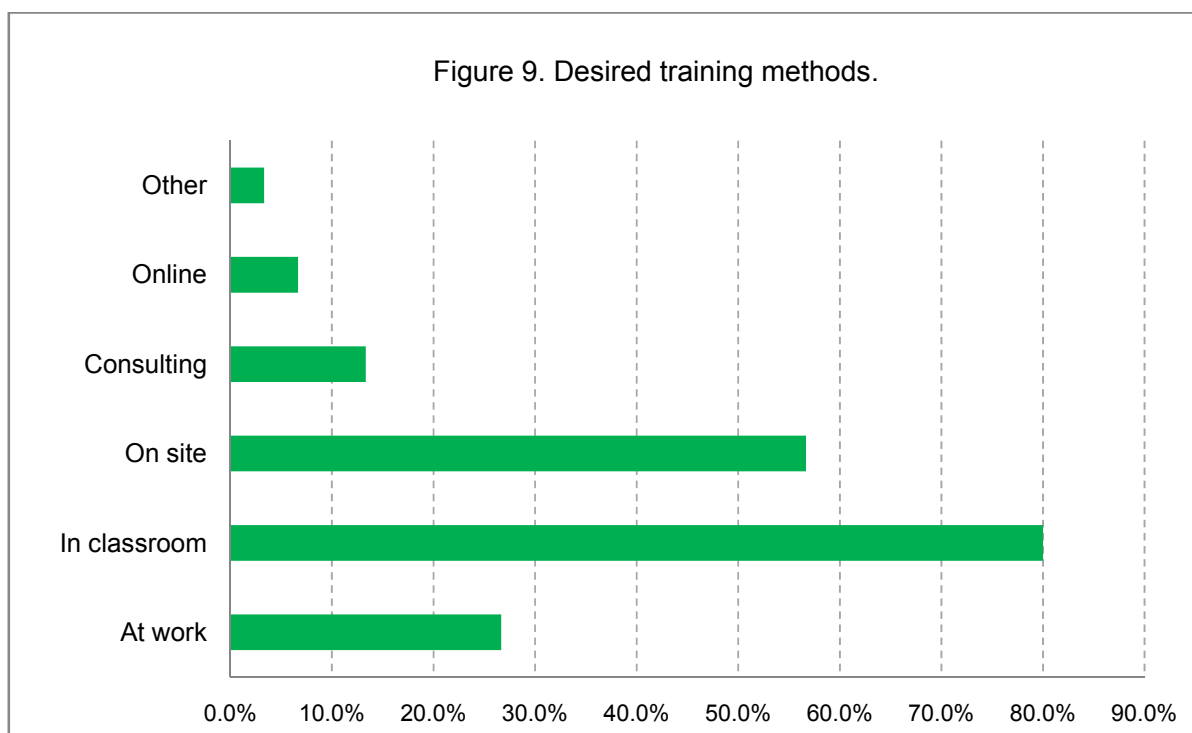
Although most of those interviewed are not dissatisfied with the work done by their employees, however they stated that their specialists definitely need to periodically upgrade their knowledge

both in the technological processes and food safety norms and standards and in introducing high-tech novelties.



Source: ICARE Survey.

According to 90% of the interviewed companies, there is a need in training and skill development for food technology specialists in the following target areas: compotes, marinades (60%), natural canned vegetable production technology, and sugar-concentrated fruit and berry production technology (jams and preserves, 57%). Only 20% of the interviewed companies showed interest in production technology of canned dishes, salads and dried fruits (See Figure 8). The low level of interest towards the latter is explained by the fact that these are not priority sectors for the Armenian food processing companies as well as by the fact that only one of the interviewed companies, Cheer LLC, is involved in dried fruit production; other dried fruit producers did not participate in the survey.



Source: ICARE Survey.

According to 93% of the interviewed companies, direct communication with specialists during training sessions is of significant importance. In this respect, 27% value on job training, 57% – in-house consultancy, 80% – classroom training, 13% – participation in conferences. Only 7% think that online training with the use of modern technologies is preferable (See Figure 9).

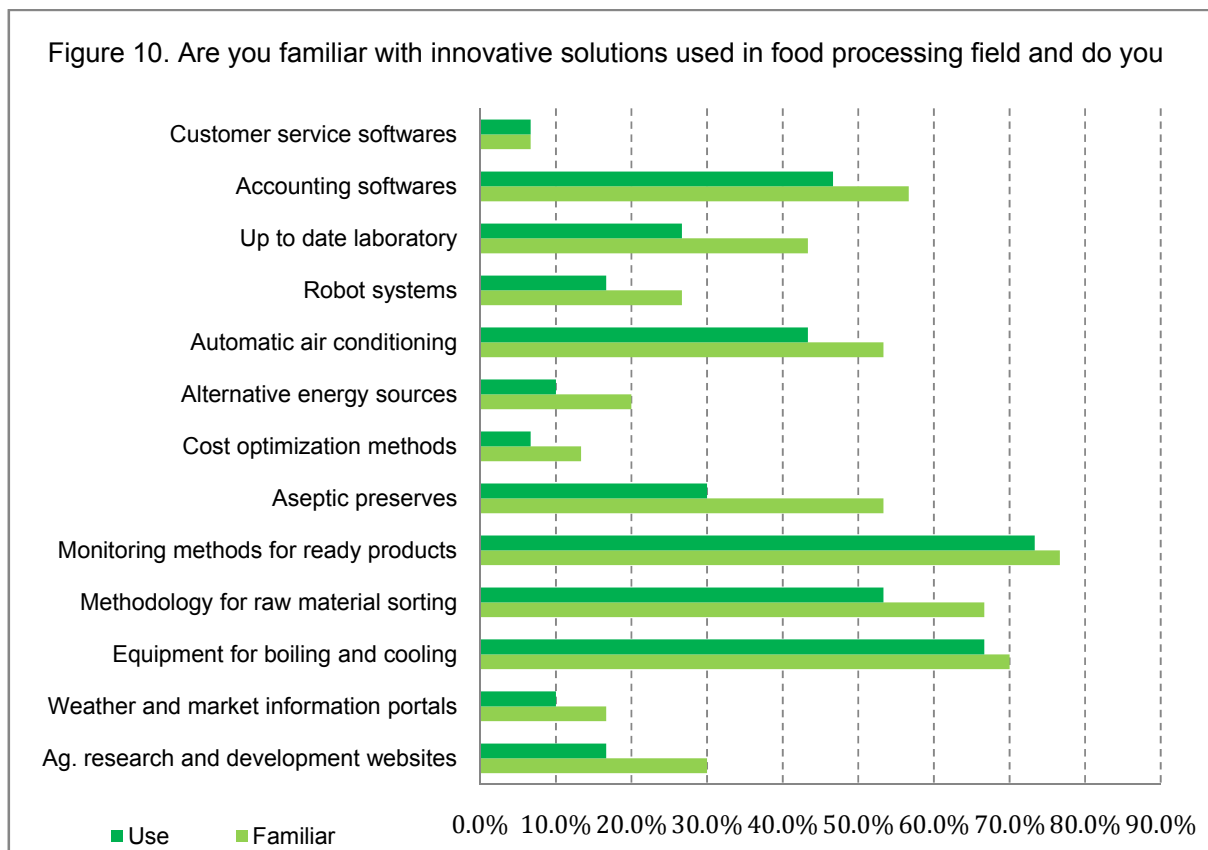
Since the period between December and May is a passive period for many food processors, according to 80% of the interviewed companies, it is reasonable to conduct 3 to 10-day classroom training in this period.

Representatives of many enterprises have emphasized also the necessity to contact and take advice from international experts, foreign specialists.

Currently, the internal demand for many producers and processors basically dictates the requirement of food safety and improved quality. The export volumes that increase year after year as well as the availability of higher quality imported products definitely require clear-cut performance of the existing standards, introduction of internal control systems for quality management and safety, compliance with the requirements of international food safety requirements. In this respect, nearly all who participated in the interview valued inclusion in the training program information on food safety standards, normative

legal acts defining safety indicators in accordance with the recognized international requirements, and Hazard Analysis and Critical Control Points (HACCP) system.

The noticeable progress in the agricultural product processing system and enhanced competitiveness of the products produced are the result of up-to-date technologies in some of the operating and just starting companies, application of effective management system and development of marketing services. However, as the survey results indicate, many business entities lack relevant information on high-tech solutions used in the food processing industry, while in case if they even have some information, these modern technologies are not used in the factories for different reasons, with the financial reason being in the first place.



Source: ICARE Survey.

Thus, 30% of the interviewed companies are aware of websites reflecting agricultural research and development; however only 15% uses the information posted on those websites. Only 16% of the interviewed companies are aware of agricultural portals providing information on weather conditions and market prices; while only 10 % have used it. Seventy percent of the interviewed companies are aware of modern efficient boiling and cooling systems and all of them actually use these systems in their daily production processes. Modern raw product sorting and

selection methodology is known to 68% of the interviewed companies, and only 53% actually use (See Figure 10). In many companies raw product sorting is performed using handwork, which, many think, is the guarantee for producing high quality products. The methods of checking the readymade product are familiar to the majority of the interviewed companies, 77%; about 74% performs the checking process directly in the factory – if not the entire process than at least the physical and chemical analysis for sure. The rest are using the services delivered by Narek CJSC, the State Food Safety Inspection, State Standard Institute, and marz laboratories. Only a few processors, for example, Ararat Food Plant, have a laboratory equipped with up-to-date equipment and deliver service from time to time to other business entities, e.g. to Harzhis OJSC.

About 54% of interviewed companies are aware of aseptic preserves and automated air conditioning and ventilation systems; and 30 to 43 percent are using these systems. All of them would like to introduce these systems; however the main constraint is again the **lack of financial means**. Use of less costly or cost-optimized solutions and alternative energy are known to 14-20% of the interviewed companies and used by 7-10%. Many think that application of the above mentioned solutions is still not essential, and there are more important areas to invest in (See Figure 10):

Introduction of accounting software in the organizations is becoming an imperative requirement of the time. Forty-eight percent of the interviewed companies have already introduced accounting software (companies providing such software: Armenian Programs, Link LLC), while the others are ready to introduce them in future.

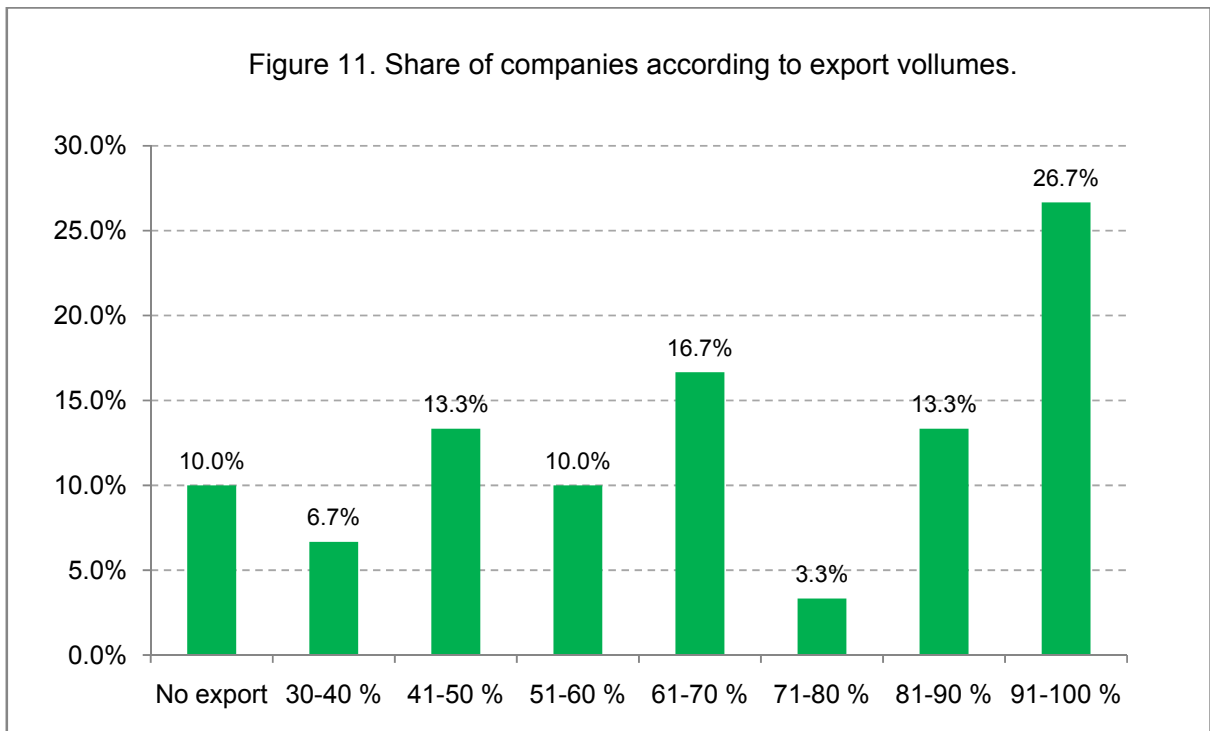
Only a few companies, 7%, are aware of software for customer relationship management – CRM, content management systems – CMS, and electronic trade systems, while even less companies actually use.

Many factories have short and long-run plans to purchase different equipment and high-tech solutions, for which they will need financial and technical assistance. They need varied equipment; therefore we cannot generalize and will present them by companies:

- Harzhis OJSC – fruit press for producing doshab (traditional Armenian thick grape syrup made in special way), homogenizer for producing juice with natural fruit flesh;
- Artur & Edita LLC – microbiological laboratory. New production lines;
- MAGA LLC – pasteurizers, filling line;

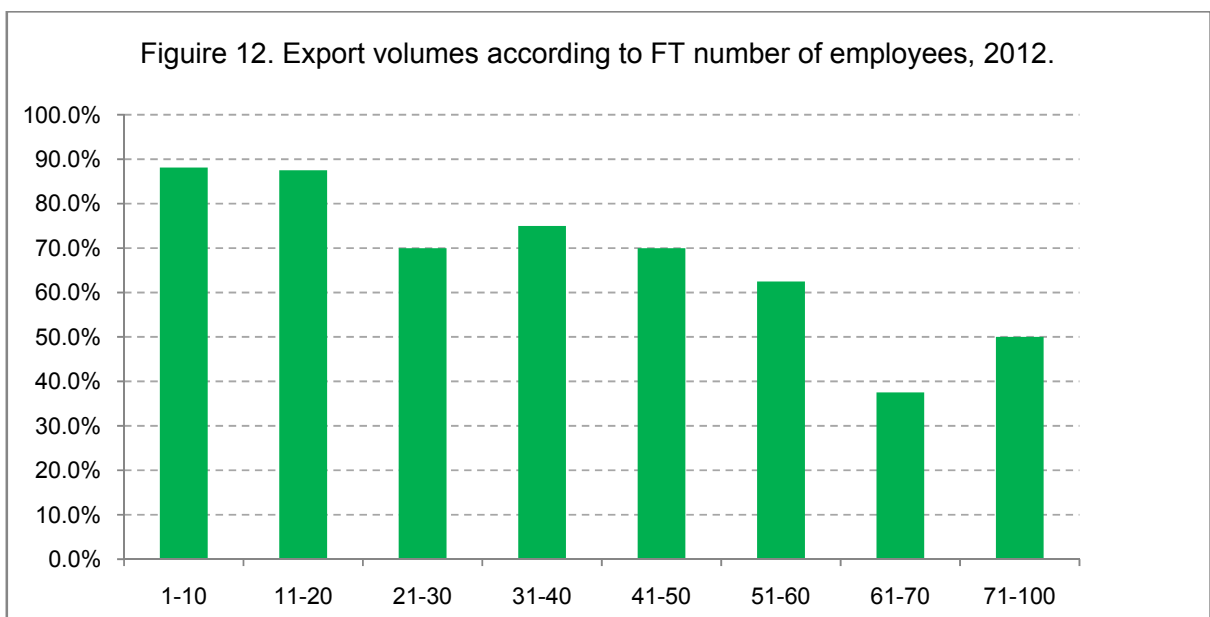
- Byurakn LLC – automated juice line with blending, filling, closing and pasteurizing opportunities; cold processing and immediate aseptic storage line;
- Euroterm CJSC – HACCP system, glass jar evaporation line, tunnel autoclaves, digesters;
- Cheer CJSC – readymade dried fruit washing line;
- Samelon LLC – press for producing sea-buckthorn oil;
- Avshar Prod LLC – aseptic equipment for producing apricot and peach concentrates;
- Conser LLC – autoclave, boiler, closing line;
- Levon LLC – modern laboratory;
- Arega LLC – new production line for producing tin containers, modern filling machines;
- Proshyan Brandy Factory - pH meter, refractometer, sterilizer;
- Ashtarak Kat CJSC – technical assistance in changing the ice cream production line after the season and using them for production of concentrates;
- Tamara Fruit CJSC – production modernization, up-to-date laboratory equipment;
- Shamb LLC – juice production line;
- Eco Garden Production Cooperative - juice production line;
- Nicola International LLC – modern literature;
- Agrar Armavir LLC – vacuum packaging equipment, closing device.

In recent years, the competitiveness of the processed products produced has been enhanced, which has been reflected in the increased export volumes of the canneries. Only 10% of the interviewed companies do not export its produce, 20% exports half of its produce, another 43% exports 80-90 percent of its produce, and the remaining 27% completely export their produce (See Figure 11).



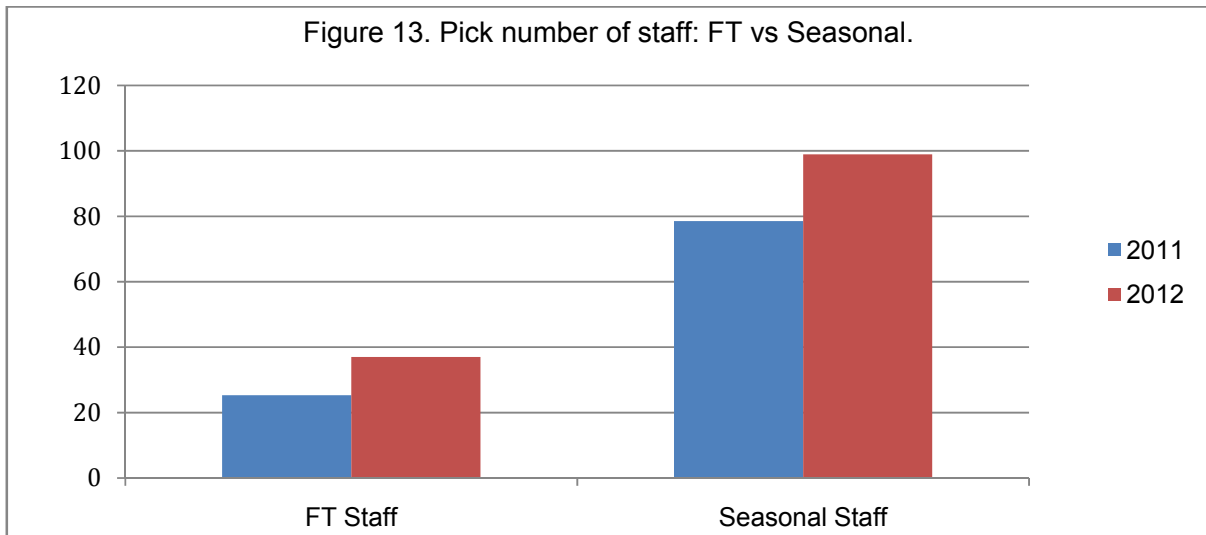
Source: ICARE Survey

Interestingly, the companies exporting most of their produce employ smaller permanent staffs. This speaks for the high level of work and economic productivity in the enterprises (See Figure 12).



Source: ICARE Survey

Compared with 2011, in 2012 increase in the permanent and the seasonal labor force was noticed in the enterprises, which is a positive tendency. Despite the decrease recorded in canned food production in 2012, we can assume that labor force increase has been recorded in juice making factories.



Source: ICARE Survey

Conclusion

Armenian food processing sector is rather diversified and includes nearly all fields of food industry. At the same time, the production capacities available in the mentioned sector contain a great potential for the development of the sector and increase production volumes; currently only 50% of the available production capacities is used and in some companies it varies between 3%-5%. The sustainable development of the food processing sector is very important for the country since the development of crop production and livestock production heavily depend on the processing sector.

Over the last 12 years, fruit and vegetable procurement volumes by processing companies had both ups and downs. The fruit procurement though registered upward sloping curve, however the vegetable procurement curve is downward sloping.

All interviewed companies had food technologists and in 60% of cases the companies had 1 food technology specialist. The majority of these people were the graduates of different years of the Armenian National Agrarian University. A few technologists had other but related academic background (biochemist, etc.).

The vast majority of the companies were satisfied with the performance of their current food technologists. Only 37% of the interviewed companies mentioned about their need for additional food technologist. The remaining companies although having no need of technologists, stated that the issue of succession will be obvious in the coming years as their experts are getting older. All companies stressed the issue of providing high quality education for young people that meets the modern technological requirements. The universities and education policy makers should keep this issue under control. The companies also mentioned that the young specialists abstain from working in the regions and upon finding other jobs they leave the company very quickly.

Most of the companies mentioned about the need of periodically upgrading their technologists' knowledge in the technological processes, food safety standards and in introducing high-tech novelties.

About 60% of the interviewed companies stated that there is a need in training and skill development for food technology specialists in making compotes, marinades, natural canned vegetable production technology, and sugar-concentrated fruit and berry production technology.

The most preferred training method was mentioned classroom format (80%). About 57% would like to get in-house consultancy. The majority of companies would like to be trained in between December and May with up to 10-day based training schedule.

Without any reservation most of the companies valued inclusion in the training program information on food safety standards, normative legal acts defining safety indicators in accordance with the recognized international requirements, and Hazard Analysis and Critical Control Points (HACCP) system.

The survey results showed that the interviewed companies lack relevant information on high-tech solutions used in the food processing industry, while in case if they even had some information, these modern technologies were not used in the factories for different reasons, with the financial reason being in the first place. Almost all surveyed canneries have short and long-run plans to purchase different equipment and high-tech solutions, for which they will need financial and technical assistance.

Below is the list of major problems identified by the canneries during the interviews:

- Limited local market;
- Strong competition from imported brands;
- Strong dependence on the seasonality of agricultural products, lack of a stable flow of fresh fruits and vegetables;
- Unawareness of the opportunities of the market and export procedures;
- Lack of information about Armenian brands in export markets;
- Stable increase of transportation expenses;
- Small volumes of production making the local producer noncompetitive in export markets.
- High level of unused potential;
- Assistance needed in introducing HACCP system;
- Need of canned food quality gradation system;
- Need of new educational standards in preparing food technologists and educate the young specialists in accordance with the international standards;
- Lack of support to processors in establishing partnerships with foreign companies producing equipment and production lines.

References

FREDA 2010 – Study of raw product base for fruit processing in the RA marzes.

Ministry of Agriculture Reports, 2013

NSS 2013, Agricultural Data.

RA Food Security Concept, 2011.

www.minagro.am

www.armstat.am

Annex: Questionnaire

A Survey of Armenian Food Processing Companies
(Canneries and dried fruits and vegetables producers)
Implemented by the ICARE with support from the
Enterprise Development and Market Competitiveness Project (EDMC)
December 2012 - January 2013

Name of processing company: _____
 Type of processing operation (vegetable/fruit cannery, dried fruits): _____
 Location of processing operation: _____
 Date of establishment of company _____
 Name of respondent: _____
 Position of respondent in the processing operation: _____
 Name of interviewer _____
 Date of interview: _____

Note to Interviewer:

Please explain to the respondent and officials at the processing company that:

- *The purpose of the data collection is to improve the understanding of the experiences and needs of Food Processing Companies in Armenia and needs for trainings/technical assistance. Between 30 –35 companies in Armenia will be interviewed between Dec 2012 – Jan 2013.*
- *All information provided will remain confidential.*
- *We would like to interview the person(s) most knowledgeable about and responsible for Technology of Food processing.*
- *Participation in this survey is completely voluntary.*
- *EDMC and ICARE thank all involved for their time and support in this process.*

Section A: Need for training of the food technology specialists.

A1. What is the number of **food processing technologists** in your company?

*Note to interviewer: If **ZERO**, go to Question A4.*

A2. What are the academic qualifications of (up to) the two highest trained individuals of these **food technologists**?

<i>Person 1</i>	<i>Person 2</i>
University degree	University degree
In what field	In what field
From what University	From what University
In what year	In what year

A3. To what extent you are satisfied with the quality of work performed by your food technologists?

- Satisfied Somewhat satisfied Dissatisfied

A4. Do you have additional need for food technology specialists in your company?

Yes	No

A5. Is there need for training and skill development of the food technology specialists of your company based on this targeted areas? [Check all that apply]

Targeted areas for training / consultation	YES /NO	Topic, if possible to specify
Jams, preserves		
Marinades		
Juices		
Dried fruits		
Other (please, specify) _____		

A6. What are the reasonable ways / time /duration for the type of training you are interested in for your company's food processing staff members to be delivered? [check all that apply]

Delivery method	✓	Reasonable time of the trainings	Reasonable duration of the trainings
On-the-job training			
Classroom training			
In-plant consultancy			
Conferences			
Web-based			
other (please, specify) _____			

A7. Is there a need (willingness) for other types of trainings related to international **Food safety standards, HACCP, Food Exporting Procedures**, etc? Please, specify.

Topic of Food Safety Training / Consultation	Reasonable time of the trainings	Reasonable duration of the trainings

A8. Are you familiar with High-Tech solutions used for Food Processing including Technological solutions for your business? [Check all that apply]

Software/Solutions/systems/procedures	Yes/No	We are using in our plant	If Yes, companies providing the solutions/software	If No, constraints (scale)
Agricultural research and development (R&D) websites				
Agro portals for weather and market/price information				
Production technologies for processing, for example:				
- Effective cooking and cooling systems				
- Development of continuous mixing processes				
- Gentle product treatment procedures				
Low-Cost or cost optimization Solutions				
Use of alternative energy				
Air-conditioning system				
Robotic systems / specific equipments				
Modern laboratory equipment				
Accounting Software				
Customer Relationship Management-CRM				
Content Management Systems - CMS				
Electronic Sales Reporting Systems				
Other High Tech solutions (please, specify)				

Scale: 1 Financial resources; 2 Human resources; 3 Time limits; 4 other

A9. Are you planning to introduce (or in the process of) (additional) high tech solutions (software, applications, specific equipments, etc.) in your company and for that purpose you need specific technical assistance? **Please, specify and provide some details:**

Section B: Company profile

B1. Peak number of staff members in 2011 and 2012 (full-time and seasonal):

	Full- time	Seasonal
2011		
2012		

B2. Do you export the production of your company?

Yes	No

B3. If YES, what is the **volume of export as a percentage** of total sales of your company?

Thank you for your time and taking part in this interview!

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