

# **Market Study**

## **for Potato, Vegetable, Milk and Cheese Products in Georgia**



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"ABCO Georgia"*

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# 1. EXECUTIVE SUMMARY

## 1.1. Purpose of the Study

This study was developed by Association of Business Consulting Organization of Georgia "ABCO-Georgia" within the framework of CARE International in Georgia's projects **CIP II** (Community Investment Program) and **SLAR** (Sustainable Livelihood and Regional Planning).

The purpose of this study was to research markets for agricultural produce having economic advantages because of the natural terrain and farming conditions in Samtskhe-Javakheti and Kvemo Kartli.

Objects of the study included the following products:

- **Potatoes** – early, ware and seed;
- **Vegetables** – beetroot, carrots, garlic, onions and tomatoes.
- **Dairy produce** – milk and cheese;

Research was conducted in January-February of 2007, in the following towns of Georgia: Tbilisi, Batumi, Kutaisi, Telavi, Zugdidi, Gori, Rustavi, Akhaltsikhe and Marneuli.

Objectives of the study included identification of the following:

- Existing and available information on the current market and the ways of its dissemination;
- Seasonal wholesale and retail price trends over the last two years (2005 and 2006);
- Estimated volume of total demand and factors possibly influencing the demand and mechanisms of such influence;
- Seasonality factors for each product;
- Market drivers;
- Marketing channels for product to get to the market;
- Existence of any marketing associations and trade associations;
- Storage issues related to the produce and product handling issues;
- Evaluation of the competitiveness of the marketplace.
- Existed legal and regulatory issues;
- Existing potential in adding value in the chain.

## 1.2. Methods Used

### 1.2.1. Development of Questionnaires

Proceeding from the study objectives, at the initial stage there were prepared two types of questionnaires per each type of the researchable product - Questionnaire for "field" research and Analytical questionnaire for business consultants.

### 1.2.2. Piloting and Adopting of Questionnaires

At the next stage, the piloting of both "field" research questionnaire and the analytical questionnaire for business consultants was carried out in result of which various aspects of

the enquiry were further specified. Also, the process of piloting revealed the necessity of conducting the additional two telephone enquiries in order to identify the following:

1. Volume of the annual consumption for each researchable product per capita, by towns;
2. Requirements made by population towards each researchable products and definition of product types to which it gives preference.

### ***1.2.3. Identification of the research objects***

According to the study goals, as objects of the research were identified:

Product suppliers:

- Large wholesalers
- Small wholesalers;
- Retail trade outlets.

Product consumers:

- Population;
- Milk processors/cheese producers

### ***1.2.4. Definition of number of research objects***

According to the target towns, the following number of the research objects (sales outlets) was defined:

- ***In Tbilisi***
  - 4 Agricultural marketplaces;
  - 30 retail trade shops;
- ***In Rustavi***
  - 2 Agricultural marketplaces;
  - 21 retail trade shops;
- ***In Batumi***
  - 3 Agricultural marketplaces;
  - 21 retail trade shops;
- ***In Kutaisi***
  - 4 Agricultural marketplaces;
  - 21 retail trade shops;
- ***In Gori***
  - 2 Agricultural marketplaces;
  - 21 retail trade shops;
- ***In Telavi, Marneuli, Zugdidi, Akhaltsikhe***
  - Farmers marketplaces;
  - 12 of small, medium and large retail shops in each neighborhood of town.

### **1.2.5. Telephone enquiry**

Simultaneously to implementation of the above research, the telephone enquiry of population was conducted on the following:

- Identification of the volume of the product consumption per capita. Total number of 900 respondents were interviewed in all 9 target towns.
- Identification of consumers' opinion regarding the product quality characteristics, packaging and other relevant issues. The enquiry was conducted only in Tbilisi, where the total number of 200 respondents were interviewed.

## **1.3. General Recommendations**

### **Vegetables**

Results of the research have clearly indicated that consumers greatly prefer locally produced agricultural products. At the same time consumers exactly defined as to what kinds of products they give their preference. Therefore farmers should be provided with better access to quality seeds to ensure production of goods that meet the consumer requirements. Simultaneously, significant attention should be paid to introduction of modern technologies in crop sowing and harvesting and to types and quality of those fertilizers and plant protection means that are necessary for quality and effective production.

Currently farmers are forced to store the harvested goods in their own rather inefficient storage facilities where degree of the product spoilage is quite high. After some months, a faded product that by this time has lost its "sellable appearance", fails to compete with the imported well-stored similar products and therefore can not be sold at the appropriate price. Proceeding from the above, the phase of storing of the received harvest is very important. The matter is that, in Georgia, currently there are no warehouses equipped with modern climate control and ventilation systems, equipment for cleaning, sorting and calibration of produce, etc.

Therefore, we consider it as essential to establish the collecting centers nearby localities of agricultural goods production.

This, will allow farmers to more efficiently conduct their business, increase production effectiveness and what is more important, they will have a guaranteed opportunity to deliver and sell part of his produce to collecting centers.

At the same time, collection centers will protect market from price fluctuations resulted from product deficit.

Considering that consumers give their open preference to locally produced agricultural goods, it is necessary to bring to effect the law which will oblige the seller to indicate the product producer's name on the packaging label. This will put local products in preferential position as consumers will easily differentiate local and imported products.

### **Milk**

Regarding milk, we think that most optimal way will be to establish milk collection centers together with such large dairy producer companies as "JSC Sante" and "Soplis Nobati" through financial co-participation with these organizations. It can also be an option to link milk collection centers with small cheese processing enterprises.

## **2. GOALS, OBJECTIVES AND METHODOLOGY OF THE POTATO, VEGETABLES, MILK AND CHEESE MARKET STUDY IN GEORGIA**

In January-February of 2007, "ABCO-Georgia" implemented a market study with purpose to research market for potato, vegetables, milk and cheese products in Georgia. The research was conducted in the following towns of Georgia: Tbilisi, Batumi, Kutaisi, Telavi, Zugdidi, Gori, Rustavi, Akhaltsikhe and Marneuli.

### **2.1. Purpose of the Study**

The purpose of this study is:

- a) To research markets for agricultural produce having economic advantages because of the natural terrain and farming conditions in Samtskhe-Javakheti and Kvemo Kartli;
- b) To identify the marketing and relevant added value chains for the products and to identify opportunities and obstacles to market access for small producers;
- c) To identify timely and useful market and price information systems accessible to small farmers or farmer groups;
- d) In the event that such market information systems do not exist, make and evaluate alternative proposals for the establishment of such sustainable information systems;
- e) To produce viable strategies and plans for improving market access for these small producers.

### **2.2. Objects of the Study**

Objects of the study included the following products:

- **Potatoes** – early and ware;
- **Potatoes** – seed;
- **Vegetables** – high value vegetables including garlic, onions, tomatoes, beetroot, carrots.
- **Dairy produce** – milk and cheese;

### **2.3. Objectives of the Study**

Objectives of the study included identification of the following:

- Existing and available information on the current market and the ways of its dissemination; Timeliness, accuracy and usefulness of the existed information; Possibility of improving the existing system to make it more accessible to small farmers or farmer groups.
- Seasonal wholesale and retail price trends over the last two years (2005 and 2006), and available price information that could be interpolated for earlier years.



- Estimated volume of total demand; Factors possibly influencing the demand and mechanisms of such influence; Possible changes in demand over time and circumstances that may contributing determine such changes.
- Volume of the produce in stock at the market over that period.
- Seasonality factors (periods of product harvesting, winter stock preparation, canned food production, religious fasting observation by population, etc.) for each product.
- Market drivers - factor or factors controlling and/or influencing the selling and the buying process.
- Marketing channels for product to get to the market; Places where products are sold; Major players, wholesalers and middlemen active on the market; Place of supply;
- Existence of any marketing associations and trade associations; Existence of any form of centralized procurement.
- Storage issues related to the produce; Existed storage infrastructure; Estimated volume of post-harvest losses.
- Product handling issues; Existed technology implications and/or machinery requirements; Existed packaging implications.
- Product grading and quality factors; Influence that these factors are making on prices, sales and markets.
- Evaluation of the competitiveness of the marketplace.
- Existed legal and regulatory issues – government certification, phytosanitary requirements, etc.
- Possibilities of identification of any profitable market niches.
- Existing potential in adding value in the chain.

## **2.4. Methods Used**

### ***2.4.1. Development of Questionnaires***

Taking into consideration that products under study by their characteristics differ from each other, it was thought as expedient to develop separate questionnaires per each type of products in order to: (a) simplify the work of the assigned consultants; (b) make the collected information more clear and distinguishable for further analysis.

The questionnaires were prepared proceeding from the study objectives and consisted of two parts for each type of products:

- 1) Questionnaire for "field" research;
- 2) Analytical questionnaire for business consultants.

### **2.4.2. Piloting and Adopting of Questionnaires**

Based on the existed practice, a piloting of both the questionnaire for “field” research and the analytical questionnaire for business consultants has been conducted in result of which, various aspects of the enquiry were specified and certain questions were better formulated (see the questionnaire forms in attachments B and C). Through the questionnaire piloting process there was revealed a necessity of determining during the research the annual volume of consumption of the target products as well as of determining the consumers’ preferences per each product i.e. identifying as to what type of products consumers prefer and what are their requirement criteria for these products.

Accordingly, two additional telephone enquiry questionnaires were developed in order to define:

1. The volume of annual consumption of each target product per capita, by towns;
2. Requirements made by population towards each type of products and to what products it gives preference

### **2.4.3. Definition of Criteria**

#### **2.4.3.1. Division of Towns by Categories**

Considering that target towns where the research was to be implemented differed from each other by population size, they were divided into 3 categories:

- 1) Tbilisi
- 2) 1<sup>st</sup> Category towns:
  - Batumi;
  - Kutaisi;
  - Gori;
  - Rustavi.
- 3) 2<sup>nd</sup> Category towns:
  - Telavi;
  - Marneuli;
  - Zugdidi;
  - Akhaltsikhe.

#### **2.4.3.2. Identification of the research objects**

As market consists of two parties – buyers and sellers, the research object was accordingly divided according to this characteristic:

- Suppliers of the target products;
- Consumers of products.

As product suppliers are considered:

- Large wholesalers
- Small wholesalers;
- Retail trade outlets.

As consumers of products are considered:

- Population;
- Milk processors;
- Cheese producers

### 2.4.3.3. Definition of number of research objects

Based on the above categorization of target towns the following number of objects to be researched (marketplaces, wholesale and retail trade outlets) was determined:

Target Towns	Number of research objects interviewed			
	Markets	Wholesalers	Retail traders operating at marketplaces	Retail trade outlets (shops)
<b>Tbilisi</b>	<b>4</b>	<b>20</b>	<b>8</b>	<b>30</b>
- Batumi	2	5	5	21
- Kutaisi	4	5	5	21
- Gori	2	5	5	21
- Rustavi	2	5	5	21
<b>Total - in 1<sup>st</sup> Category Towns</b>	<b>8</b>	<b>20</b>	<b>20</b>	<b>84</b>
- Telavi	1	All	5	12
- Marneuli	1	All	5	12
- Zugdidi	1	All	5	12
- Akhaltsikhe	1	All	5	12
<b>Total - in 2<sup>nd</sup> Category Towns</b>	<b>4</b>		<b>20</b>	<b>48</b>
<b>Total</b>	<b>16</b>	<b>40 +</b>	<b>48</b>	<b>162</b>

Particularly, the following sales outlets were studied:

- ***In Tbilisi***

- Central Supermarket (so called "Desertirebi" marketplace);
- "Eliava" marketplace;
- "Navtlughi" marketplace;
- "Digomi" marketplace.

and retail trade shops:

- in Didube-Chugureti district – 6 units;
- in Vake-Saburtalo district – 6 units
- in Isani-Samgori district – 6 units;
- in Gldani-Nadzaladevi district – 6 units;
- in Mtatsminda-Krtsanisi district – 6 units;

- ***In Rustavi***

- So called "Stambulis bazari" marketplace;
- So called "Dzveli bazari" marketplace;

As well as total 21 of small, medium and large retail shops in each neighborhood of town.

- ***In Batumi***

- Central marketplace (Bakuri Ltd);
- Local Marketplace (Ajara Ltd);
- Wholesale Trade Center (JSC Vachrobtransi);

As well as total 21 of small, medium and large retail shops in each neighborhood of town.

- ***In Kutaisi***

- "Green" Marketplace (Pari Ltd);
- "Old Marketplace of Kutaisi" (Ninoshvili marketplace)
- "Avtokarkhnis" (Car factory) marketplace (+1 Ltd);
- "Kechi" Marketplace (Imereti Ltd);

As well as total 21 of small, medium and large retail shops in each neighborhood of town.

- ***In Gori***

- Gori Farmers' Marketplace;
- Wholesale Trade market place (Georgika Ltd);

As well as total 21 of small, medium and large retail shops in each neighborhood of town.

- ***In Telavi, Marneuli, Zugdidi, Akhaltsikhe***

- Farmers marketplace;

As well as total 21 of small, medium and large retail shops in each neighborhood of town.

- Telephone enquiry with purpose of identifying the volume of product consumption per capita, it was conducted in all 9 target towns and in each district of these towns there were interviewed 100 respondents – a total of 900 respondents.
- Telephone enquiry on product quality characteristics, packaging and other issues was conducted only in Tbilisi, in all five districts of the town. In each district there were proportionally interviewed 40 respondents – a total of 200 respondents.
- The structure of origin of products present at Georgian markets according to countries of their origin was determined on the basis of summarizing and analyzing the data on volumes of imported products and on volume of annual consumption in Georgia.

#### ***2.4.3.4. Additional Information***

During the period of the study, the exchange rate between Georgian Lari and the foreign currency was as follows:

1 USD	=	1.70 GEL
1 EURO	=	2.24 GEL
1 £	=	3.3 GEL

### 3. RESULTS OF RESEARCH

#### 3.1. Study Results By Products

##### 3.1.1. Potato

##### 3.1.1.1. Key Highlights of the Secondary Data

Early and ware potatoes traditionally play the major role in the diet of Georgia and other countries of the former Soviet Union. "Assessment of Market Integration in Georgian Agriculture" (Geomar International, Accord Associates, Canadian Center for International Studies and Cooperation, Main Report, November 2004) presents the most comprehensive report indicating the market condition of early and ware potatoes in Georgia. The above report illustrates that potato production varied from 300,000 to 400,000 tons per year for the period from 1997 to 2002.

##### *Potato Harvesting Statistics*

Crop	Total Annual Harvest (in tons)					
	1997	1998	1999	2000	2001	2002
Potatoes	353,000	250,000	443,000	302,000	422,000	415,000

According to the above report, from the total potato produced, about 70,000 - 80,000 tons are early potatoes which are grown mostly in Bolnisi and Marneuli and ware potatoes, grown in Tsalka, Akhalkalaki, Akhaltsikhe and Adigeni districts (South Georgia). Harvesting period is from August till September and the sales season - from December till April. Selling price varies from 0.40 GEL per kg to 0.50 GEL per kg. Usually, the production is stored in underground stockrooms.

##### *Potato Harvest by Regions (Tons)*

<i>Regions:</i>	<b>2001</b>	<b>2002</b>
- Samtskhe-Javakheti	169,933	173,189
- Kvemo Kartli	144,504	141,878
- Kakheti	38,004	21,902
- Ajara	13,918	29,249
- Mtskheta-Mtianeti	18,987	20,011
- Shida Kartli	13,461	11,691
<b>Total Georgia</b>	<b>422,217</b>	<b>415,341</b>

According to "Assessment of Market Integration in Georgian Agriculture" report, Tbilisi, capital of Georgia, presents the main market for potato. Overall, there are four major markets out of ten available in the town. Other local markets are available in Batumi, Kutaisi and Rustavi. In addition, there are smaller regional markets in Gori and Marneuli as well.

Retail prices on potatoes during last four years increased up to 12 %, which is faster than the inflation rate (4-5% annually). As for consumption volume, it increased from 45 kg per capita (1985) to an average of 51 kg per capita (in 2001-2003). Price and consumption increase, coupled with the population reduction caused by outflow and increased mortality, confirms the increasing demand for this commodity at the local market.

According to the same document, in 2003, a farm gate price of kg of early potato equaled to 0.35 GEL. In Georgia, retailing price of potato is about 0.60 GEL per kg at open market and 0.85 GEL per kg in supermarkets. The farmers either hire transportation means to deliver the product themselves to the market, or traders purchase the potato directly at farms.

### 3.1.1.2. Market Potential

Based on processing and analyzing of information received through the conducted enquiry, consumption of potato according to target towns is as follows:

Town	Type of Potato	Consumption			
		Annually Kg./ per Capita	Annually (MT)	Monthly (MT) *	Daily (MT)
Tbilisi	Ware potato	62.8	69,102.0	7,678.0	255.9
	Early potato	20.9	23,034.0	7,678.0	255.9
Telavi	Ware potato	22.9	640.6	71.2	2.4
	Early potato	7.6	213.6	71.2	2.4
Gori	Ware potato	66.8	1,869.0	207.7	6.9
	Early potato	22.3	623.0	207.7	6.9
Akhaltzikhe	Ware potato	45.4	1,270.4	141.2	4.7
	Early potato	15.1	423.4	141.1	4.7
Kutaisi	Ware potato	51.3	9,588.0	1,065.3	35.5
	Early potato	17.1	3,196.0	1,065.3	35.5
Batumi	Ware potato	47.4	5,782.8	642.5	21.4
	Early potato	15.8	1,927.6	642.5	21.4
Zugdidi	Ware potato	30.0	2,066.8	229.7	7.7
	Early potato	10.0	688.9	229.7	7.7
Rustavi	Ware potato	72.6	5,445.8	605.1	20.2
	Early potato	24.2	1,815.0	605.0	20.2
Marneuli	Ware potato	51.6	1,290.5	143.4	4.8
	Early potato	17.2	430.0	143.3	4.8

\* Early potato is mainly consumed during 3 months and ware potato - over the remaining 9 months of the year.

Through the analysis it was also identified that approximately 10-15% of the consumer demand on the product existed in the towns is satisfied through non-commercial supply from villages (relative to relative, friend to friend, etc.). That is, part of the town population owns land plots in villages/countryside where they grow these products or have relatives there who periodically send them these products. The remaining 85-90% of the demand make the actual market potential.

The average quantity of potato in stock at the marketplace during the day and according to towns is the following:

Towns	Ware potato (MT) (September-middle of May)
- Tbilisi	2,047.5
- Telavi	511.9
- Gori	23.7
- Akhaltzikhe	4.7
- Kutaisi	69.2
- Batumi	13.8
- Zugdidi	9.4
- Rustavi	9.4
- Marneuli	284.1

<b>Towns</b>	<b>Early potato (MT)</b> (middle of May – August)
- <b>Tbilisi</b>	511.9
- <b>Telavi</b>	4.7
- <b>Gori</b>	13.8
- <b>Akhaltzikhe</b>	9.4
- <b>Kutaisi</b>	71.0
- <b>Batumi</b>	42.1
- <b>Zugdidi</b>	15.3
- <b>Rustavi</b>	40.3
- <b>Marneuli</b>	4.8

As it was identified, maximum quantity of the product in stock at the marketplace is during the period between Friday and Sunday which is approximately by 20-40% above than average indicator. Accordingly, during other days of the week the volume of potato on the market is smaller.

It is to be noted that retail traders carry out supplementing of products on the market at a daily basis, small wholesalers do it 7-10 times per month and large wholesalers – once in every 2-3 weeks. Not much volumes of products are in stock at marketplaces of Akhaltsikhe and Marneuli as these markets are located close to the localities of their production.

Replenishment of wholesaler markets for early potato is carried out once in every 2-3 days.

The percentage distribution of the annual product consumption by towns is the following:

<b>Towns</b>	<b>%</b>
- Tbilisi	71.2%
- Telavi	0.7%
- Gori	1.9%
- Akhaltsikhe	1.3%
- Kutaisi	9.9%
- Batumi	6.0%
- Zugdidi	2.1%
- Rustavi	5.6%
- Marneuli	1.3%

The table above clearly indicates that Tbilisi occupies major share in potato consumption.

Considerable shares in the product consumption also belong to towns of Kutaisi, Batumi and Rustavi.

Tbilisi is a major reseller of potato to the other adjacent markets (towns/villages like Rustavi, Mtskheta, etc.)

### 3.1.1.3. Product Import

Table below represents product import by months, quarters, product prices and importer countries:

Period	Quantity (Kg)		Price (Gel/Kg)	
	2005	2006	2005	2006
January	385,290	21,040	0,41	0,26
February	1,021,513	0	0,30	-
March	1,154,260	0	0,29	-
April	1,398,221	19,500	0,31	0,46
May	410,313	254,632	0,34	0,49
June	132,004	47,916	0,27	0,46
July	14,063	610,445	0,28	0,43
August	14,063	89,500	0,27	0,40
September	5,000	1,647,590	0,30	0,40
October	51,683	4,898,080	0,27	0,40
November	37,000	7,581,603	0,30	0,40
December	35,500	8,338,408	0,35	0,42
<b>Total</b>	<b>4,658,910</b>	<b>23,508,714</b>	<b>0,31</b>	<b>0,41</b>

Period	Quantity (Kg)		Price (Gel/Kg)	
	2005	2006	2005	2006
1st Quarter	2,561,063	21,040	0,31	0,26
2nd Quarter	1,940,538	322,048	0,32	0,52
3rd Quarter	33,126	2,347,535	0,28	0,42
4th Quarter	124,183	20,818,091	0,30	0,26

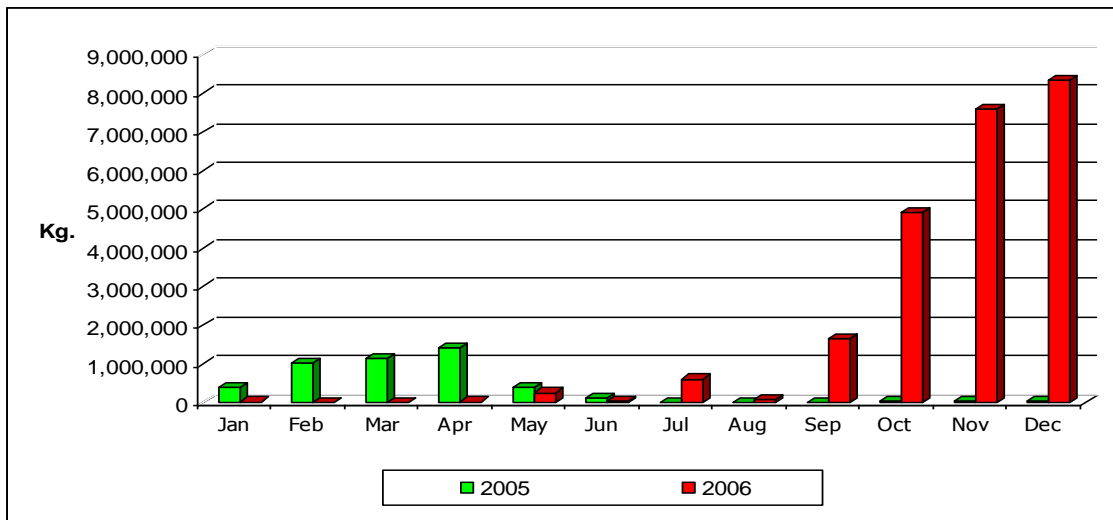
Importer Country	2005		2006	
	Kg.	%	Kg.	%
Greece	1,000	0.02%	0	-
Azerbaijan	35,556	0.76%	0	-
Russia	56,620	1.22%	0	-
Turkey	4,565,635	98.00%	23,508,714	100%

Data given in the table is based on information provided by customs office. As for price indicated in the table, it is a price of 1 kg of product after the customs clearance (DDP price).

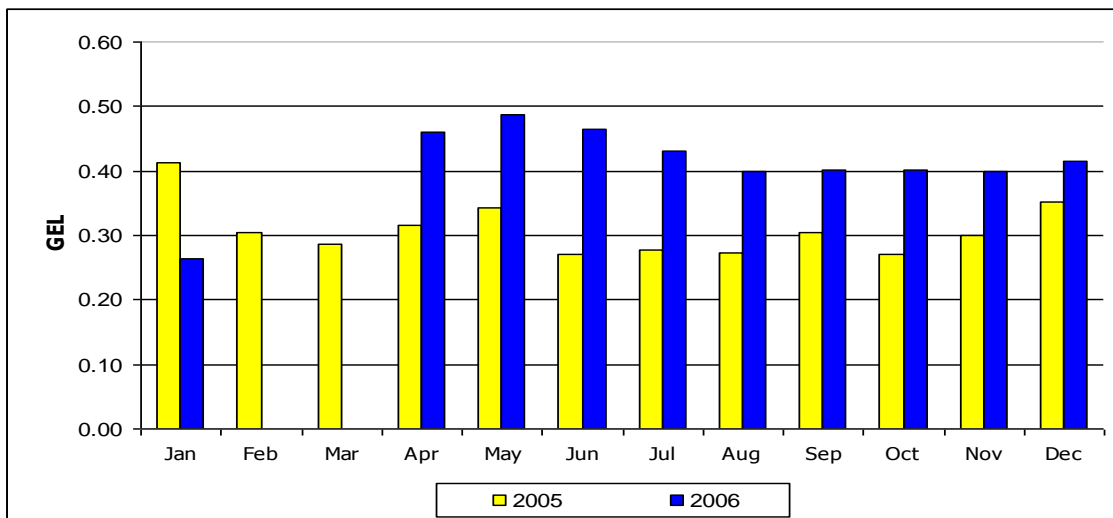
Compared to year 2005, potato import volume in Georgia has increased by almost 5 times and the DDP price of imported potatoes has increased by approximately 35 %. This is partially connected with the last year's poor harvest in Georgia. Due to draughty last summer and other hindering circumstances, local farmers received only about half of the planned volume of yield. For instance, in Akhalkalaki and Ninotsminda districts where they traditionally grow 18-20 tons of potato per 1ha, last year's harvest averagely made up for 10-12 tons per ha.



**Dynamics of Product's Import in 2005 and 2006 (by Months)**



**Dynamics of Imported Product's Price in 2005 and 2006 (by Months)**



**3.1.1.4. Product Seasonality**

The study has revealed that in general, seasonality has almost no impact on potato consumption.

Table below represents information about the origin of products in stock at the market in 2006, by months.

**Origin of products in stock at the market by months of 2006, according to producer countries**

Period	Local Produce	Turkish	Azerbaijani
- January	90%	10%	0%
- February	90%	10%	0%
- March	90%	10%	0%
- April	80%	10%	10%
- May	40%	10%	50%
- June	40%	0%	60%
- July	100%	0%	0%
- August	90%	10%	0%
- September	80%	20%	0%
- October	50%	50%	0%
- November	10%	90%	0%
- December	10%	90%	0%

In the years of good harvest, volume of Georgian produce satisfies almost 90% of the market demand. During the years of average yield, the relatively more significant volume of import comes on months of February, March and April because by this period, due to poor storing conditions, quality of local potato drastically deteriorates. During other months, the volume of imported potato is insignificant and does not make impact on general condition of the market. Almost the whole quantity of the imported potato comes from Turkey.

In such lean years as was 2006, import from Turkey increases about 5 times and it starts from September. Table below shows that during the period of November-December, volume of import made up to 7,5 and 8,3 thousand tons, respectively, which equals to almost 90-95% of the total demand existed in the country.

**3.1.1.5. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006**

*(Gel / Kg.)*

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	0.60	0.45	0.70	0.60
	May – Aug.	0.52	0.39	0.60	0.55
	Sept. – Nov.	0.52	0.39	0.85	0.60
Batumi	Dec. – Apr.	0.35	0.26	0.80	0.60
	May – Aug.	0.37	0.28	0.78	0.59
	Sept. – Nov.	0.35	0.26	0.77	0.57
Kutaisi	Dec. – Apr.	0.47	0.35	0.83	0.62
	May – Aug.	0.44	0.33	0.88	0.66
	Sept. – Nov.	0.52	0.39	0.95	0.72
Gori	Dec. – Apr.	0.60	0.40	0.80	0.70
	May – Aug.	0.60	0,45	1.00	0.80
	Sept. – Nov.	0.70	0,45	1.00	0.70

<b>Telavi</b>	Dec. – Apr.	0.50	0.40	0.80	0.70
	May – Aug.	0.45	0.35	0.90	0.70
	Sept. – Nov.	0.55	0.45	0.80	0.70
<b>Marneuli</b>	Dec. – Apr.	0.50	0.40	0.70	0.50
	May – Aug.	0.40	0.30	0.80	0.60
	Sept. – Nov.	0.50	0.35	1.00	0.80
<b>Rustavi</b>	Dec. – Apr.	0.53	0.40	0.65	0.49
	May – Aug.	0.44	0.33	0.73	0.55
	Sept. – Nov.	0.62	0.47	0.99	0.74
<b>Tbilisi</b>	Dec. – Apr.	0.50	0.35	0.65	0.50
	May – Aug.	0.60	0.40	0.73	0.55
	Sept. – Nov.	0.60	0.45	1.00	0.75
<b>Akhaltzikhe</b>	Dec. – Apr.	0.51	0.38	0.68	0.51
	May – Aug.	1.45	1.08	1.49	1.12
	Sept. – Nov.	0.46	0.34	0.71	0.53

In 2006, potato price was determined by products imported from Turkey, since local production satisfied the existed demand only up to 10-15% (mostly for ware potatoes). At the same time it is noteworthy that compared to 2005, prices of products imported from Turkey have increased by approximately 27-28%. What regards years when harvest is good, potato prices on market during such periods are determined by volume of local production.

### **3.1.1.6. Factors Influencing Sales**

In order to identify factors that influence the sales of product it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	<b>Seasonality</b>	<b>Quality</b>	<b>Purchase Capacity of population</b>	<b>Holidays</b>	<b>Price</b>	<b>Competition</b>	<b>Not Having Impact</b>
- <b>Zugdidi</b>	5	9	1	0	1	0	0
- <b>Batumi</b>	4	10	25	0	4	0	0
- <b>Kutaisi</b>	2	9	22	2	0	0	0
- <b>Gori</b>	0	3	0	13	0	3	3
- <b>Telavi</b>	4	7	2	0	0	0	0
- <b>Marneuli</b>	0	6	2	0	5	0	0
- <b>Rustavi</b>	5	16	2	0	4	0	0
- <b>Tbilisi</b>	5	9	4	4	15	0	1
- <b>Akhaltzikhe</b>	1	7	0	0	2	0	4
<b>Total</b>	<b>26</b>	<b>76</b>	<b>58</b>	<b>19</b>	<b>31</b>	<b>3</b>	<b>8</b>
<b>Percentage</b>	<b>11.8%</b>	<b>34.4%</b>	<b>26.2%</b>	<b>8.6%</b>	<b>14.0%</b>	<b>1.4%</b>	<b>3.6%</b>

The table indicates that, by opinion of the product sellers, main factors that influence sales of potato are, quality – 34,4%, purchase capacity of population -26,2%, price -14% and seasonality -11,8%. Other factors, according to the interviewed, are not having significant impact on sales.

Despite the bad harvest in 2006, there was a visible relative abundance of early potato on the market that was brought about by closure of Russian markets for Georgian produce.

### **3.1.1.7. Population Requirements Towards The Product And Quality Preferences**

In order to determine as what are quality requirements of population towards potato, special telephone enquiry was carried out, during which 200 respondents were interviewed in Tbilisi. The enquiry provided the following results:

<b>Formulated Demand</b>		<b>Number of Answers</b>	<b>%-Distribution</b>
<b>Skin structure</b>	<i>Smooth</i>	160	80.0%
	<i>Rough</i>	40	20.0%
<b>Skin thickness</b>	<i>Thin</i>	179	89.5%
	<i>Thick</i>	21	10.5%
<b>Skin color</b>	<i>Yellow</i>	63	31.5%
	<i>Red</i>	71	35.5%
	<i>Dark brown</i>	66	33.0%
<b>Tuber shape</b>	<i>Round</i>	19	9.5%
	<i>Oval</i>	82	41.0%
	<i>Oblong</i>	99	49.5%
<b>Tuber size</b>	<i>Small</i>	0	0.0%
	<i>Medium</i>	191	95.5%
	<i>Large</i>	9	4.5%
<b>Core color</b>	<i>Yellow</i>	101	50.5%
	<i>White</i>	99	49.5%
<b>Taste</b>	<i>Sweetish</i>	23	11.5%
	<i>Neutral</i>	177	88.5%
<b>Origin</b>	<i>Local</i>	182	91.0%
	<i>Imported</i>	18	9.0%

Results of the conducted enquiry clearly indicate that consumers give their preference to:

**Locally produced potato of medium size, oval or oblong tuber shape, neutral taste , with thin and smooth skin.**

As for early potato, preference is given to potato that has white core and is easily cleareable from skin.

### **3.1.1.8. Potential for Adding Value to the Product**

Population gives preference to calibrated product of Georgian origin. Therefore it should be possible to establish small collection centers at locations of the production where ware potato will be picked out, sorted, calibrated and packed into individual 1 and 3 kg nets. As for early potato, interviewing of consumers revealed that population does not consider expedient its selling in a packed form.

Provided that farmers select product varieties with appropriate characteristics and also purchase quality seeds, product sales will become much more easier.

### ***3.1.1.9. Profitable Market Niche***

As market niche for potato is considered substitution of its import with local production. About 10% of total potato consumption in Georgia during the good harvest years comes on imported product. This import is mainly carried out in early spring time and it occupies the most expensive market niche due to high level of storing and excellent quality of the imported potato. During the bad harvest years, the share of imported potato on the market reaches 90%.

Introduction of modern technologies in potato storing would allow farmers to appropriately spread the product realization period over optimal months (February-March) and thus increase their revenue. The conducted enquiry indicated that major part of population prefers locally produced potato. Therefore, local farmers, provided they succeed in selection of varieties with appropriate characteristics, purchasing of quality seeds as well as in improving product storing conditions, there will be a possibility for them to substitute the imported product on the market with own local production.

### **3.1.2. Seed Potato**

#### **3.1.2.1. Key Highlights of the Secondary Data**

According to the report of "MADI", there is no significant amount of elite seed potatoes produced in Georgia. Overall, there is need of about 70,000 – 90,000 tones of potato seed annually. However, local suppliers do not produce more than 600 – 700 tones of potato seed annually. Therefore, the market has tremendous need in imported seed potatoes. According to the above report, about 70% of seeds used in Georgia are imported from Russian Federation, about 10 % comes from Armenia, less than 1 % is imported from European Union and only 20 % are produced locally. At the same time it is important to mention that only the seed potato imported from European Union is certified to meet international standards.

#### **3.1.2.2. Market Potential**

Based on processing and analyzing of information received through the conducted enquiry, from among the researched towns, demand on seed potato was apparent only in Akhaltsikhe and Marneuli. In the rest of the towns there is no demand for this specific product, as in these regions they do not practically grow potato or it is only grown on homestead plots of the population for what it applies potato seeds of uncertain origin and reproduction. It is to be noted that closing of the Russian market for early potato significantly reduced demand for seed potato in Marneuli, as in 2007 only 50 hectares are supposed to be sown there. While researching, only on marketplaces of Marneuli and Akhaltsikhe we saw products named to be seed potato, which also were of an uncertain sort, origin and reproduction. The price of such "seed potato" fluctuated from 40 to 60 tetris and market stock did not exceed 300 kilograms. Additional research was carried out in Bolnisi region and there it is considered to plant early potato on the area of about 3000 ha which almost reaches the volume of the last year.

The total potential demand on seed potato in Akhlatsikhe district makes around 4,770 tons a year. In Arali and Skhvilisi, 100-120 tons of seed potato are produced which is sold on the spot, as there is a great demand for high quality potato seeds. The rest of the demand is filled up with small tuber potato of uncertain reproduction considered to be seed potato, which is applied as seeds. This makes 4,677 tons, from which, 32 tons are sold at the wholesale market of Akhaltsikhe, 530 tons are sold at location of production and approximately 4,300 tons of seed potato are kept by producers themselves for sowing on private plots for the next year. Non-governmental organizations introduce new varieties of seed potato, however the share of these quality seed potatoes does not exceed 1% of the total amount.

In Marneuli district, the demand for seeds is approximately 175 tons, almost 50 tons from which are delivered from Tsalka, the rest of it falls upon the so called "seed potato" of uncertain origin.

The total need for seed potato in Bolnisi district adjutant to Marneuli equals to 9,000 tons. In Autumn of 2006, 200 tons of seed potato of "Nevsky" variety was imported from Russia (via Azerbaijan). About 500 tons of seed potato was delivered from Tsalka region. Some unspecified amount of seed potato is planned to be delivered from Armenia. We assume it to be not more than 100 tons. The remaining demand of 8,000 tons will be filled with seed materials of uncertain origin.

### **3.1.2.3. Product Import**

In 2007, the following organizations carried out the seed potato import:

- Mercy Corps : 50-75 tons;
- Environment and Analytics : 50 tons;
- CARE : 37 tons;
- ACH : 30 tons;

### **3.1.2.4. Product Seasonality and Factors Influencing Sales**

There are actually two trade seasons for seed potato – the first continues from February till April, but as local producers have no conditions for storage of excess product, seed potatoes are taken out to the market in autumn as well, in October-November. This would not have happened if necessary storage conditions were ensured, that is, a farmer would sell the product in the appropriate season.

In spring, 45% of the total product and in February to April, 55% of the total product volume is sold. In autumn (October- November) a great portion of seed potato is sold at wholesale in the localities of production.

Considering all the above mentioned, the situation is as follows: in spring, only 45% of the total production and in autumn – 55% of it is sold.

In autumn of 2005, price of the locally produced seed potato was approximately 35-40 tetris and in spring of 2006, prices equaled to about 55-60 tetris.

As for autumn of 2006, local seed potato's prices varied between 75-90 tetris and since spring of 2007, they have been ranging within 1,20 - 1,30 GEL.

Today, the existing irrigation network functions at only 30% of its capacity. Repairing of irrigation schemes will result in increasing of demand for seed products and improvement of farmers' economical condition so that they can purchase seed potato of the best quality.

Return to the Russian market will make a significant influence on demand.

### **3.1.2.5. Potential for Adding Value to the Product**

There is a potential of adding value to the product if control over the process of potato seed production is ensured so that farmers observe all the technological standards. This may become possible only if there will exist an organization (company) which controls the whole technological process of production, conduct the product certification and eventually gives the product right to use the company trade-mark

### **3.1.2.6. Market Niche**

As market niche for seed potato is considered to be the existed almost 95% deficit of high quality seed potato. Despite that there actually are farmers who are engaged in seed potato production, they however can meet only 4-5% of the total demand. In 2006-2007 there is a great deficit of seed potato what naturally results in creation of free market niche.

### **3.1.3. Beetroot**

#### **3.1.3.1. Market Potential**

Based on processing and analyzing of information received through the conducted enquiry, consumption of beetroot according to target towns is the following:

<b>Town</b>	<b>Consumption</b>			
	<b>Annually Kg./ per Capita</b>	<b>Annually (MT)</b>	<b>Monthly (MT)</b>	<b>Daily (MT)</b>
<b>Tbilisi</b>	16.4	18,041.0	1,503.4	50.1
<b>Telavi</b>	1.9	53.9	4.5	0.2
<b>Gori</b>	8.7	435.3	36.3	1.2
<b>Akhaltzikhe</b>	5.2	127.0	10.6	0.4
<b>Kutaisi</b>	4.8	897.1	74.8	2.5
<b>Batumi</b>	3.0	366.0	30.5	1.0
<b>Zugdidi</b>	7.0	482.3	40.2	1.3
<b>Rustavi</b>	11.8	884.6	73.7	2.5
<b>Marneuli</b>	12.6	315.2	26.3	0.9

Through the analysis it was also identified that approximately 10-15% of the consumer demand on the product existed in the towns is satisfied through non-commercial supply from villages (relative to relative, friend to friend, etc.). That is, part of the town population owns land plots in villages/countryside where they grow these products or have relatives there who periodically send them these products. The remaining 85-90% of the demand make the actual market potential.

The average quantity of beetroot in stock at the marketplace during the day and according to towns is the following:

<b>Towns</b>	<b>Beetroot (MT)</b>
- <b>Tbilisi</b>	200.6
- <b>Telavi</b>	0.7
- <b>Gori</b>	4.6
- <b>Akhaltzikhe</b>	0.4
- <b>Kutaisi</b>	4.0
- <b>Batumi</b>	3.6
- <b>Zugdidi</b>	3.1
- <b>Rustavi</b>	4.5
- <b>Marneuli</b>	1.3

As it was identified, the maximum stock of the product is present on the marketplace during the period from Friday to Sunday which is by approximately 20-40% above than the average volume. Accordingly, during other days of the week the volume of beetroot on the market is smaller.

It is to be noted that retail traders carry out supplementing of products on the market at a daily basis, small wholesalers do this 1-3 times per week and large wholesalers, 2-4 times per month.

The percentage distribution of the annual product consumption by towns is the following:



<b>Towns</b>	<b>%</b>
- Tbilisi	83.5%
- Telavi	0.2%
- Gori	2.0%
- Akhaltsikhe	0.6%
- Kutaisi	4.2%
- Batumi	1.7%
- Zugdidi	2.2%
- Rustavi	4.1%
- Marneuli	1.5%

Tbilisi is a major reseller of beetroot to the other adjacent markets (towns/villages like Rustavi, Mtskheta, etc.)

### **3.1.3.2. Product Import**

Table below represents product import by months, quarters, exporter countries and product prices:

<b>Period</b>	<b>Quantity (Kg)</b>			<b>Price (Gel/Kg)</b>	
	<b>2005</b>	<b>2006</b>		<b>2005</b>	<b>2006</b>
January	0	0		-	-
February	0	0		-	-
March	0	4,521		-	0.53
April	0	36,357		-	0.43
May	0	7,600		-	0.74
June	0	2,000		-	0.72
July	0	0		-	-
August	0	0		-	-
September	0	0		-	-
October	0	0		-	-
November	0	0		-	-
December	0	0		-	-
<b>Total</b>	<b>0</b>	<b>50,478</b>		<b>-</b>	<b>0.50</b>

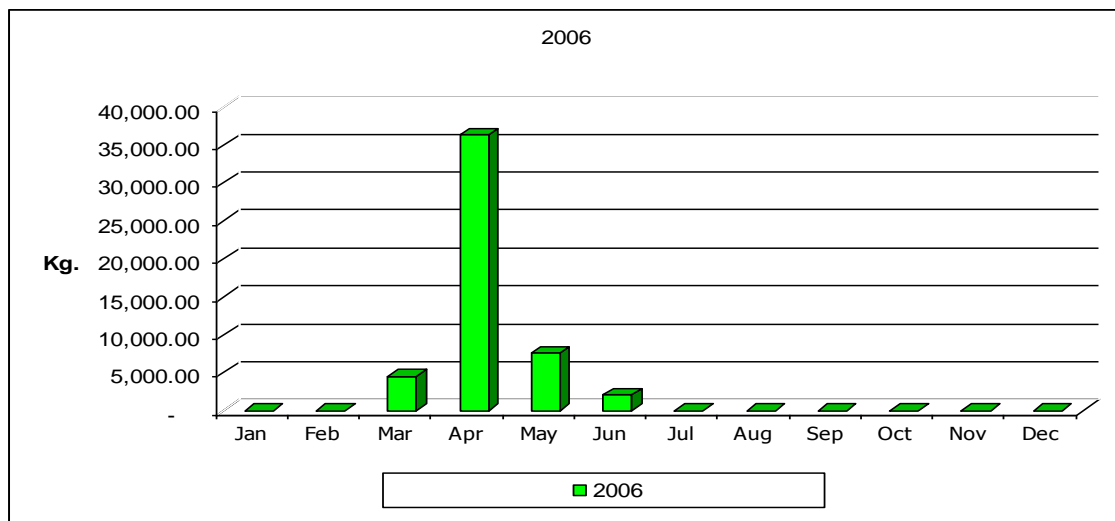
<b>Period</b>	<b>Quantity (Kg)</b>			<b>Price (Gel/Kg)</b>	
	<b>2005</b>	<b>2006</b>			<b>2005</b>
1st Quarter	0	4,521		-	0.53
2nd Quarter	0	45,957		-	0.50
3rd Quarter	0	0		-	-
4th Quarter	0	0		-	-

<b>Importer Country</b>	<b>2005</b>		<b>2006</b>	
	<b>Kg.</b>	<b>%</b>	<b>Kg.</b>	<b>%</b>
Azerbaijan	0	-	3,100	6.2%
Turkey	0	-	6,928	13.7%
Russia	0	-	40,450	80.1%

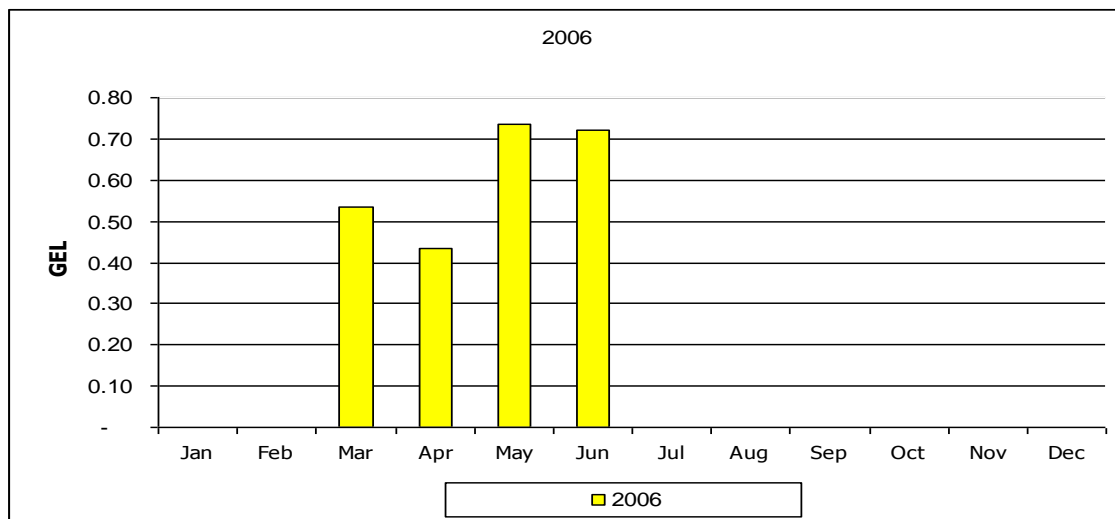
Data given in the table is based on information provided by customs office and it does not reflect quantity of products imported from Armenia and Azerbaijan by small wholesalers, which is assumed not to be exceeding 20% of total consumption in Georgia. Such an evaluation is also justified by information obtained from traders interviewed at the market.

As for price indicated in the table, it is a price of 1 kg of product after the customs clearance (DDP).

***Dynamics of Product's Import in 2006 (by Months)***



***Dynamics of Imported Product's Price in 2006 (by Months)***



### 3.1.3.3. Product Seasonality

The study has revealed that seasonality has no impact on the beetroot.

Table below represents structure of the origin of products in stock at the market in 2006, by months.

Period	Local Produce	Imported
- January	90%	10%
- February	80%	20%
- March	80%	20%
- April	80%	20%
- May	80%	20%
- June	90%	10%
- July	100%	- %
- August	100%	- %
- September	100%	- %
- October	100%	- %
- November	100%	- %
- December	100%	- %

During the period from July to January, the market is almost exclusively represented by locally produced beetroot. From January to June, 10-20% of total quantity of products at the market is imported from Armenia (by small wholesalers who bring it across the border with small passenger cars. Each such a vehicle carries products of less than USD 300 of total value and therefore this import is not registered by the customs), Turkey and Russia and in May and June—from Azerbaijan. Azerbaijani import is mainly a seasonal product and therefore, Armenia is still regarded as the main importer country. Products imported from Armenia, Turkey and Russia are distinguished by excellent variety characteristics, are well-stored and therefore meet the requirements of even the most demanding consumers.

### 3.1.3.4. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006

(Gel / Kg.)

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	0.66	0.50	0.85	0.63
	May – Aug.	0.68	0.51	0.83	0.62
	Sept. – Nov.	0.52	0.39	0.76	0.57
Batumi	Dec. – Apr.	0.83	0.62	1.24	0.93
	May – Aug.	0.81	0.60	1.04	0.78
	Sept. – Nov.	0.82	0.62	1.12	0.84
Kutaisi	Dec. – Apr.	0.79	0.59	1.37	1.03
	May – Aug.	0.73	0.55	1.03	0.77
	Sept. – Nov.	0.75	0.56	1.10	0.83

<b>Gori</b>	Dec. – Apr.	0.53	0.43	0.80	0.70
	May – Aug.	0,60	0.45	0.7	0.50
	Sept. – Nov.	0.50	0.40	0.85	0.50
<b>Telavi</b>	Dec. – Apr.	0.70	0.55	1.00	0,80
	May – Aug.	0,60	0.40	0.80	0.50
	Sept. – Nov.	0,60	0,50	0.90	0.50
<b>Marneuli</b>	Dec. – Apr.	0.70	0.60	0.80	0.60
	May – Aug.	0.60	0.50	0.90	0.70
	Sept. – Nov.	0.80	0.70	1.40	1.20
<b>Rustavi</b>	Dec. – Apr.	0.50	0.38	0.83	0.62
	May – Aug.	0.40	0.30	1.03	0.78
	Sept. – Nov.	0.40	0.30	1.40	1.05
<b>Tbilisi</b>	Dec. – Apr.	1.00	0.71	1.30	0.90
	May – Aug.	0.70	0.46	1.00	0.60
	Sept. – Nov.	0.80	0.58	1.19	0.89
<b>Akhaltzikhe</b>	Dec. – Apr.	0.59	0.44	0.80	0.60
	May – Aug.	0.65	0.49	0.73	0.55
	Sept. – Nov.	0.54	0.41	0.73	0.54

Beetroot price is largely influenced by the product's quantity at the market. For example, when market is saturated with beetroot (from July to January when market is represented only by local production) prices go down and small second-hand wholesalers (who purchase small lots of products on regional markets and/or directly in villages to further deliver and resell these lots in the early morning hours to wholesalers/retailers operating at city markets) supplying market with this product are not motivated to bring additional lots to the market. However, considering that demand on beetroot is usually stable, in certain period of time (from 3 to 10 days) total quantity of the product on the market is smaller and the deficit on beetroot is created which is then followed by almost two times increase of prices. This brings about the renewed activation of small second-hand wholesale traders and in a few days they spontaneously start bringing large volumes of products to the market which in turn results in quick fall down of prices. This process is further repeated over again.

Apart from the above, beetroot price is influenced by its quality i.e. attractive appearance and the intensity of color.

### ***3.1.3.5 Factors Influencing Sales***

In order to identify factors that influence sales of the product it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	Seasonality	Quality	Purchasing Capacity of Population	Holidays	Price	Competition	Not Having Impact
- Zugdidi	1	3	9	1	0	0	0
- Batumi	1	20	2	11	0	4	1
- Kutaisi	0	9	8	15	0	0	0
- Gori	0	0	23	0	0	0	0
- Telavi	0	0	5	2	3	0	8
- Marneuli	2	0	0	3	0	0	9
- Rustavi	0	0	2	15	0	0	10
- Tbilisi	2	14	4	7	0	5	8
- Akhaltsikhe	2	0	2	8	0	0	0
<b>Total</b>	<b>8</b>	<b>46</b>	<b>55</b>	<b>62</b>	<b>3</b>	<b>9</b>	<b>36</b>
<b>Percentage</b>	<b>3.7%</b>	<b>21.0%</b>	<b>25.1%</b>	<b>28.3%</b>	<b>1.4%</b>	<b>4.1%</b>	<b>16.4%</b>

The table indicates that, by opinion of the product sellers, main factors that influence sales of beetroot are, economical condition of population - 28,3%, holidays – 25,1% and quality - 11,8%. Other factors, according to the interviewed, are not having significant impact on sales.

Demand on beetroot is usually stable and increases a little during periods of religious fast observation and preparation of canned vegetables by population. Therefore, in case economic condition of population improves and if assortment of the industrially produced canned food products containing beetroot ingredient is increased in the future, it is possible that demand on beetroot will considerably decrease on the retail market. However, demand on beetroot will be increased in canning industry. It is also to be considered that provided the general growth of town population in the future, consumer demand on beetroot will also be accordingly increased.

### **3.1.3.6. Population Requirements Towards The Product And Quality Preferences**

In order to determine as what are quality requirements of local population towards beetroot, special telephone enquiry was carried out, during which 200 respondents were interviewed in Tbilisi. The enquiry provided the following results:

Formulated Demand		Number of Answers	%-Distribution
<b>Skin color</b>	<i>Dark pink</i>	30	15%
	<i>Vinous</i>	144	72%
	<i>Brown</i>	26	13%
<b>Size</b>	<i>Large</i>	31	16%
	<i>Medium</i>	155	79%
	<i>Small</i>	11	6%
<b>Core color</b>	<i>Cornelian</i>	40	20%
	<i>Deep Vinous</i>	158	80%

<b>Shape</b>	<i>Round</i>	145	73%
	<i>Oblong</i>	49	25%
	<i>Flat</i>	4	2%
<b>Taste</b>	<i>Sweet</i>	99	50%
	<i>Neutral</i>	99	50%
<b>Packaging</b>	<i>Packed</i>	100	51%
	<i>In bulk</i>	97	49%
<b>Packaging size</b>	<i>Up to 1 kg.</i>	75	70%
	<i>More than 1 kg</i>	30	28%
	<i>More than 3 kg</i>	2	2%
<b>Calibration</b>	<i>Calibrated</i>	174	88%
	<i>Non-calibrated</i>	24	12%
<b>Skin thickness</b>	<i>Thin</i>	164	93%
	<i>Thick</i>	12	7%
<b>Origin</b>	<i>Local</i>	153	77%
	<i>Imported</i>	45	23%

Results of the conducted enquiry clearly indicate that consumers give their preference to:

**Locally produced beetroot of medium size, round shape, deep vinous color core, with thin and smooth skin.**

In terms of the root color, preference is given to deep vinous color. Great majority of consumers opt for purchasing calibrated products and half of consumers require products to be packed in nets containing up to 1 kg of products.

### ***3.1.3.7. Potential for Adding Value to the Product***

Enquiry conducted by telephone has identified that 88% of population prefers calibrated product and 51% prefers product to be packed. Accordingly, it is possible to establish small collection centers at locations of the production where product will be picked out, sorted, calibrated and packed.

Analyzing of the enquiry results has revealed that population prefers product with light vinous color skin, dark vinous colored core and round shape. Provided that farmers select product varieties with appropriate characteristics and also quality seeds, product realization will become much more easier.

### ***3.1.3.8. Profitable Market Niche***

As market niche for beetroot is considered substitution of its import with local production. In spite of the fact that currently, imported products have only a smaller share (up to 20%) in total volume of beetroot consumed in Georgia, imported beetroot occupies the most expensive market niche due to its being well-stored and of high quality. Consumer enquiry indicates that rather high portion of population (77%) prefers locally produced beetroot with particularly preferable characteristics being light vinous color skin and dark vinous colored and round shaped root. Provided that farmers select product varieties with appropriate characteristics and purchase quality seeds, it will become possible to occupy the above market niche i.e. substitute import with own local production on the market.

### **3.1.4. Carrot**

#### **3.1.4.1. Market Potential**

Based on processing and analyzing of information received through the conducted enquiry, consumption of carrot according to target towns is as follows:

<b>Town</b>	<b>Consumption</b>			
	<b>Annually Kg./ per Capita</b>	<b>Annually (MT)</b>	<b>Monthly (MT)</b>	<b>Daily (MT)</b>
<b>Tbilisi</b>	15.8	17,380.0	1,448.3	48.3
<b>Telavi</b>	2.8	79.0	6.6	0.2
<b>Gori</b>	12.5	622.8	51.9	1.7
<b>Akhaltzikhe</b>	5.0	122.0	10.2	0.3
<b>Kutaisi</b>	7.2	1,345.7	112.1	3.7
<b>Batumi</b>	6.6	805.2	67.1	2.2
<b>Zugdidi</b>	12.0	826.7	68.9	2.3
<b>Rustavi</b>	13.1	981.0	81.8	2.7
<b>Marneuli</b>	13.2	331.2	27.6	0.9

Through the analysis it was also identified that approximately 10-15% of the consumer demand on the product existed in the towns is satisfied through non-commercial supply from villages (relative to relative, friend to friend, etc.). That is, part of the town population owns land plots in villages/countryside where they grow these products or have relatives there who periodically send them these products. The remaining 85-90% of the demand make the actual market potential.

The average quantity of carrot in stock at the marketplace during the day and according to towns is the following:

<b>Towns</b>	<b>Carrot (MT)</b>
- <b>Tbilisi</b>	141.30
- <b>Telavi</b>	0.60
- <b>Gori</b>	3.00
- <b>Akhaltzikhe</b>	0.4
- <b>Kutaisi</b>	7.4
- <b>Batumi</b>	5.3
- <b>Zugdidi</b>	2.6
- <b>Rustavi</b>	3.10
- <b>Marneuli</b>	2.40

As it was identified, the maximum stock of the product is present on the marketplace during the period from Friday to Sunday which is by approximately 20-40% above than the average volume. Accordingly, during other days of the week the volume of carrot on the market is smaller.

It is to be noted that retail traders carry out supplementing of products on the market at a daily basis, small wholesalers do this 1-3 times per week and large wholesalers, 2-4 times per month.

The percentage distribution of the annual product consumption by towns is the following:

<b>Towns</b>	<b>%</b>
- Tbilisi	25.4%
- Telavi	1.2%
- Gori	9.1%
- Akhaltsikhe	1.8%
- Kutaisi	19.6%
- Batumi	11.8%
- Zugdidi	12.1%
- Rustavi	14.3%
- Marneuli	4.8%

### **3.1.4.2. Product Import**

<b>Period</b>	<b>Quantity (Kg)</b>		<b>Price (Gel/Kg)</b>	
	<b>2005</b>	<b>2006</b>	<b>2005</b>	<b>2006</b>
January	5,209	1,419	0.23	0.57
February	2,900	18,280	0.39	0.58
March	33,529	117,641	0.31	0.53
April	53,333	96,980	0.28	0.54
May	7,450	193,202	0.26	0.58
June	0	97,057	-	0.69
July	0	37,333	-	0.59
August	0	0	-	-
September	0	12,320	-	0.41
October	0	0	-	-
November	0	48,783	-	0.68
December	0	563,320	-	0.67
<b>Total</b>	<b>102,421</b>	<b>1,186,335</b>	<b>0.29</b>	<b>0.63</b>

<b>Period</b>	<b>Quantity (Kg)</b>		<b>Price (Gel/Kg)</b>	
	<b>2005</b>	<b>2006</b>	<b>2005</b>	<b>2006</b>
1st Quarter	41,638	137,340	0.31	0.54
2nd Quarter	60,783	387,239	0.28	0.60
3rd Quarter	0	49,653	-	0.54
4th Quarter	0	612,103	0.24	0.67

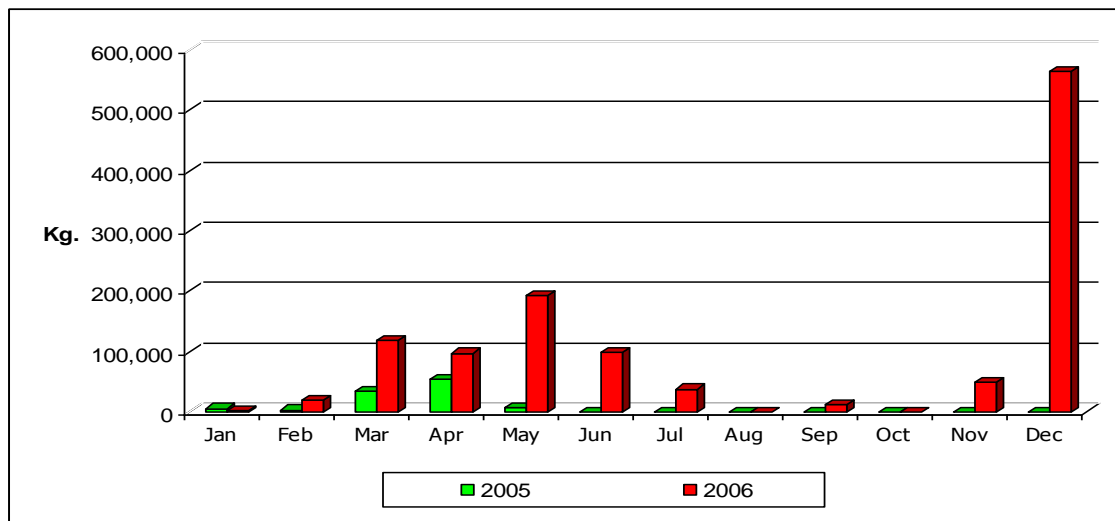
<b>Importer Country</b>	<b>2005</b>		<b>2006</b>	
	<b>Kg.</b>	<b>%</b>	<b>Kg.</b>	<b>%</b>
Turkey	102,421	100%	1,124,485	94.79%
Armenia	0	-	15,000	1.26%
Azerbaijan	0	-	46,850	3.95%



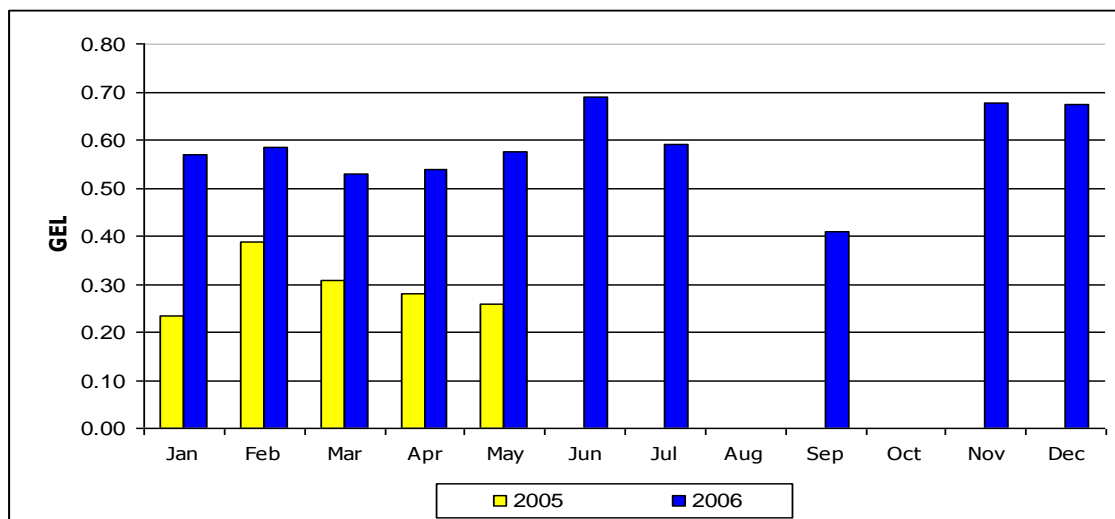
Data given in the table is based on information provided by customs office. Quantity of carrot imported in 2006 exceeds the similar import 2005 by almost 11 times and in whole, makes up to about 20% of total consumption volume. Almost half of the import in 2006 comes on December which indicates that by this period, stock of the locally produced carrot is practically run out. Such an assumption is as well confirmed by information obtained from traders interviewed at the market.

As for price indicated in the table, it is a price of 1 kg of product after the customs clearance (DDP).

***Dynamics of Product's Import in 2005 and 2006 (by Months)***



***Dynamics of Imported Product's Price in 2005 and 2006 (by Months)***



### 3.1.4.3. Product Seasonality

The study has revealed that seasonality does not impact this particular product.

Table below represents structure of the origin of products in stock at the market in 2006, by months:

Period	Local Produce	Armenian	Turkish	Azerbaijani
- January	97%	2%	1%	0 %
- February	90%	3%	7%	0 %
- March	40%	10%	50%	0 %
- April	40%	10%	50%	0 %
- May	30%	10%	50%	10 %
- June	30%	0%	10%	60%
- July	80%	0%	0%	20%
- August	100%	0%	0%	0%
- September	100%	0%	0%	0%
- October	100%	0%	0%	0%
- November	70%	10%	20%	0%
- December	20%	0%	80%	0%

Usually, during the period from July to February including, the market is almost exclusively represented by locally produced carrot. From December to April, 10-12% of total product volume on the market is imported from Armenia and Turkey and from May to June – from Azerbaijan. Azerbaijani import is mainly a seasonal product and therefore, Turkey is the main importer country. Product imported from Turkey is distinguished by excellent variety characteristics, is well-stored and meets requirements of the most demanding consumers.

2006 is regarded as the year of poor yield for carrot and it is reflected on the volume of this product's import in Georgia (only in December there was imported 563 tons of carrot)

### 3.1.4.4. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006

(Gel / Kg.)

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	0.67	0.50	0.85	0.64
	May – Aug.	0.53	0.39	0.79	0.59
	Sept. – Nov.	0.63	0.47	1.05	0.78
Batumi	Dec. – Apr.	0.90	0.67	1.12	0.84
	May – Aug.	1.20	0.90	1.23	0.92
	Sept. – Nov.	0.97	0.73	1.16	0.87
Kutaisi	Dec. – Apr.	0.64	0.48	0.95	0.71
	May – Aug.	0.54	0.41	1.05	0.79
	Sept. – Nov.	0.55	0.41	1.23	0.92

<b>Gori</b>	Dec. – Apr.	0,45	0,3	0.78	0.55
	May – Aug.	0.43	0.28	0.78	0.55
	Sept. – Nov.	0.45	0.28	0.78	0.55
<b>Telavi</b>	Dec. – Apr.	1.33	0.99	1.86	1.39
	May – Aug.	0.68	0.51	0.81	0.61
	Sept. – Nov.	1.33	0.99	1.20	0.90
<b>Marneuli</b>	Dec. – Apr.	0.80	0.70	0.93	0.70
	May – Aug.	0.50	0.40	1.40	1.10
	Sept. – Nov.	0.70	0.55	1.70	1.50
<b>Rustavi</b>	Dec. – Apr.	0.72	0.54	0.93	0.70
	May – Aug.	0.50	0.38	1.14	0.86
	Sept. – Nov.	0.54	0.40	1.55	1.16
<b>Tbilisi</b>	Dec. – Apr.	0.9	0.6	1.1	0.8
	May – Aug.	0.8	0.5	1.0	0.7
	Sept. – Nov.	0.8	0.5	1.2	0.9
<b>Akhaltzikhe</b>	Dec. – Apr.	0.81	0.61	1.00	0.75
	May – Aug.	0.70	0.52	1.01	0.76
	Sept. – Nov.	0.73	0.55	0.99	0.74

Price on carrot is largely influenced by product's quantity on the market and therefore, when market is saturated with carrot (from July to December when market is represented only by local production) prices go down and small second-hand wholesalers trading with this product are not motivated to bring additional lots to the market. However, considering that demand on carrot is usually stable, in certain period of time (from 3 to 10 days) total quantity of the product on the market is smaller and the carrot deficit is created which is then followed by almost double increase of prices. This causes activation of second-hand wholesalers traders and in a few days they spontaneously start bringing large volumes of products to the market which in turn results in quick fall down of prices. This process is further repeated over again.

Apart from the above, price on carrot is influenced by its quality i.e. attractive appearance.

#### ***3.1.4.5 Factors Influencing Sales***

In order to identify factors that influence sales of carrot, it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	Seasonality	Quality	Holidays	Purchasing Capacity of Population	Price	Competition	Not Having Impact
- Zugdidi	1	3	9	1	0	0	0
- Batumi	1	20	2	11	0	4	1
- Kutaisi	0	9	8	15	0	0	0
- Gori	0	4	12	7	0	0	0
- Telavi	0	0	5	2	3	0	8
- Marneuli	2	0	0	3	0	0	9
- Rustavi	0	0	2	15	0	0	10
- Tbilisi	2	14	4	7	0	5	8
- Akhaltsikhe	2	0	2	8	0	0	0
<b>Total</b>	<b>8</b>	<b>50</b>	<b>44</b>	<b>69</b>	<b>3</b>	<b>9</b>	<b>36</b>
<b>Percentage</b>	<b>3.7%</b>	<b>22.8%</b>	<b>20.1%</b>	<b>31.5%</b>	<b>1.4%</b>	<b>4.1%</b>	<b>16.4%</b>

The table indicates that by opinion of the product sellers, main factors that influence sales of carrot are, purchasing capacity of population - 31,5%, quality - 22,8%. holidays – 20,1% and Other factors, according to the interviewed, are not having significant impact on sales.

Demand on carrot is usually stable and increases a little during periods of religious fast observation and preparation of canned vegetables by population. Therefore, in case economic condition of population improves and if assortment of the industrially produced canned food products containing carrot ingredient is increased in the future, it is possible that demand on carrot will considerably diminish on the retail market. However, demand on the product will be increased in canning industry. It is also to be considered that provided the general growth of town population in the future, consumer demand on carrot will also be accordingly increased.

### 3.1.4.6. Population Requirements Towards The Product And Quality Preferences

In order to determine as what are quality requirements of local population towards carrot, special telephone enquiry was carried out, during which 200 respondents were interviewed in Tbilisi. The enquiry provided the following results:

Formulated Demand		Number of Answers	%-Distribution
<b>Skin color</b>	<i>Light orange</i>	104	52.0%
	<i>Deep orange</i>	96	48.0%
<b>Size</b>	<i>Large</i>	90	45.0%
	<i>Medium</i>	70	35.0%
	<i>Small</i>	40	20.0%
<b>Core</b>	<i>Small</i>	67	33.5%
	<i>Medium</i>	117	58.5%
	<i>Large</i>	16	8.0%
<b>Shape</b>	<i>Round like end</i>	124	62.0%
	<i>Pointed end</i>	76	38.0%

<b>Taste</b>	<i>Sweet</i>	125	62.5%
	<i>Neutral</i>	70	35.0%
<b>Skin structure</b>	<i>Smooth</i>	184	92.0%
	<i>Rough</i>	16	8.0%
<b>Calibration</b>	<i>Calibrated</i>	160	80.0%
	<i>Non-calibrated</i>	40	20.0%
<b>Origin</b>	<i>Local</i>	120	60.0%
	<i>Imported</i>	42	42.0%

Results of the conducted enquiry clearly indicate that consumers give their preference to:

**Locally produced carrot of medium size, with roundlike end shape, sweet taste, light orange color and smooth skin.**

Great majority of consumers (80%) prefer to purchase calibrated products.

#### ***3.1.4.7. Potential for Adding Value to the Product***

Enquiry conducted by telephone has identified that 80% of population prefers calibrated product. Therefore it is possible to establish small collection centers at locations of the production where product will be picked out, sorted, calibrated and packed in individual 0,5 - 1 kg. polyethylene packaging.

Provided that farmers select varieties with appropriate characteristics and also quality seeds, product realization will become much more easier.

#### ***3.1.4.8. Profitable Market Niche***

As market niche for carrot is considered substitution of its import with local production. In spite of the fact that currently, imported products have only small share (10%) in total volume of carrot consumed in Georgia, imported carrot occupies the most expensive market niche due to its well-stored condition and high quality. Consumer enquiry indicates that rather large portion of population (60%) prefers locally produced carrot with particular preferable characteristics being light orange color and round shaped end. Provided that farmers select product varieties with appropriate characteristics and purchase quality seeds, it will become possible to occupy the above market niche i.e. substitute import with own local production.

### **3.1.5. Onion**

#### **3.1.5.1. Market Potential**

Based on processing and analyzing of information received through the conducted enquiry, consumption of onion according to target towns is the following:

<b>Town</b>	<b>Consumption</b>			
	<b>Annually Kg./ per Capita</b>	<b>Annually (MT)</b>	<b>Monthly (MT)</b>	<b>Daily (MT)</b>
<b>Tbilisi</b>	10.0	11,006.0	917.2	30.6
<b>Telavi</b>	5.9	164.4	13.7	0.5
<b>Gori</b>	19.6	980.5	81.7	2.7
<b>Akhaltsikhe</b>	14.4	349.0	29.1	1.0
<b>Kutaisi</b>	16.8	3,139.9	261.7	8.7
<b>Batumi</b>	25.0	3,050.0	254.2	8.5
<b>Zugdidi</b>	15.0	1,033.4	86.1	2.9
<b>Rustavi</b>	20.2	1,515.5	126.3	4.2
<b>Marneuli</b>	16.3	407.5	34.0	1.1

Through the analysis it was also identified that approximately 10-15% of the consumer demand on the product existed in the towns is satisfied through non-commercial supply from villages (relative to relative, friend to friend, etc.). That is, part of the town population owns land plots in villages/countryside where they grow these products or have relatives there who periodically send them these products. The remaining 85-90% of the demand make the actual market potential.

About 30% of population stores its wintertime stock of the product in own cellars. Accumulation of this stock takes place mainly during September-October and demand on onion during this period increases.

The average quantity of onion in stock at the marketplace during the day according to towns is the following:

<b>Towns</b>	<b>Onion (MT)</b>
- <b>Tbilisi</b>	95.0
- <b>Telavi</b>	1.1
- <b>Gori</b>	4.3
- <b>Akhaltsikhe</b>	0.9
- <b>Kutaisi</b>	27.0
- <b>Batumi</b>	42.4
- <b>Zugdidi</b>	2.5
- <b>Rustavi</b>	16.3
- <b>Marneuli</b>	5.0

As it was identified, maximum quantity of the product is in stock at the marketplace in the period between Friday and Sunday which is by approximately 20-40% above than average indicator. Accordingly, during other days of the week the volume of onions on the market is smaller.

It is to be noted that retail traders carry out supplementing of the product on the market at a daily basis, small wholesalers do this 1-3 times per week and large wholesalers, 2-4 times per month.

Annual consumption percentage distribution by towns is the following:

<b>Towns</b>	<b>%</b>
- Tbilisi	50.8%
- Telavi	0.8%
- Gori	4.5%
- Akhaltsikhe	1.6%
- Kutaisi	14.5%
- Batumi	14.1%
- Zugdidi	4.8%
- Rustavi	7.0%
- Marneuli	1.9%

### **3.1.5.2. Product Import**

<b>Period</b>	<b>Quantity (Kg)</b>		<b>Price (Gel/Kg)</b>	
	<b>2005</b>	<b>2006</b>	<b>2005</b>	<b>2006</b>
January	1,042,473	1,769,239	0.30	0.28
February	1,084,870	1,469,511	0.28	0.27
March	2,103,866	2,337,197	0.28	0.29
April	1,145,340	1,935,245	0.27	0.29
May	1,363,858	2,789,397	0.26	0.29
June	1,505,346	1,768,407	0.27	0.39
July	354,786	2,508,560	0.28	0.40
August	769,297	1,599,550	0.27	0.40
September	1,055,610	3,207,480	0.27	0.40
October	615,911	4,102,285	0.28	0.40
November	1,388,196	2,561,427	0.26	0.40
December	2,861,218	2,689,556	0.27	0.40
<b>Total</b>	<b>15,290,771</b>	<b>28,737,854</b>	<b>0.27</b>	<b>0.36</b>

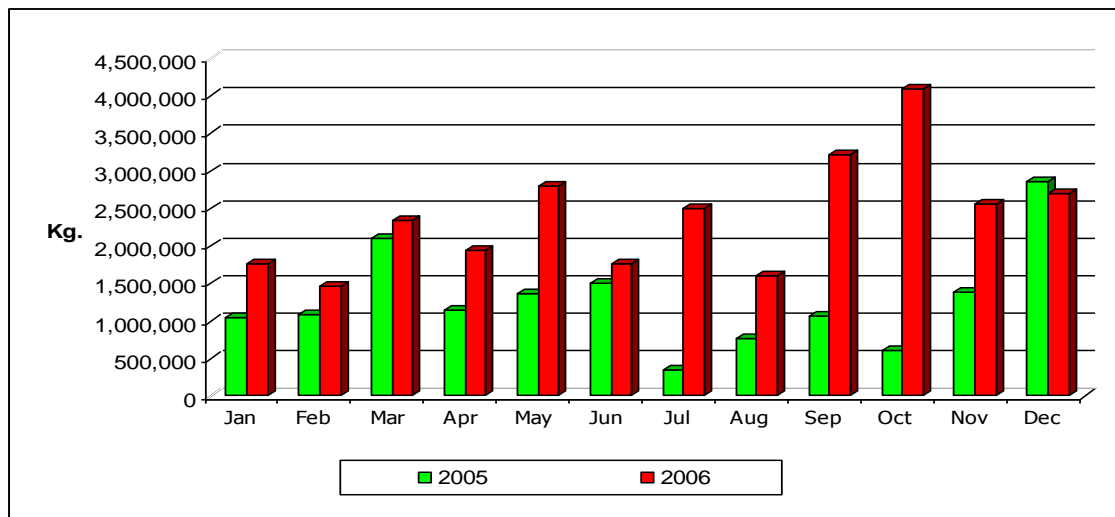
<b>Period</b>	<b>Quantity (Kg)</b>		<b>Price (Gel/Kg)</b>	
	<b>2005</b>	<b>2006</b>	<b>2005</b>	<b>2006</b>
1st Quarter	4,231,209	5,741,953	0.29	0.29
2nd Quarter	4,014,544	7,066,364	0.27	0.35
3rd Quarter	2,179,693	8,909,315	0.27	0.40
4th Quarter	4,865,325	5,250,983	0.27	0.40

<b>Importer Country</b>	<b>2005</b>		<b>2006</b>	
	<b>Kg.</b>	<b>%</b>	<b>Kg.</b>	<b>%</b>
Italy	14,000	0.09%	0	-
Uzbekistan	16,000	0.10%	21,000	0.07%
Azerbaijan	550	0.00%	20,000	0.07%
Russia	167,830	1.10%	0	-
Turkey	14,291,374	93.47%	28,676,854	99.79%
Egypt	800,000	5.23%	0	-
Ukraine	0	-	20,000	0.07%

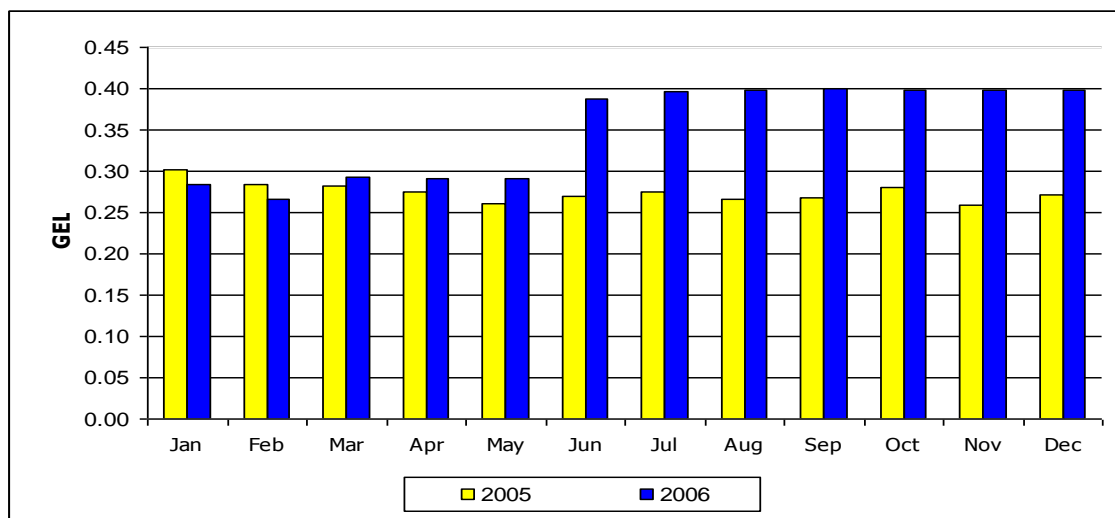
Data given in the table is based on information provided by customs office. As for price indicated in the table, it is a price of 1 kg of product after the customs clearance.

Dynamics of the last 2 years of the onion import indicate that this product is deficient in the country and during common years, almost half of the existed consumer demand is satisfied at the expense of the imported onion. In such lean years as was 2006, import covered 90% of demand on onion. The largest onion importer country is Turkey with more than 90% of the total annual import amount. Considerable volume of import comes on Azerbaijan as well which mainly proceeds during the period between May and June including. Greater portion of imported Azerbaijani onion is not registered by customs as it is brought to Georgia by small wholesalers with their own passenger cars.

***Dynamics of Product's Import in 2005 and 2006 (by Months)***



***Dynamics of Imported Product's Price in 2005 and 2006 (by Months)***





### 3.1.5.3. Product Seasonality

The study has identified that maximum volume of trade with onions comes on period of September-October and it approximately twice exceeds quantities of product sold during other months.

Table below represents structure of the origin of products in stock at the market in 2006, by months.

Period	Local Produce	Turkish	Azerbaijani
- January	50%	50%	0%
- February	50%	50%	0%
- March	30%	70%	0%
- April	25%	70%	5%
- May	10%	60%	30%
- June	20%	50%	30%
- July	50%	50%	0%
- August	50%	50%	0%
- September	20%	80%	0%
- October	20%	80%	0%
- November	10%	90%	0%
- December	10%	90%	0%

As it is shown in the table, even in the years of the highest yield and during the prime months of a season, onions produced in Georgia are capable to satisfy only half of the existed demand. The product deficit is filled up with onions imported in May-June by small wholesalers from Azerbaijan (mainly by small lots delivered with passenger cars) and in other periods, with import from Turkey carried out by large wholesalers.

### 3.1.5.4. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006

(Gel / Kg.)

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	0.73	0.55	0.95	0.71
	May – Aug.	0.73	0.55	0.95	0.71
	Sept. – Nov.	0.73	0.55	0.94	0.70
Batumi	Dec. – Apr.	0.57	0.5	0.67	0.6
	May – Aug.	0.52	0.4	0.68	0.5
	Sept. – Nov.	0.57	0.5	0.65	0.5
Kutaisi	Dec. – Apr.	0.65	0.49	0.98	0.74
	May – Aug.	0.52	0.39	0.80	0.60
	Sept. – Nov.	0.72	0.54	1.00	0.75
Gori	Dec. – Apr.	0.65	0.5	0.8	0.6
	May – Aug.	0.63	0.5	0.9	0.7
	Sept. – Nov.	0.45	0,30	0.9	0.45

<b>Telavi</b>	Dec. – Apr.	0.60	0.47	1.00	0.80
	May – Aug.	0.65	0.50	1.00	0.75
	Sept. – Nov.	0.55	0.45	1.20	0.80
<b>Marneuli</b>	Dec. – Apr.	0.50	0.38	0.70	0.60
	May – Aug.	0.40	0.30	0.80	0.65
	Sept. – Nov.	0.50	0.38	1.00	0.80
<b>Rustavi</b>	Dec. – Apr.	0.50	0.38	0.67	0.50
	May – Aug.	0.40	0.30	0.73	0.55
	Sept. – Nov.	0.50	0.38	0.90	0.68
<b>Tbilisi</b>	Dec. – Apr.	0.77	0.58	1.00	0.73
	May – Aug.	0.71	0.53	0.83	0.62
	Sept. – Nov.	0.60	0.30	0.97	0.73
<b>Akhaltzikhe</b>	Dec. – Apr.	0.61	0.46	0.81	0.61
	May – Aug.	0.60	0.45	0.75	0.57
	Sept. – Nov.	0.59	0.44	0.73	0.55

The table indicates that compared to the year of 2005, price on onion has increased by approximately 35% which in turn is caused not only by poor yield within the country but also by increase of price on products imported from Turkey. Onion prices at local market are mainly conditioned by price of Turkish import and this influence will be steadily continued until time when volume of locally produced onion fully satisfies the demand existed in Georgia.

### **3.1.5.5. Factors Influencing Sales**

In order to identify factors that influence sales of onion, it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	<b>Seasonality</b>	<b>Quality</b>	<b>Purchasing Capacity of Population</b>	<b>Holidays</b>	<b>Price</b>	<b>Competition</b>	<b>Not Having Impact</b>
- <b>Zugdidi</b>	6	4	7	2	6	0	0
- <b>Batumi</b>	12	0	2	15	5	4	0
- <b>Kutaisi</b>	25	0	8	14	0	0	0
- <b>Gori</b>	16	0	6	0	0	0	0
- <b>Telavi</b>	3	6	0	1	3	0	0
- <b>Marneuli</b>	2	0	0	2	0	0	9
- <b>Rustavi</b>	2	0	5	10	0	0	10
- <b>Tbilisi</b>	25	0	3	4	0	2	2
- <b>Akhaltzikhe</b>	8	0	1	5	0	0	0
<b>Total</b>	<b>99</b>	<b>10</b>	<b>32</b>	<b>53</b>	<b>14</b>	<b>6</b>	<b>21</b>
<b>Percentage</b>	<b>42.1%</b>	<b>4.3%</b>	<b>13.6%</b>	<b>22.6%</b>	<b>6.0%</b>	<b>2.6%</b>	<b>8.9%</b>

The table indicates that, by opinion of the product sellers, main factors that influence sales of onion are, seasonality – 42%, purchasing capacity of population - 22,6% and holidays – 13,6%. Other factors, according to the interviewed, are not having significant impact on sales.

Demand on onion increases during September-October as in this period, population makes preparations for wintertime stock and the vegetable canning period also coincides with these months. Therefore to be considered that provided the general growth of town population in the future, consumer demand on onion will also be accordingly increased.

### **3.1.5.6. Population Requirements Towards The Product And Quality Preferences**

In order to determine as what are quality requirements of local population towards onion, special telephone enquiry was carried out during which 200 respondents were interviewed in Tbilisi. The enquiry provided the following results:

<b>Formulated Demand</b>		<b>Number of Answers</b>	<b>%-Distribution</b>
<b>Peel color</b>	<i>Red</i>	120	60%
	<i>Yellow</i>	82	41%
<b>Bulb size</b>	<i>Small</i>	2	1%
	<i>Average</i>	165	82%
	<i>Large</i>	35	17%
<b>Shape</b>	<i>Round</i>	170	85%
	<i>Oval</i>	32	16%
<b>Taste</b>	<i>Bitter</i>	50	25%
	<i>Sweetish</i>	31	15%
	<i>Neutral</i>	121	60%
<b>Core leaf thickness</b>	<i>Thin</i>	168	84%
	<i>Thick</i>	34	16%
<b>Core color</b>	<i>White</i>	126	62%
	<i>Red</i>	76	38%
<b>Packaging</b>	<i>Packed</i>	197	98%
	<i>In Bulk</i>	5	2%
<b>Packaging size</b>	<i>Up to 0,5 kg</i>	5	6%
	<i>Up to 1 kg</i>	35	42%
	<i>Between 1-3 kg</i>	43	52%
<b>Calibration</b>	<i>Calibrated</i>	104	52%
	<i>Non-calibrated</i>	98	48%
<b>Origin</b>	<i>Local</i>	185	92%
	<i>Turkey</i>	11	5%
	<i>Iran</i>	2	1%
	<i>Other</i>	4	2%

Results of the conducted enquiry clearly indicate that consumers give their preference to:

**Locally produced onion of medium size, round shape, neutral taste, thin core leaves and red color peel.**

In terms of the core color, preference is given to white onion. Great majority of consumers opt for purchasing calibrated products and 52% of consumers require packing of onions in nets containing 1-3 kg of products.

#### ***3.1.5.7. Potential for Adding Value to the Product***

Enquiry conducted by telephone has identified that 52% of population prefers calibrated product and 98% gives preference to packed product. Therefore it is possible to establish small collection centers at locations of the production where onion will be picked out, sorted, calibrated and packed in individual packaging per kg.

Also, analyzing of the enquiry results has revealed that population prefers onion of red peel color and round shape. Provided that farmers select varieties with appropriate characteristics and also quality seeds, product realization will become much more easier.

#### ***3.1.5.8. Profitable Market Niche***

As market niche for onion is considered substitution of its import with local production. Even in the years of good harvest, half of the total onion consumption in Georgia comes on imported products. And in the bad harvest years, import goes up to 90% of total consumption. Almost 70% of the locally produced onion is sold during the period of September-November which is mainly due to its low storability characteristics during common storing conditions. Introduction of modern technologies in onion storing will give farmers possibility to spread the product sales period over the whole year and thus increase their revenue. Consumer enquiry has revealed that vast majority of population (92%) prefers locally produced onion. Therefore, provided farmers select product varieties with appropriate characteristics, purchase quality seeds and also improve the product storing conditions, it will become possible to substitute import with local production on the market.

### 3.1.6. Garlic

#### 3.1.6.1. Market Potential

Based on processing and analyzing of information received through the conducted enquiry, consumption of garlic according to target towns is the following:

<b>Town</b>	<b>Consumption</b>			
	<b>Annually Kg./ per Capita</b>	<b>Annually (MT)</b>	<b>Monthly (MT)</b>	<b>Daily (MT)</b>
<b>Tbilisi</b>	1.6	1,785.0	148.7	5.0
<b>Telavi</b>	1.6	43.8	3.7	0.1
<b>Gori</b>	6.3	314.5	26.2	0.9
<b>Akhaltzikhe</b>	4.3	105.0	8.8	0.3
<b>Kutaisi</b>	4.8	330.7	27.6	0.9
<b>Batumi</b>	5.4	658.8	54.9	1.8
<b>Zugdidi</b>	3.6	252.8	21.1	0.7
<b>Rustavi</b>	2.4	177.8	14.8	0.5
<b>Marneuli</b>	3.1	76.6	6.4	0.2

The average quantity of garlic in stock at the marketplace during the day according to towns is the following:

<b>Towns</b>	<b>Garlic (MT)</b>
- <b>Tbilisi</b>	5.9
- <b>Telavi</b>	0.3
- <b>Gori</b>	1.5
- <b>Akhaltzikhe</b>	0.3
- <b>Kutaisi</b>	1.65
- <b>Batumi</b>	3.4
- <b>Zugdidi</b>	1.42
- <b>Rustavi</b>	1.5
- <b>Marneuli</b>	0.8

As it was identified, maximum quantity of the product is in stock at the marketplace in the period between Friday and Sunday which is by approximately 20-40% above than average indicator. Accordingly, during other days of the week, volume of garlic on the market is smaller.

It is to be noted that retail traders carry out supplementing of products on the market at a daily basis, small wholesalers do this 1-3 times per week and large wholesalers, 2-4 times per month.

Distribution of the annual consumption percentage according to towns is as follows:

<b>Towns</b>	<b>%</b>
- Tbilisi	48.1%
- Telavi	1.0%
- Gori	8.7%
- Akhaltzikhe	2.9%
- Kutaisi	8.7%

- Batumi	17.3%
- Zugdidi	6.7%
- Rustavi	4.8%
- Marneuli	1.9%

### 3.1.6.2. Product Import

Period	Quantity (Kg)		Price (Gel/Kg)	
	2005	2006	2005	2006
January	104,200	26,000	0.70	0.95
February	156,000	78,000	0.73	0.82
March	78,000	81,000	0.72	0.85
April	104,260	0	0.77	-
May	78,000	60,000	1.00	1.06
June	26,000	33,500	1.03	1.32
July	0	22,500	-	1.33
August	0	112,200	-	1.33
September	157,180	236,100	0.81	1.34
October	105,880	100,470	0.85	1.33
November	162,910	174,805	0.81	1.46
December	192,250	361,300	0.84	1.65
<b>Total</b>	<b>1,164,680</b>	<b>1,285,875</b>	<b>0.81</b>	<b>1.36</b>

Period	Quantity (Kg)		Price (Gel/Kg)	
	2005	2006	2005	2006
1st Quarter	338,200	185,000	0.72	0.85
2nd Quarter	208,260	93,500	0.89	1.15
3rd Quarter	157,180	370,800	0.81	1.34
4th Quarter	461,040	636,575	0.83	1.55

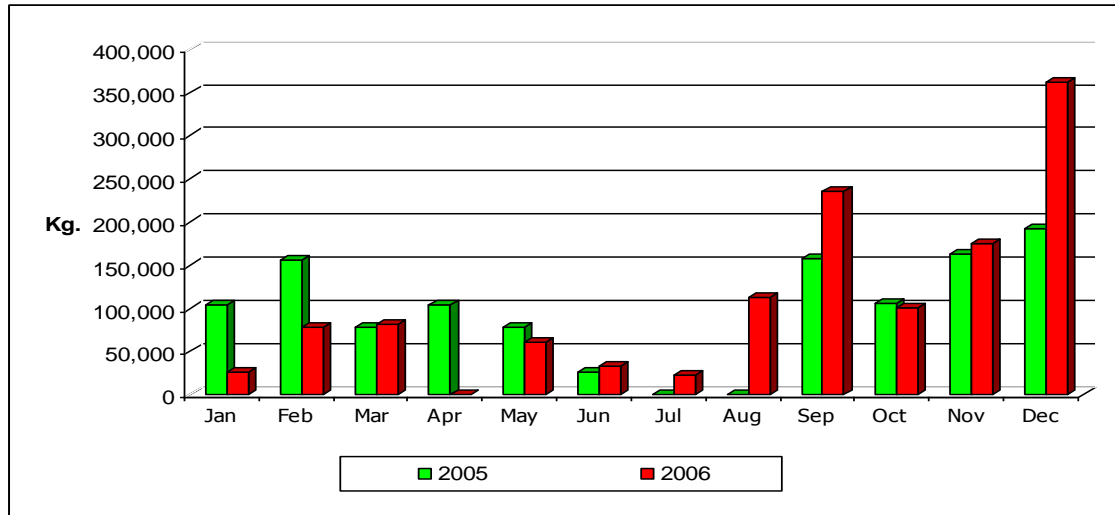
Importer Country	2005		2006	
	Kg.	%	Kg.	%
China	1,110,650	95,36%	1,111,500	86,4%
Turkey	26,700	2,29%	0	-
Azerbaijan ( <i>garlic of Iranian origin</i> )	750	0,06%	112,700	8,8%
Ukraine	26,580	2,28%	0	-
Iran	61,675	4,8%	0	-

Data given in the table is based on information provided by customs office. As for price indicated in the table, it is a price of 1 kg of product after the customs clearance (DDP).

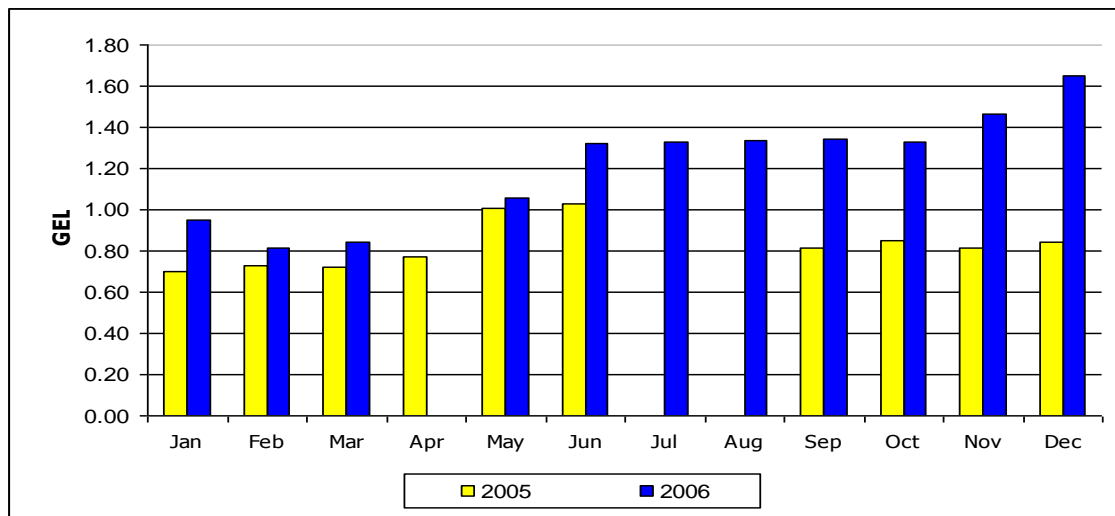
Garlic imported from Azerbaijan is mostly of Iranian origin and its import to Georgia is carried out by not only large importers but also by small wholesalers who do it with their own passenger vehicles. Product imported by small wholesalers is not subject for registration by the customs as each passenger car carries products of less than USD 300 of total value. This small import makes up to 7-8% of total import and particularly, Iranian import held 15% of market shares in 2006 with the remaining shares occupied by China. Chinese garlic is imported by sea, mainly through the port of Poti. Afterwards, it is further

transported to Tbilisi and Batumi and from there, distributed to various towns around country.

**Dynamics of Product's Import in 2005 and 2006 (by Months)**



**Dynamics of Imported Product's Price in 2005 and 2006 (by Months)**



**3.1.6.3. Product Seasonality**

The study has identified that maximum volume of trade with garlic comes on the period between September-October and it approximately twice exceeds quantities of product sold during other months.

Table below represents structure of the origin of garlic in stock at the market in 2006, by months:

Period	Local Produce	China	Azerbaijani (of Iranian origin)
- January	12%	70%	18%
- February	12%	70%	18%
- March	12%	70%	18%
- April	5%	80%	15%
- May	5%	80%	15%
- June	42%	40%	18%
- July	52%	30%	18%
- August	62%	20%	18%
- September	72%	10%	18%
- October	57%	25%	18%
- November	32%	50%	18%
- December	22%	60%	18%

In whole, locally produced garlic satisfies only 25-30% of the existed demand. Local garlic is consumed mainly during the period between June to October. But even in these months market suffers deficit which is covered by imported products. Main suppliers of local garlic are the following districts:

from January to June : Akhaltsikhe, Gori, Kareli

from June to October : Marneuli, Gardabani, Bolnisi and Kakheti

#### **3.1.6.4. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006**

*(Gel / Kg.)*

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	3.00	2.67	3.56	2.87
	May – Aug.	3.56	3.05	4.06	3.25
	Sept. – Nov.	3.10	2.67	3.70	2.90
Batumi	Dec. – Apr.	3.01	2.26	3.86	2.90
	May – Aug.	3.40	2.55	3.98	2.98
	Sept. – Nov.	2.68	2.01	3.22	2.41
Kutaisi	Dec. – Apr.	4.07	3.07	4.43	3.32
	May – Aug.	3.70	2.80	4.08	3.06
	Sept. – Nov.	3.10	2.32	3.69	2.77
Gori	Dec. – Apr.	2.50	2.00	3.70	3.00
	May – Aug.	2.80	1.80	2.50	2.00
	Sept. – Nov.	2.00	1.50	2.50	2.00
Telavi	Dec. – Apr.	3.10	2.65	4.00	3.00
	May – Aug.	3.67	2.75	4.10	3.20
	Sept. – Nov.	3.33	2.50	3.60	2.80



<b>Marneuli</b>	Dec. – Apr.	2.00	1.60	2.40	1.80
	May – Aug.	2.00	1.60	3.50	2.80
	Sept. – Nov.	2.50	2.00	4.50	3.80
<b>Rustavi</b>	Dec. – Apr.	1.99	1.49	2.38	1.78
	May – Aug.	1.94	1.45	3.30	2.48
	Sept. – Nov.	2.51	1.88	4.26	3.20
<b>Tbilisi</b>	Dec. – Apr.	2.63	1.98	2.43	1.82
	May – Aug.	2.42	1.81	2.53	1.90
	Sept. – Nov.	2.97	2.23	3.59	2.69
<b>Akhaltzikhe</b>	Dec. – Apr.	2.67	2.00	2.89	2.17
	May – Aug.	1.46	1.10	1.83	1.37
	Sept. – Nov.	2.09	1.57	2.58	1.94

The table indicates that compared to last year, price on garlic has increased by approximately 35% which in turn is caused not only by poor yield within the country but also by increase of price on products imported from China. Garlic prices at local market are mainly conditioned by price of the Chinese import and this influence will be steadily continued until time when volume of the locally produced garlic fully satisfies the demand existed in Georgia.

### **3.1.6.5. Factors Influencing Sales**

In order to identify factors that influence sales of garlic on product it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	<b>Seasonality</b>	<b>Quality</b>	<b>Purchasing Capacity of Population</b>	<b>Holidays</b>	<b>Price</b>	<b>Competition</b>	<b>Not Having Impact</b>
- <b>Zugdidi</b>	5	5	5	3	6	0	0
- <b>Batumi</b>	12	0	5	13	5	4	0
- <b>Kutaisi</b>	25	0	9	13	0	0	0
- <b>Gori</b>	16	0	6	0	0	0	0
- <b>Telavi</b>	3	6	0	1	3	0	0
- <b>Marneuli</b>	2	0	0	2	0	0	9
- <b>Rustavi</b>	2	0	4	11	0	0	10
- <b>Tbilisi</b>	20	0	3	9	0	2	2
- <b>Akhaltzikhe</b>	8	0	1	5	0	0	0
<b>Total</b>	<b>93</b>	<b>11</b>	<b>33</b>	<b>57</b>	<b>14</b>	<b>6</b>	<b>21</b>
<b>Percentage</b>	<b>39.6%</b>	<b>4.7%</b>	<b>14.0%</b>	<b>24.3%</b>	<b>6.0%</b>	<b>2.6%</b>	<b>8.9%</b>

The table indicates that, by opinion of the product sellers, main factors that influence sales of garlic are, seasonality – 39,6%, economical condition of population - 24,3% and holidays

– 14,0%. Other factors, according to the interviewed, are not having significant impact on sales.

Demand on garlic increases during September-October as at this time population makes preparations for wintertime stock and the vegetable canning period also coincides with these months.

### **3.1.6.6. Population Requirements Towards The Product And Quality Preferences**

In order to determine as what are quality requirements of local population towards garlic, special telephone enquiry was carried out, during which 200 respondents were interviewed in Tbilisi. The enquiry provided the following results:

<b>Formulated Demand</b>		<b>Number of Answers</b>	<b>%-Distribution</b>
<b>Peel color</b>	<i>White</i>	171	85%
	<i>Light Violet</i>	29	14%
<b>Bulb size</b>	<i>Small</i>	6	3%
	<i>Average</i>	131	65%
	<i>Large</i>	63	31%
<b>Clove size</b>	<i>Small</i>	15	7%
	<i>Average</i>	137	68%
	<i>Large</i>	48	24%
<b>Scent</b>	<i>Strong</i>	155	77%
	<i>Slight</i>	45	22%
<b>Packaging</b>	<i>Packed</i>	72	36%
	<i>In Bulk</i>	128	64%
<b>Packaging size</b>	<i>Up to 0,5 kg</i>	58	52%
	<i>Up to 1 kg</i>	28	25%
	<i>More than 1 kg</i>	25	23%
<b>Calibration</b>	<i>Calibrated</i>	157	78%
	<i>Non-calibrated</i>	43	21%
<b>Origin</b>	<i>Local</i>	161	80%
	<i>Chinese</i>	32	16%
	<i>Iranian</i>	6	3%
	<i>Other</i>	1	0%

Results of the conducted enquiry clearly indicate that consumers give their preference to:

#### **Locally produced garlic of medium size bulb, medium size clove and strong scent**

Great majority of consumers (78%) opt for purchasing calibrated products and 36% require products packed in nets containing up to 0,5 kg of garlic. It is also noteworthy that over the last years the shopping pattern of consumers have changed and the majority of population now prefers purchasing garlic by 1-3 bulbs rather than by bulk weight.

### **3.1.6.7. Potential for Adding Value to the Product**

Enquiry conducted by telephone has identified that 78% of population prefers calibrated product and 36% gives preference to packed product. Therefore it is possible to establish small collection centers at locations of the production where garlic will be picked out, sorted,

calibrated, cleaned from superfluous peels and remains of the root and then, about 30 % of the products, packed into individual 0,5 kg packaging what will give added value to the product.

#### ***3.1.6.8. Profitable Market Niche***

As market niche for garlic is considered substitution of its import with local production. Even in the years of good harvest, 70% of the total garlic consumption in Georgia comes on imported products since local productions volume is too small to make any significant impact on total volume of consumption. This is because local farmers do not have access to the advance technologies of the industrial garlic production, therefore employ lots of handwork which makes the production very costly, non-efficient and therefore, very small in volume. According to the interviewed sellers, almost 70% of the locally produced garlic is sold during the period of July - September which is mainly caused by low storing characteristics of the product in common conditions. Introduction of modern technologies in garlic storing will give farmers possibility to distribute the product realization among the optimal months (January-March) and thus increase their revenue.

Consumer enquiry has revealed that vast majority of population (80%) prefers locally produced garlic. It is also known that consumers opt for garlic of medium size bulb, white color peel, medium size clove and strong scent. Accordingly, provided that farmers select product varieties with appropriate characteristics, purchase quality seeds and also improve the storing conditions, it will become possible to substitute the import with local production on the market.

### 3.1.8. Tomato

#### 3.1.8.1. Market Potential

Based on processing and analyzing of information received through the conducted enquiry, consumption of tomato according to target towns is the following:

<b>Town</b>	<b>Period</b>	<b>Consumption</b>			
		<b>Annually Kg./ per Capita</b>	<b>Annually (MT)</b>	<b>Monthly (MT)</b>	<b>Daily (MT)</b>
<b>Tbilisi</b>	Summer	37.69	41,459.0	3,454.9	115.16
	Winter	1.60	1,760.0	146.7	4.89
	Tomato for canning	3.56	3,917.0	1,958.3	65.28
<b>Telavi</b>	Summer	18.76	525.3	65.7	2.19
	Winter	0.17	4.9	0.6	0.02
	Tomato for canning	5.30	148.4	74.2	2.47
<b>Gori</b>	Summer	45.32	2,265.8	283.2	9.44
	Winter	7.07	353.5	44.2	1.47
	Tomato for canning	68.04	3,402.0	1,701.0	56.70
<b>Akhaltzikhe</b>	Summer	29.59	719.0	143.8	4.79
	Winter	1.60	39.0	4.9	0.16
	Tomato for canning	5.61	136.0	68.0	2.27
<b>Kutaisi</b>	Summer	60.00	11,214.2	2,243.0	74.76
	Winter	0.002	0.4	0.05	0.002
	Tomato for canning	24.61	4,600.4	2,300.2	76.67
<b>Batumi</b>	Summer	25.9	3,159.8	631.9	21.07
	Winter	13.6	1,659.2	207.4	6.913
	Tomato for canning	22.2	2,708.4	1,354.2	45.14
<b>Zugdidi</b>	Summer	42.0	2,893.6	1,446.8	48.23
	Winter	0	0	0	0.000
	Tomato for canning	26.0	1,791.3	895.6	29.9
<b>Rustavi</b>	Summer	94.86	7,114.3	889.3	29.6
	Winter	0	0	0	0.000
	Tomato for canning	11.92	894.0	446.9	14.9
<b>Marneuli</b>	Summer	5.54	138.4	17.3	0.6
	Winter	5.54	138.4	27.8	0.9
	Tomato for canning	11.92	301.7	150.8	5.0

Through the analysis it was also identified that approximately 10-15% of the consumer demand on the product existed in the towns is satisfied through direct individual supply to families from villages. That is, part of the town population owns land plots in villages/countryside where they grow these products or have relatives there who are sending them these products, etc. The remaining 85-90% of demand make the actual market potential.

Since destruction in 2005 of the greenhouse farm operation existed in Kazbegi district, production of greenhouse tomato has come almost to zero in Georgia and currently is not satisfying even 0,5% of the total demand. Within country, production of tomato in greenhouses is presently restricted to production of seasonal tomato. Such product is grown in temporary greenhouses with polyethelene roofing and without heating. In winter, price of locally produced tomato ranges between 8-12 GEL and it is affordable only to very small group of population.

The average quantity of tomato in stock at the marketplace during the day according to towns is the following:

<b>Towns</b>	<b>Quantity (MT)</b>
- Tbilisi	445,3
- Telavi	9,3
- Gori	132,3
- Akhaltsikhe	14,1
- Kutaisi	302,8
- Batumi	132,4
- Zugdidi	156,2
- Rustavi	89,1
- Marneuli	65,2

*Field tomato (July-October)*

<b>Towns</b>	<b>Quantity (MT)</b>
- Tbilisi	200,0
- Telavi	4,4
- Gori	18,9
- Akhaltsikhe	9,6
- Kutaisi	95,5
- Batumi	42,1
- Zugdidi	25,5
- Rustavi	59,3
- Marneuli	40,9

*Field canning tomato  
(September-October)*

<b>Towns</b>	<b>Quantity (MT)</b>
- Tbilisi	125,7
- Telavi	0,3
- Gori	22,1
- Akhaltsikhe	0,1
- Kutaisi	1,2
- Batumi	103,7
- Zugdidi	0,0
- Rustavi	0,0
- Marneuli	0,7

*Field tomato (July-October)*

The maximum quantity of products present on the marketplace is identified to be during the period from Friday to Sunday which is by approximately 20-40% above than average. Accordingly, during other days of the week the volume of products in stock at the market is smaller.

It is to be noted that retail traders carry out supplementing of products on the market at a daily basis and small wholesalers do this 1-3 times per week. Large wholesalers, as a rule, are not dealing with field tomato due to its low storing characteristics and high rate of waste.

Greenhouse tomato is mainly supplied by large wholesalers. The product is imported from Turkey once in every 2-3 weeks and is delivered to wholesale trade centers of Tbilisi and Batumi from where the product is afterwards distributed to other towns of Georgia.

The study has identified the following picture of the percentage distribution of annual consumption of tomato as according to towns:

Town	Period		
	Summer	Winter	For canning
- Tbilisi	59.7%	44.5%	21.9%
- Telavi	0.8%	0.1%	0.8%
- Gori	3.3%	8.9%	19.0%
- Akhaltsikhe	1.0%	1.1%	0.8%
- Kutaisi	16.1%	0.0%	25.7%
- Batumi	4.5%	41.9%	15.1%
- Zugdidi	4.2%	0.0%	10.0%
- Rustavi	10.2%	0.0%	5.0%
- Marneuli	0.2%	3.5%	1.7%

### 3.1.8.2. Product Import

Table below represents product import by months, quarters, exporter countries and product prices:

Period	Quantity (Kg)		Price (Gel/Kg)	
	2005	2006	2005	2006
January	57,567	153,975	1,18	0,79
February	34,975	142,887	1,11	0,80
March	100,277	305,996	1,04	0,79
April	252,346	858,555	1,04	0,80
May	185,940	1,226,700	0,98	0,87
June	139,200	704,776	0,67	1,31
July	0	310	-	0,4
August	0	0	-	-
September	0	940	-	0,4
October	1,000	37,320	0,71	0,66
November	41,785	294,884	0,71	1,36
December	296,194	408,855	0,71	1,34
<b>Total</b>	<b>1,109,284</b>	<b>4,135,198</b>	<b>0,89</b>	<b>1,00</b>

Period	Quantity (Kg)		Price (Gel/Kg)	
	2005	2006	2005	2006
1st Quarter	192,819	602,858	1,09	0,79
2nd Quarter	577,486	2,790,031	0,93	0,96
3rd Quarter	0	1,250	-	0,40
4th Quarter	338,979	741,059	0,71	1,32

Importer Country	2005		2006	
	Kg.	%	Kg.	%
Iran	1840	0,17%	0	-
Greece	642	0,06%	0	-
Turkey	1,106,802	99,78%	4,135,198	100,00%

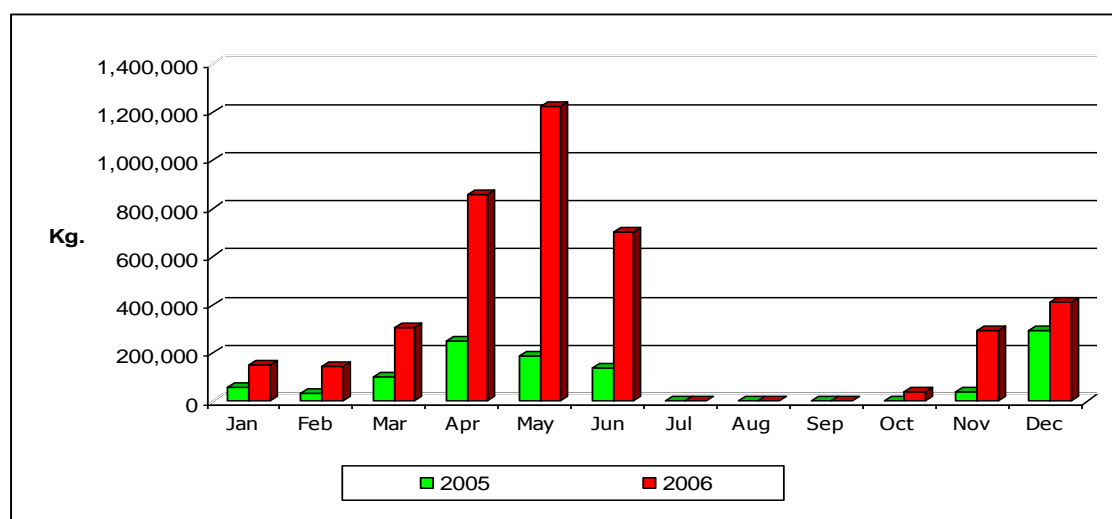
Data given in the table is based on information provided by customs office.

As for price indicated in the table, it is a price of 1 kg of product after the customs clearance (DDP).

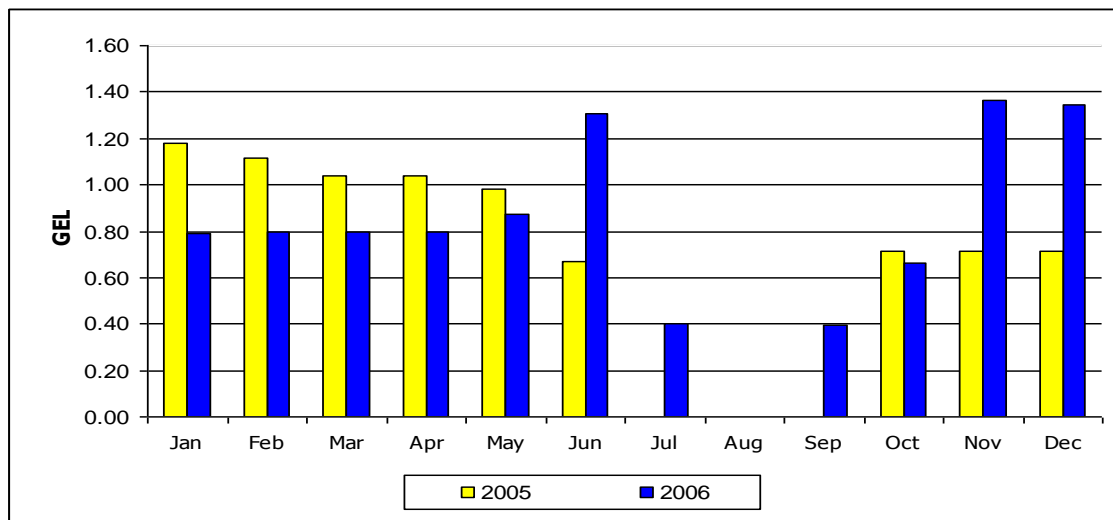
Product imported from Azerbaijan by small wholesalers with their own passenger vehicles is not subject for custom clearance and therefore is not registered.

Import of open soil tomato to Georgia is carried out only from Azerbaijan, mostly in June and first half of July. From July until middle of November market is filled with locally produced products. From second half of November until May included, market is fully occupied by greenhouse tomato imported from Turkey. Compared to 2005, import in 2006 has increased almost twice due to destruction of greenhouse farm operations in Kazbegi district.

### ***Dynamics of Product's Import in 2005 and 2006 (by Months)***



### ***Dynamics of Imported Product's Price in 2005 and 2006 (by Months)***



#### ***3.1.8.3. Product Seasonality***

Greenhouse tomato is not affected by seasonality and has a low but stable rate of consumption during winter and spring periods. Consumption increases insignificantly during periods of holidays and religious fasting. Main customers for greenhouse tomato are restaurants and other public food outlets.

Consumption season for the field tomato begins in middle of August and continues until the end of October. At this time quantity of product in stock at the market increases by 2-3 times. General demand of population on tomato grows during this period as it coincides with the vegetable canning season.

Table below represents structure of the origin of products in stock at the market in 2006, by months:

<b>Period</b>	<b>Local Produce</b>	<b>Turkish</b>	<b>Azerbaijani</b>
<b>- January</b>	2%	98%	0%
<b>- February</b>	2%	98%	0%
<b>- March</b>	2%	98%	0%
<b>- April</b>	2%	83%	15%
<b>- May</b>	7%	40%	53%
<b>- June</b>	30%	0%	70%
<b>- July</b>	70%	0%	30%
<b>- August</b>	100%	0%	0%
<b>- September</b>	100%	0%	0%
<b>- October</b>	100%	0%	0%
<b>- November</b>	50%	50%	0%
<b>- December</b>	2%	98%	0%



**3.1.8.4. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006**

*(Gel / Kg.)*

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	2.0	1.5	2.0	1.5
	May – Aug.	0.5	0.4	0.7	0.6
	Sept. – Nov.	0.5	0.4	0.5	0.4
Batumi	Dec. – Apr.	2.9	2.2	3.3	2.5
	May – Aug.	1.7	1.3	2.0	1.5
	Sept. – Nov.	2.2	1.6	2.4	1.8
Kutaisi	Dec. – Apr.	3.5	3.2	4.0	3.4
	May – Aug.	0.6	0.4	1.3	0.8
	Sept. – Nov.	0.5	0.3	0.7	0.5
Gori	Dec. – Apr.	3.0	2.5	3.0	2.5
	May – Aug.	1.5	1.0	2.0	1.5
	Sept. – Nov.	0.5	0.3	0.8	0.5
Telavi	Dec. – Apr.	3.3	2.4	3.3	2.4
	May – Aug.	1.0	0.8	0.8	0.6
	Sept. – Nov.	0.7	0.5	0.9	0.7
Marneuli	Dec. – Apr.	3.0	2.2	3.5	3.0
	May – Aug.	0,4	0,25	0,75	0,65
	Sept. – Nov.	0.5	0.4	0.8	0,65
Rustavi	Dec. – Apr.	2,70	2.2	4.0	3.5
	May – Aug.	1,25	0,5	1,5	1,20
	Sept. – Nov.	0.7	0.4	1,20	0,9
Tbilisi	Dec. – Apr.	4.61	4.0	4.8	3.7
	May – Aug.	1.2	0.9	1.4	1.1
	Sept. – Nov.	1.2	1.0	1.6	1.2
Akhaltzikhe	Dec. – Apr.	3.0	2.2	2.7	2.1
	May – Aug.	1.3	1.0	1.2	0.9
	Sept. – Nov.	0.5	0.4	1.0	0.8

Price of field tomato is largely influenced by quantity of the product on the market. During the season, farmers try to sell ripe tomato as fast as possible due to its being quickly perishable. It often so happens that the quantity of products in stock at the market largely exceeds the current demand and at such times price fall-down can reach 50%.

Situation described above is characteristic to good harvest years and more often happens at regional marketplaces. In such years it becomes impossible to forecast tomato prices, since other than population, there exists no stable purchaser (processing industry and export). During the bad harvest years (like it was in 2006) prices are almost twice higher and stable as compared to usual.

### 3.1.8.5. Factors Influencing Sales

In order to identify factors that influence sales of tomato it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	Seasonality	Quality	Purchase Capacity of Population	Holidays	Price	Competition	Not Having Impact
- Zugdidi	7	4	1	0	1	0	0
- Batumi	17	9	8	0	4	0	0
- Kutaisi	13	5	1	1	0	0	0
- Gori	10	3	0	0	0	3	3
- Telavi	7	4	2	0	0	0	0
- Marneuli	6	2	0	0	5	0	0
- Rustavi	16	5	2	0	4	0	0
- Tbilisi	12	5	0	4	14	0	1
- Akhaltsikhe	1	0	3	8	2	0	0
<b>Total</b>	<b>89</b>	<b>37</b>	<b>17</b>	<b>13</b>	<b>30</b>	<b>3</b>	<b>4</b>
<b>Percentage</b>	<b>46.1%</b>	<b>19.2%</b>	<b>8.8%</b>	<b>6.7%</b>	<b>15.5%</b>	<b>1.6%</b>	<b>2.1%</b>

The table indicates that, by opinion of the product sellers, main factors that influence sales of tomato are, seasonality – 46,1%, quality – 19,2% and price - 15,5%. Other factors, according to the interviewed, are not having significant impact on sales.

Demand on tomato is usually stable and increases a little during the season of preparation of canned vegetables by population. Therefore, in case local food processing industry is rehabilitated and it becomes possible to export locally produced tomato to Russia, demand on this product will drastically increase, because almost all products based on processed tomato (tomato paste, ketchup and similar sauces, tomato juice, etc.) which are currently placed on shelves of the outlets within the trade network of Georgia, are imported.

### 3.1.8.6. Population Requirements Towards The Product And Quality Preferences

In order to determine as what are quality requirements of local population towards tomato, special telephone enquiry was carried out, during which 200 respondents were interviewed in Tbilisi. The enquiry provided the following results:

Formulated Demand		Number of Answers	%-Distribution
<b>Skin</b>	<i>Red</i>	114	57%
	<i>Pink</i>	87	43%
<b>Shape</b>	<i>Round</i>	176	88%
	<i>Flat</i>	7	4%
	<i>Oblong</i>	17	9%
<b>Size</b>	<i>Large</i>	36	18%
	<i>Medium</i>	160	80%
	<i>Small</i>	5	2%

<b>Pulp</b>	<i>Ripe</i>	98	49%
	<i>Seedy</i>	0	0%
	<i>Seedless</i>	3	1%
	<i>Hard</i>	100	50%
<b>Taste</b>	<i>Sweetish</i>	75	37%
	<i>Sweet and Sour</i>	126	63%
<b>Covered soil tomato</b>	<i>Local</i>	31	94%
	<i>Turkish</i>	2	6%
<b>Consumption of the greenhouse tomato in winter</b>	<i>Does not consume</i>	196	98%
	<i>Consumes</i>	5	2%
<b>Calibration</b>	<i>Calibrated</i>	160	80%
	<i>Non-calibrated</i>	41	20%
<b>Origin</b>	<i>Local</i>	192	96%
	<i>Import</i>	8	4%

Proceeding from the above, consumer gives preference to:

**Locally produced tomato of medium size, with red color skin and sweet and sour taste**

As for consumption of greenhouse tomato in winter, it is consumed only by 2 % of population.

### ***3.1.8.7. Potential for Adding Value to the Product***

Regarding the greenhouse tomato it should be noted that today, the total volume of it existing at the market is imported and is already given the appropriate commodity appearance.

As for field tomato, it is a very easily perishable product and therefore, possibilities of adding value to this product require further consideration.

### ***3.1.8.8. Profitable Market Niche***

As market niche for greenhouse tomato is considered substitution of its import with local production, which at this stage does not seem realistic due to currently employed technologies and high prices on energy carriers in Georgia. Provided introduction of the advanced production technologies and utilization of alternative energy sources (especially rewarding seems to be utilization of the existed geo-thermal springs' potential), substitution of certain share of import with locally produced goods seems to become a quite realistic possibility.

In months of June-July, considerable quantity of tomato is imported from Azerbaijan. It seems quite possible to substitute this import with strong seasonal tomato varieties grown in temporary type greenhouses of Marneuli and Gardabani districts.

### 3.1.8. Milk

#### 3.1.8.1. Key Highlights of the Secondary Data

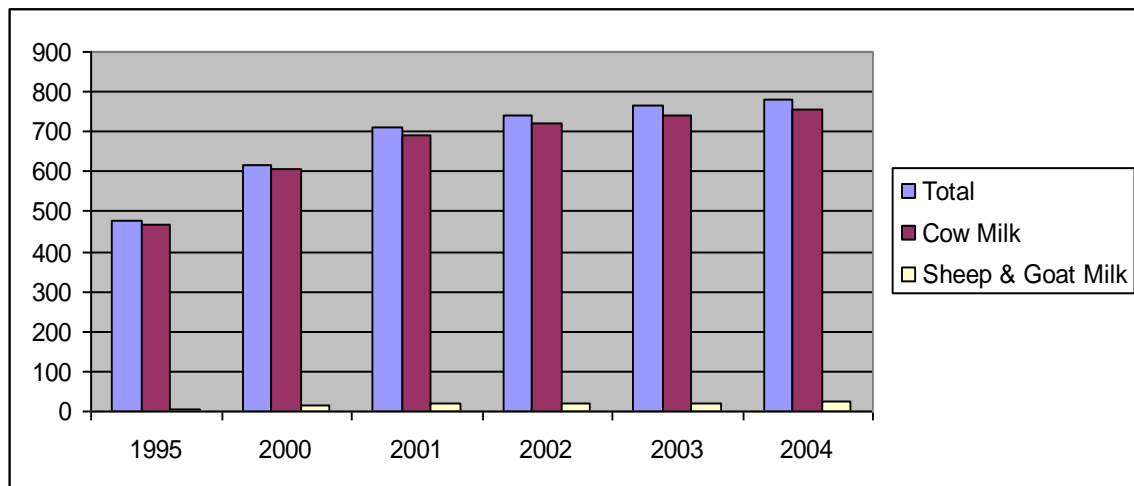
According to report prepared by OPTO International<sup>1</sup> in Georgia in 2004, cow milk made about 97% of total milk production. It is important to mention that farmers do not use any specific equipment during the production process, but involve women's hand work. Women milk cows twice per day manually and later on are as well involved in the process of transforming milk into dairy products such as cheese, butter, etc.

#### **Milk Production in Georgia (1000 tons) in 1995-2004**

	1995	2000	2001	2002	2003	2004
Cow Milk	469.4	604.5	690.4	720.7	743.3	755
Sheep & Goat Milk	6	14.4	19.6	21.4	21.8	25.4
<b>Total</b>	<b>475.4</b>	<b>618.9</b>	<b>710</b>	<b>742.1</b>	<b>765.1</b>	<b>780.4</b>

Source: Georgian Agriculture, State department of Statistics, 2005

#### **Milk Production in Georgia (1000 tons) in 1995-2004**



Source: Georgian Agriculture, State Department of Statistics, 2005

There are three types of dairy producers in Georgia:

- 1) Individual farmers who collect milk from their own herds;
- 2) Small-scale producers collecting milk from individual farmers; and
- 3) Large-scale entrepreneurs working with imported milk powder.

Small-scale (homestead) production involves 5-8 people in production process and is mostly located outside the capital. These producers collect milk from their neighbours, process it at home and sell the production out either in Tbilisi or in regional towns. As for the medium and large-scale producers, they are mostly located in Tbilisi and have made certain investment in production process to ensure high quality.

The major milk production regions are Imereti, Kvemo Kartli, and Samegerelo – Zemo Svaneti.

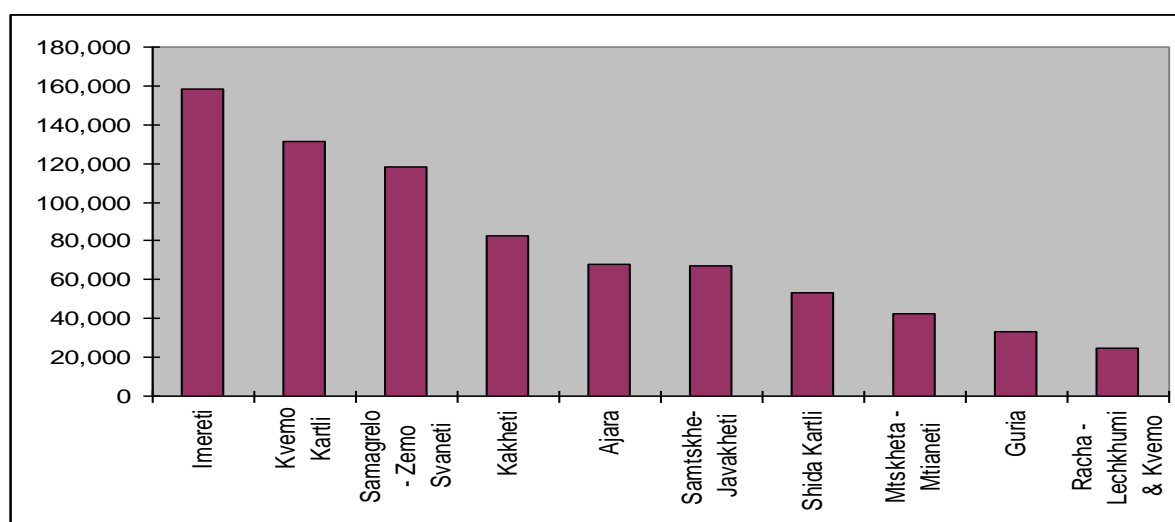
<sup>1</sup> OPTO International A.B., Support to Milk and Dairy Sector Project, "Dairy Industry of Georgia". Tbilisi, Georgia, March 2006

### **Milk Production in 2004 by Regions (tons)**

<b>Region</b>	<b>Milk Produced</b>
- Imereti	158,087
- Kvemo Kartli	131,489
- Samegrelo - Zemo Svaneti	118,237
- Kakheti	82,666
- Ajara	68,358
- Samtskhe-Javakheti	67,164
- Shida Kartli	53,194
- Mtskheta – Mtianeti	42,660
- Guria	33,457
- Racha - Lechkhumi & Kvemo Svaneti	25,050
<b>Total</b>	<b>780,362</b>

Source: Georgian Agriculture, State Department of Statistics, 2005

### **Milk Production in 2004 by Regions (tons)**



Source: Georgian Agriculture, State Department of Statistics, 2005

As it was mentioned above, milk is converted into cheese, butter, matsoni (local type sour milk/yogurt), and other dairy production by individual farmers at home. The table below illustrates relative market share of different dairy products in 2004.

### **Production of Processed Dairy Products in Georgia in 2004 (in MT)**

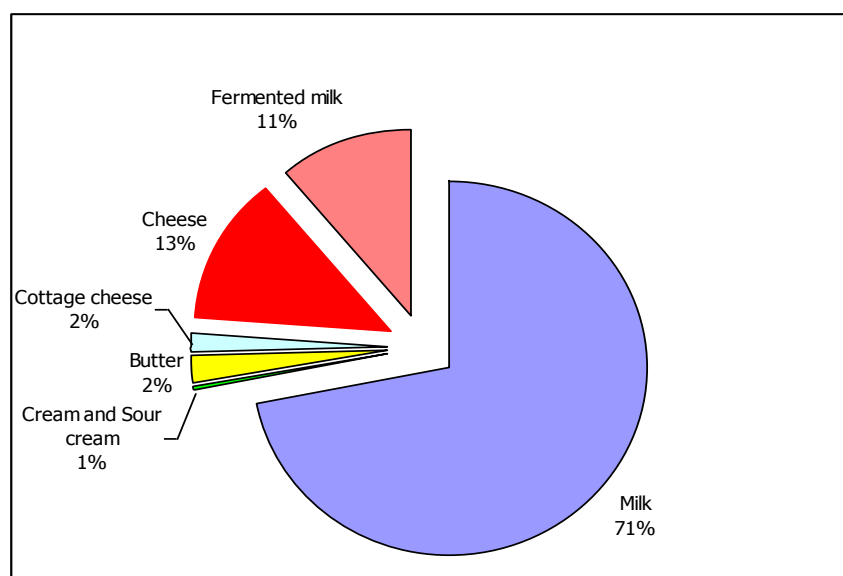
<b>Region</b>	<b>Matsoni</b>	<b>Sour Cream</b>	<b>Cottage Cheese/Curds</b>	<b>Cheese</b>	<b>Butter</b>
Kakheti	3,202	4	297	2,295	227
Ajara	7,648	3	820	1,629	504
Guria	970	4	377	2,298	4
Imereti	3,452	21	127,718	19,780	16
Kvemo Kartli	9,821	121	298	4,940	793
Mtskheta - Mtianeti	2,684	4	127	886	99
Samegrelo	1,226		831	7,614	19
Samtskhe-Javakheti	2,423	97	147	6,219	678
Shida Kartli	3,161	2	139	3,434	93
<b>Total</b>	<b>34,587</b>	<b>256</b>	<b>5,879</b>	<b>49,095</b>	<b>2,433</b>

Source: Households of Georgia. State Department of Statistics, 2005

Cheese has the largest share in all dairy production. Mostly, cheese producers produce Sulguni type of cheese. The production is rather seasonal and is “frozen” in winter season.

Despite the fact that milk production in Georgia has almost reached the level it had in Soviet times (according to report prepared by OPTO International <sup>2</sup>) it still can not satisfy domestic demand. According to the State Department of Statistics, total dairy product consumption in 2000 was 213.5 kg per capita and in 2004, it was 207 kg per capita. However, the statistics does not cover institutional consumption such as restaurants, catering, army, etc. On the whole, dairy sector is characterized by the lack of formal structure and marketing channels to retail. Therefore, disorganized marketing infrastructure forces local producers to market their production themselves.

### ***Dairy Product Consumption in Households in 2004***



Source: *Households of Georgia. State Department of Statistics, 2005*

On the whole, during the last ten years (for the period of 1995-2004), milk production increased about 64 % (from 475.4 tones in 1995 to 780.40 tons in 2004). In spite of this, local production is unable to satisfy the existed consumption needs and the country remains still heavily depending on import.

### ***Imported Dairy Production (1,000 tons)***

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Commodity Imported	228	296	386	349	297	329	312	319	315	298

Source: *State Department of Statistics, 2004*

According to the Customs Department of Georgia, in 2004, there was imported about 16 million kilos of dairy products. In monetary terms, the value of imported dairy products was about USD 17.5 million.

<sup>2</sup> OPTO International A.B., *Support to Milk and Dairy Sector Project, "Strategy for Milk Sales". Tbilisi, Georgia, March 2006*

Dried milk currently holds leading position as the most demanded product to be imported and it is usual used by large-scale dairy producers.

### **Imported Dairy Production by Category (2004)**

<b>Production</b>	<b>Quantity, kg</b>	<b>Value, USD</b>
Milk condensed / dried	9,680,357	10,407,434
Butter	4,536,533	5,037,952
Milk/cream	686,769	372,807
Yogurt	672,915	783,609
Cheese and curds	276,880	878,720
Whey and other	106,720	36,266
<b>Total</b>	<b>15,960,174</b>	<b>17,516,788</b>

Source: OPTO International A.B., Support to Milk and Dairy Sector Project, "Dairy Industry of Georgia". Tbilisi, Georgia, March 2006

In terms of export, in 2004, dairy production export from Georgia reached 4,744,823 kg with value of USD 4,418,534.

### **3.1.8.2. Market Potential**

Based on processing and analyzing of information received through the conducted enquiry, consumption of milk according to target towns is as follows:

<b>Town</b>	<b>Consumption</b>			
	<b>Annually (Litre/ per Capita)</b>	<b>Annually (<sup>'000</sup> litres)</b>	<b>Monthly (<sup>'000</sup> litres)</b>	<b>Daily (<sup>'000</sup> litres)</b>
<b>Tbilisi</b>	16.8	18,487.0	1,540.6	51.4
<b>Telavi</b>	7.3	204.0	17.0	0.6
<b>Gori</b>	23.0	1,147.9	95.7	3.2
<b>Akhaltsikhe</b>	20.2	491.0	40.9	1.4
<b>Kutaisi</b>	4.2	784.9	65.4	2.2
<b>Batumi</b>	20.4	2,488.8	207.4	6.9
<b>Zugdidi</b>	3.8	261.8	21.8	0.7
<b>Rustavi</b>	10.3	771.4	64.3	2.1
<b>Marneuli</b>	28.4	711.1	59.3	2.0

Table represents the combined volume of consumption of milk produced at small farms and milk factories. In small towns, such as Telavi, Zugdidi, Marneuli and Akhaltsikhe, almost all the consumed volume comes on farm milk and consumption of the factory made milk does not exceed 1%. In Gori, Kutaisi and Batumi consumption rate of factory milk reaches 3-4%, in Rustavi - 5% and in Tbilisi - 25%. Selling of factory milk is carried out through retail shops which are supplied directly by the factory distributors.

Farm made milk is delivered directly to households by small traders who are supplying it to permanent customers over the years. Retail shops, as a rule, refuse to trade with farm milk as not being sanitarily certified and sterilized since, on one hand, such a milk might be potentially infected and harmful and on the other hand, non-sterilized milk is a very rapidly perishable product and therefore causes considerable sales losses.

The average quantity of milk in stock at the market during the day and according to towns is the following:

<b>Towns</b>	<b>Milk ('000 litre)</b>
- <b>Tbilisi</b>	51.35
- <b>Telavi</b>	0.57
- <b>Gori</b>	3.19
- <b>Akhaltzikhe</b>	1.36
- <b>Kutaisi</b>	2.18
- <b>Batumi</b>	6.91
- <b>Zugdidi</b>	0.73
- <b>Rustavi</b>	2.143
- <b>Marneuli</b>	1.975

### ***3.1.8.3. Product Import***

Total consumption volume of the factory made milk at Georgian market equals to approximately 3,350,000 litres. From these, 80% belong to Georgian companies, namely:

- "Sante"
- "Sando"
- "Eco-Fudi"
- "Soplis Nobati"
- "Pakizo"

The remaining 20% of the factory milk comes on imports making up to total of 837,500 litres.

It is to be noted that among Georgian companies, only "Sante" and "Soplis Nobati" possess and employ milk bottling lines and they annually produce about 3 mln bottles of milk ("Sante" - 2 mln, "Soplis Nobati"-1 mln). Milk products of the rest of Georgian producers are bottled in factories abroad and are brought to here from Azerbaijan and Ukraine.

### ***3.1.8.4. Product Seasonality***

The study has identified that seasonality influences the price of the farm milk with respect to the product's availability during the winter period. Proceeding from natural and climatic conditions of Georgia, the season of maximum milking yield continues from May to August. Further on, milking yield gradually decreases from December to May by 60%. During the low milking period, farmers utilize the received milk for own consumption and at this time, sales price on farm milk reaches its maximum level.

As for factory milk, it is not depending on seasonality on the market and maintains its price and production volume permanently throughout the year. The matter is that factories themselves are having problems in milk purchase and practically, in the period from December to March, can not ensure the supply of milk for their production. Volumes of purchases are maximal from May to June and reduce to half during the period from August to November. Factories suffer great deficit of milk which they up with milk powder imported from abroad.



**3.1.8.5. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006**

- **Farm Milk**

*(Gel / Kg.)*

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
<b>Zugdidi</b>	Dec. – Apr.	1.00	0.80	1.00	0.80
	May – Aug.	0.80	0.65	0.80	0.65
	Sept. – Nov.	1.00	0.80	1.00	0.80
<b>Batumi</b>	Dec. – Apr.	1.15	0.98	1.20	1.00
	May – Aug.	1.10	0.90	1.10	0.90
	Sept. – Nov.	1.10	0.90	1.10	0.90
<b>Kutaisi</b>	Dec. – Apr.	1.00	0.90	1.50	1.20
	May – Aug.	0.90	0.70	1.30	1.10
	Sept. – Nov.	1.00	0.90	1.50	1.20
<b>Gori</b>	Dec. – Apr.	1.15	0.85	1.25	0.90
	May – Aug.	0.90	0.60	1.00	0.70
	Sept. – Nov.	1.15	0.85	1.25	0.90
<b>Telavi</b>	Dec. – Apr.	1.15	0.85	1.25	0.90
	May – Aug.	0.90	0.60	1.00	0.70
	Sept. – Nov.	1.15	0.85	1.25	0.90
<b>Marneuli</b>	Dec. – Apr.	1.00	0.75	1.00	0.75
	May – Aug.	0.80	0.60	0.80	0.60
	Sept. – Nov.	1.00	0.75	1.00	0.75
<b>Rustavi</b>	Dec. – Apr.	1.00	0.75	1.00	0.75
	May – Aug.	0.80	0.60	0.80	0.60
	Sept. – Nov.	1.00	0.75	1.00	0.75
<b>Tbilisi</b>	Dec. – Apr.	1.00	0.75	1.00	0.75
	May – Aug.	0.80	0.60	0.80	0.60
	Sept. – Nov.	1.00	0.75	1.00	0.75
<b>Akhaltzikhe</b>	Dec. – Apr.	0.65	-0.50	0.80	0.60
	May – Aug.	0.55	0.40	0.65	0.50
	Sept. – Nov.	0.60	0.45	0.80	0.60

- **Factory Milk**

(Gel / Kg.)

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
<b>Zugdidi</b>	Dec. – Apr.	2.10	1.57	2.10	1.57
	May – Aug.	2.10	1.57	2.10	1.57
	Sept. – Nov.	2.10	1.57	2.10	1.57
<b>Batumi</b>	Dec. – Apr.	2.10	1.90	2.10	1.90
	May – Aug.	2.10	1.90	2.10	1.90
	Sept. – Nov.	2.10	1.90	2.10	1.90
<b>Kutaisi</b>	Dec. – Apr.	2.15	1.95	2.15	1.60
	May – Aug.	2.15	1.95	2.15	1.60
	Sept. – Nov.	2.15	1.95	2.15	1.60
<b>Gori</b>	Dec. – Apr.	1.70	1.50	2.10	1.70
	May – Aug.	1.90	1,70	2.10	1.70
	Sept. – Nov.	1.90	1,70	2.10	1.70
<b>Telavi</b>	Dec. – Apr.	2,0	1,80	2,0	1,80
	May – Aug.	2,0	1,80	2,0	1,80
	Sept. – Nov.	2,0	1,80	2,0	1,80
<b>Marneuli</b>	Dec. – Apr.	1.70	1.50	1.70	1.50
	May – Aug.	1.70	1.50	1.90	1,70
	Sept. – Nov.	1.70	1.50	1.90	1,70
<b>Rustavi</b>	Dec. – Apr.	1.70	1.50	1.70	1.50
	May – Aug.	1.70	1.50	1.90	1,70
	Sept. – Nov.	1.70	1.50	1.90	1,70
<b>Tbilisi</b>	Dec. – Apr.	2	1.7	2	1.7
	May – Aug.	2	1.7	2	1.7
	Sept. – Nov.	2	1.7	2	1.7
<b>Akhaltzikhe</b>	Dec. – Apr.	2.00	1.80	2.00	1.80
	May – Aug.	2.00	1.80	2.00	1.80
	Sept. – Nov.	2.00	1.80	2.00	1.80

Prices on farm milk change according to seasons and they are at the lowest during the period from May to August. Price of factory milk is permanent over the year and is not influenced by seasonality. According to towns, difference between factory milk prices is conditioned by different prices set by different distributors and by competition between companies. The lowest prices exist in those towns which are partially rely on supply of the Russian produced milk (Zugdidi, Kutaisi).

### **3.1.8.6 Factors Influencing Sales**

In order to identify factors that influence sales of product it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	Seasonality	Quality	Purchase Capacity of Population	Holidays	Price	Competition	Not Having Impact
- Zugdidi	5	0	5	2	5	2	0
- Batumi	17	0	17	4	4	5	0
- Kutaisi	12	0	9	0	9	2	0
- Gori	5	0	6	0	6	0	0
- Telavi	0	0	0	0	0	8	0
- Marneuli	7	0	4	0	4	0	0
- Rustavi	6	0	5	3	0	0	0
- Tbilisi	5	0	8	10	5	10	1
- Akhaltsikhe	7	0	4	3	0	0	0
<b>Total</b>	<b>64</b>	<b>0</b>	<b>58</b>	<b>22</b>	<b>33</b>	<b>27</b>	<b>1</b>
<b>Percentage</b>	<b>31.2%</b>	<b>0.0%</b>	<b>28.3%</b>	<b>10.7%</b>	<b>16.1%</b>	<b>13.2%</b>	<b>0.5%</b>

The table indicates that, by opinion of the product sellers, main factors that influence sales of milk and its price are, seasonality – 31,2%, holidays – 28,3% and price – 16.1%. Other factors, according to the interviewed, are not having significant impact on sales.

For milk factories, key factors are seasonality and quality of milk. In terms of milk quality, attention is paid to fat content, protein content, acidity and density. The milk price is determined based on these characteristics.

During meeting with management of "Sante" they have expressed readiness to purchase large quantities of fresh milk and at the same time, extended their willingness to take participation in the establishment of milk collection centers.

### **3.1.8.7. Population Requirements Towards The Product And Quality Preferences**

In order to determine as what are quality requirements of population towards milk, special telephone enquiry was carried out, during which 200 respondents were interviewed in Tbilisi. The enquiry provided the following results:

Formulated Demand		Number of Answers	%-Distribution
<b>Origin</b>	<i>Factory</i>	142	72%
	<i>Farm</i>	55	28%
<b>Producer Company</b>	<i>"Sante"</i>	113	77%
	<i>"Soplis Nobati"</i>	8	5%
	<i>"Eco-Fudi"</i>	17	12%
	<i>"Parmalat"</i>	4	3%
	<i>Russian</i>	4	3%
<b>Fat Content</b>	<i>Less fatty</i>	16	8%
	<i>Fatty</i>	163	85%
	<i>Cream</i>	13	7%
<b>Weekly Consumption</b>	<i>1-2 L</i>	123	62%
	<i>3-5 L</i>	67	34%
	<i>5-10 L</i>	7	4%

<b>Laboratory Testing</b>	<i>Tested</i>	142	72%
	<i>Not tested</i>	55	28%

Results of the enquiry clearly indicate that 72% of consumers prefer factory made milk and only 28% give preference to farm milk. This is explained by fact that population more trusts factory milk as it is sterile, clean and tested. Consumer preferences towards the milk producing companies are distributed as follows: "Sante" – 77%; "Eco-Fudi" – 12%, "Soplis Nobati"- 5%. Only 6% of consumers use milk produced by foreign companies.

For milk factories, the basic standard quality of milk is considered to be a milk with 3,5% of fat content and 1,028 of density. Also, great attention is paid to degree of the milk's acidity. Deviations from the basic quality characteristics of milk upon its delivery to factory aDDPuately causes changes in the purchase price which may fluctuate between 0,35 and 0,7 GEL.

### ***3.1.8.8. Potential for Adding Value to the Product***

The most obvious solution to adding value to farm milk seems to be the establishment of milk collection centers where can as well could be arranged processing of milk into various dairy products (cheese, curds, sour cream, etc.).

Establishment of milk collection centers seems to be even more justified if we take into consideration that in the nearest future, it is expected that new regulations concerning dairy processing will be introduced which will imply new safety norms and relevant restrictions for dairy producers. Observance of these new norms will be connected with considerable additional financial costs for small dairy producers which will make many such enterprises unprofitable and bring most of them to eventual close-down.

We also see it expedient to provide farmers with relevant assistance (cattle breed improvement, provide supply of winter cattle feed (silage, haylage), etc.) in order for them to be capable of having the approximately similar milking yield both in spring-summer and autumn-winter periods so that they can sell the product at a higher price in wintertime period.

### ***3.1.8.9. Profitable Market Niche***

Apart from with the above mentioned milk processing possibilities, as market niche for milk should be considered existence of the steady demand from milk processing / dairy producer companies.

### 3.1.9. Cheese

#### 3.1.9.1. Market Potential

Based on processing and analyzing of information received through the conducted enquiry, consumption of cheese according to target towns is the following:

<b>Town</b>	<b>Consumption</b>			
	<b>Annually Kg./ per Capita</b>	<b>Annually (MT)</b>	<b>Monthly (MT)</b>	<b>Daily (MT)</b>
<b>Tbilisi</b>	16.8	18,487.0	1,540.6	51.4
<b>Telavi</b>	7.4	206.6	17.2	0.6
<b>Gori</b>	28.6	1,431.2	119.3	4.0
<b>Akhaltzikhe</b>	20.5	498.0	41.5	1.4
<b>Kutaisi</b>	19.2	3,588.5	299.0	10.0
<b>Batumi</b>	22.2	2,708.4	225.7	7.5
<b>Zugdidi</b>	37.0	2,549.1	212.4	7.1
<b>Rustavi</b>	14.3	1,073.6	89.5	3.0
<b>Marneuli</b>	25.4	636.1	53.0	1.8

The above differences in cheese consumption volumes per capita are conditioned by various factors, most notably by such factors as characteristics of the locally traditional type of cheese (for example, in Telavi they mostly eat Guda type of cheese which has high content of fat and saltiness and therefore can not be consumed in large quantities) and also, the purchasing capacity of the local population.

The average quantity of cheese in stock at the marketplace during the day and according to towns is the following:

<b>Towns</b>	<b>Cheese (MT)</b>
- <b>Tbilisi</b>	174.5
- <b>Telavi</b>	1.3
- <b>Gori</b>	4.0
- <b>Akhaltzikhe</b>	1.55
- <b>Kutaisi</b>	11.3
- <b>Batumi</b>	9.2
- <b>Zugdidi</b>	12.4
- <b>Rustavi</b>	6.67
- <b>Marneuli</b>	3.7

The maximum quantity of products present on the marketplace is identified to be during the period from Friday to Sunday which is by approximately 20-40% above than average stock. Accordingly, during other days of the week the volume of products in stock at the market is smaller.

Through the analysis it was also identified that approximately 10-15% of the consumer demand on the product existed in the towns is satisfied through non-commercial supply from villages (relative to relative, friend to friend, etc.). That is, part of the town population have parents/relatives living in the countryside there who periodically send them these products. The remaining 85-90% of the demand make the actual market potential.

It is to be noted that retail traders carry out supplementing of products on the market at a daily basis and each small wholesaler does it 2-3 times a week. As for large wholesalers, these do not exist with respect to the locally produced cheese.

As for percentage distribution of consumption according to towns, it is as follows:

<b>Towns</b>	<b>%</b>
- Tbilisi	72.9%
- Telavi	0.8%
- Gori	4.5%
- Akhaltsikhe	1.9%
- Kutaisi	3.1%
- Batumi	9.8%
- Zugdidi	1.0%
- Rustavi	3.0%
- Marneuli	2.8%

### ***3.1.9.2. Product Import***

In all 9 target towns population mostly consumes locally produced cheese. Imported Cheese is only consumed in Tbilisi, Kutaisi and Batumi and this represents only insignificant portion of total consumption volume. For Tbilisi, this indicator may vary between 1-2 %.

### ***3.1.9.3. Product Seasonality***

Seasonal deviations in sales of cheese in big towns make up to about 30-40% and in smaller towns – 60 -70%.

Maximum sales volume for ***Imeruli and Sulguni types*** of cheese comes on period between middle of May and middle of August.

Maximum sales volume for ***Factory type*** of cheese (that means cheese produced in factories of Ninotsminda, Akhalkalaki and Tsalka) comes on period between August and November included.

Maximum sales volume for ***Guda type*** of cheese made of sheep and/or cow milk comes on period between September and February.

Price on cheese has been steadily growing over the last 5 years, by 10-20% per year. During the out of season periods (October-May), prices on cheese increases up to 30-40%. As for holiday periods, then the cheese prices go up by some 10-20%.

In terms of stock, there is no lack of any type of cheese on any of the markets researched, however, due to expensiveness of the product during certain months, usually it is not easily affordable for many of the population groups.

**3.1.9.4. Product Price (Wholesale and Retail) and its Seasonal Fluctuation in 2005 – 2006**

▪ ***Imeruli cheese***

*(Gel / Kg.)*

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	6.0	5.0	8.0	7.0
	May – Aug.	5.0	4.0	6.0	5.0
	Sept. – Nov.	6.0	5.0	8.0	7.0
Batumi	Dec. – Apr.	5.7	4.8	6.3	5.3
	May – Aug.	5.1	4.3	5.3	4.5
	Sept. – Nov.	5.2	4.4	6.0	5.1
Kutaisi	Dec. – Apr.	5.0	4.2	7.0	6.5
	May – Aug.	3.5	3.0	4.0	3.6
	Sept. – Nov.	4.0	3.5	6.0	5.0
Gori	Dec. – Apr.	4.0	3.5	4.4	3.8
	May – Aug.	3.5	2.8	4.6	4.0
	Sept. – Nov.	4.5	4.0	5.5	5.0
Telavi	Dec. – Apr.	7.7	5.8	8.7	6.5
	May – Aug.	6.6	4.9	7.7	5.8
	Sept. – Nov.	7.0	5.3	8.1	6.1
Marneuli	Dec. – Apr.	4.0	3.5	4.4	3.8
	May – Aug.	3.5	2.8	4.6	4.0
	Sept. – Nov.	4.5	4.0	5.5	5.0
Rustavi	Dec. – Apr.	4.5	3.4	4.4	3.3
	May – Aug.	3.3	2.5	4.8	3.6
	Sept. – Nov.	5.5	4.1	6.3	4.7
Tbilisi	Dec. – Apr.	5.8	4.9	6.2	5.1
	May – Aug.	5.0	4.4	5.1	4.4
	Sept. – Nov.	5.0	4.6	5.5	4.7
Akhaltzikhe	Dec. – Apr.	3.9	3.1	4.8	4.2
	May – Aug.	3.0	2.3	4.0	3.3
	Sept. – Nov.	3.4	2.9	4.4	3.9

▪ ***Sulguni cheese***

(Gel / Kg.)

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
<b>Zugdidi</b>	Dec. – Apr.	10.0	9.0	11.0	10.0
	May – Aug.	9.0	8.0	10.0	9.0
	Sept. – Nov.	10.0	9.0	11.0	10.0
<b>Batumi</b>	Dec. – Apr.	8.1	6.9	9.8	8.3
	May – Aug.	7.9	6.7	8.5	7.2
	Sept. – Nov.	8.0	6.8	9.4	8.0
<b>Kutaisi</b>	Dec. – Apr.	7.0	6.2	10.0	9.2
	May – Aug.	8.0	7.3	9.0	8.4
	Sept. – Nov.	7.0	6.4	9.0	8.3
<b>Gori</b>	Dec. – Apr.	8.0	6.0	10.0	8.0
	May – Aug.	8.0	6.0	8.0	6.0
	Sept. – Nov.	8.0	6.0	10.0	8.0
<b>Telavi</b>	Dec. – Apr.	11.6	8.7	12.4	9.3
	May – Aug.	11.3	8.5	12.2	9.2
	Sept. – Nov.	11.6	8.7	12.4	9.3
<b>Marneuli</b>	Dec. – Apr.	5.0	4.5	6.2	5.7
	May – Aug.	5.0	4.5	5.6	5.0
	Sept. – Nov.	6.0	5.5	7.0	6.5
<b>Rustavi</b>	Dec. – Apr.	5.2	3.9	6.2	4.7
	May – Aug.	5.0	3.8	6.4	4.8
	Sept. – Nov.	6.2	4.7	8.0	6.0
<b>Tbilisi</b>	Dec. – Apr.	8.0	7.3	9.0	8.0
	May – Aug.	6.9	6.8	7.5	7.0
	Sept. – Nov.	7.5	7.1	8.5	7.5
<b>Akhaltsikhe</b>	Dec. – Apr.	8.8	7.2	10.6	9.4
	May – Aug.	7.6	5.9	8.8	6.6
	Sept. – Nov.	8.1	6.4	9.4	7.2



▪ ***Guda cheese (of cow milk)***

*(Gel / Kg.)*

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Batumi	Dec. – Apr.	-	-	5.0	4.0
	May – Aug.	-	-	3.5	2.8
	Sept. – Nov.	-	-	4.1	3.3
Kutaisi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Gori	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Telavi	Dec. – Apr.	9.8	7.3	11.3	8.5
	May – Aug.	9.7	7.3	11.3	8.5
	Sept. – Nov.	9.8	7.3	12.0	9.0
Marneuli	Dec. – Apr.	5.2	4.5	5.6	5.0
	May – Aug.	5.2	4.5	5.6	5.0
	Sept. – Nov.	5.6	5.0	6.0	5.2
Rustavi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Tbilisi	Dec. – Apr.	5.5	4.0	8.0	6.0
	May – Aug.	5.5	4.0	8.0	6.0
	Sept. – Nov.	5.5	4.0	8.0	6.0
Akhaltzikhe	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	8.3	6.1	8.8	6.9

▪ ***Guda cheese (of sheep milk)***

*(Gel / Kg.)*

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Batumi	Dec. – Apr.	2.5	2.0	3.0	2.4
	May – Aug.	2.0	1.6	2.5	2.0
	Sept. – Nov.	2.3	1.8	3.5	2.8
Kutaisi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Gori	Dec. – Apr.	6.0	4.5	7.0	5.0
	May – Aug.	6.0	4.5	7.0	5.0
	Sept. – Nov.	6.0	4.5	7.0	5.0
Telavi	Dec. – Apr.	7.0	5.3	7.8	5.9
	May – Aug.	6.9	5.2	7.3	5.7
	Sept. – Nov.	6.8	5.1	7.5	5.5
Marneuli	Dec. – Apr.	6.0	5.5	6.5	6.0
	May – Aug.	5.8	5.2	6.5	6.0
	Sept. – Nov.	6.0	5.5	7.0	6.5
Rustavi	Dec. – Apr.	7.0	5.3	7.0	5.3
	May – Aug.	6.8	5.1	7.9	5.9
	Sept. – Nov.	7.0	5.3	9.1	6.9
Tbilisi	Dec. – Apr.	8.3	5.2	10.0	6.8
	May – Aug.	7.7	5.2	10.0	6.8
	Sept. – Nov.	7.6	5.2	10.0	7.0
Akhaltzikhe	Dec. – Apr.	3.6	2.8	4.1	3.0
	May – Aug.	3.1	2.5	3.8	2.9
	Sept. – Nov.	3.1	2.5	3.5	2.9

*\* Data on Batumi and Akhaltzikhe refers to local cheese made of sheep milk that by its characteristics and quality is different from the Guda type cheese.*

▪ **"Factory" cheese**

(Gel / Kg.)

Town	Period	2005		2006	
		Retail	Wholesale	Retail	Wholesale
Zugdidi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Batumi	Dec. – Apr.	-	-	5.9	5.3
	May – Aug.	-	-	5.7	5.1
	Sept. – Nov.	-	-	5.7	5.1
Kutaisi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Gori	Dec. – Apr.	6.0	5.0	8.0	6.0
	May – Aug.	5.0	4.5	6.0	4.0
	Sept. – Nov.	6.0	5.0	8.0	6.0
Telavi	Dec. – Apr.	-	-	-	-
	May – Aug.	-	-	-	-
	Sept. – Nov.	-	-	-	-
Marneuli	Dec. – Apr.	6.0	5.3	6.3	5.6
	May – Aug.	6.0	5.3	6.3	5.6
	Sept. – Nov.	6.3	5.5	7.5	5.6
Rustavi	Dec. – Apr.	4.5	3.4	6.3	4.7
	May – Aug.	4.0	3.0	6.3	4.7
	Sept. – Nov.	5.5	4.1	7.4	5.6
Tbilisi	Dec. – Apr.	6.3	5.4	7.0	6.0
	May – Aug.	5.3	4.4	6.0	5.2
	Sept. – Nov.	5.8	4.5	8.0	6.2
Akhaltsikhe	Dec. – Apr.	5.1	4.1	5.4	4.4
	May – Aug.	4.4	3.6	4.3	3.6
	Sept. – Nov.	4.3	3.8	5.0	4.0

**3.1.9.5. Factors Influencing Sales**

In order to identify factors that influence sales of cheese it is expedient to consider information obtained through interviewing of the product sellers and presented in the table below:

	Seasonality	Quality	Purchasing Capacity of Population	Holidays	Price	Competition	Not Having Impact
- Zugdidi	5	1	6	3	6	3	0
- Batumi	15	2	17	4	4	5	0
- Kutaisi	12	0	9	0	9	2	0
- Gori	6	0	7	0	7	0	0
- Telavi	6	0	0	0	0	4	0
- Marneuli	7	0	4	0	4	0	0
- Rustavi	6	0	5	3	0	0	0
- Tbilisi	5	0	8	10	5	10	1
- Akhaltsikhe	7	0	4	3	0	0	0
<b>Total</b>	<b>69</b>	<b>3</b>	<b>60</b>	<b>23</b>	<b>35</b>	<b>24</b>	<b>1</b>
<b>Percentage</b>	<b>32.1%</b>	<b>1.4%</b>	<b>27.9%</b>	<b>10.7%</b>	<b>16.3%</b>	<b>11.2%</b>	<b>0.5%</b>

The table indicates that, by opinion of the product sellers, main factors that influence sales of cheese are, seasonality - 32,1%, holidays – 27,9%, price -16,3%, purchasing capacity of population – 10,7% and competition - 11,2 %. Other factors, according to the interviewed, are not having significant impact on sales.

It is also to be considered that provided the general growth of town population in the future, demand on cheese will also be appropriately increased.

### ***3.1.9.6. Population Requirements Towards The Product And Quality Preferences***

According to enquiry, 72% of population believes that principal factor determining the cheese quality is the fat content and the remaining part considers it to be hygienic conditions of cheese production. Consumers also give preference to packed products.

### ***3.1.9.7. Potential for Adding Value to the Product***

Majority of population and traders, especially retail trade shops, require cheese to be cut and packed in vacuum packaging of various weight, which allows both producers and traders to avoid losses (drying, crumbling when cutting) and maintain taste characteristics of a cheese.

Another possible option to add value to the newly made cheese (except for the sheep milk cheese) is to develop production of Sulguni and smoked Sulguni types of cheese.

### ***3.1.9.8. Profitable Market Niche***

In Akhaltsikhe, they produce sheep milk cheese by different technology and its price is twice lower as compared to Guda type of sheep milk cheese. We consider it expedient to introduce and disseminate the other, different technology of cheese production to produce a more quality and expensive local cheese products. Provided the cutting and vacuum packaging of cheese, it will become possible to make a direct supply to retail shops and supermarkets.

## 3.2. Product Distribution Channels

### 3.2.1. Potato and Vegetables

Today the process of sale and purchase at the market proceeds spontaneously, with no practices of auctions, futures agreements, etc. existing. In Tbilisi, there operate four large markets (Central Supermarket a.k.a "Dezertirebi market", Navtlughi, Eliava and Digomi) and several small marketplaces. At all four large markets there is an allotted (fenced) territory for the wholesale, where wholesale and retail trade with vegetables takes place and the following scheme of supply has been established:

Imported product (except for Chinese garlic) is supplied with trucks by wholesale importers. Their trade squares are situated separately in remote places of market or outside of the market. They sell products in large lots to small wholesalers.

As for Chinese garlic, it is imported through the Poti port. Then a great part is delivered to Tbilisi by railway and stored in warehouses near the railway station from where its large wholesale realization then takes place.

Small wholesalers operate at wholesale markets located by all the four main marketplaces, where they are engaged in wholesale and retail trade of vegetables. Small retail traders from other markets purchase product from them and take it to the rest of the markets for further realization. Also shops, restaurants, kindergartens, private schools and population buy vegetables at wholesale markets.

Local product is delivered from various regions of Georgia by trucks and passenger cars by retail and wholesale second-hand traders. They purchase products at regional markets from farmers and local second-hand dealers.

Small wholesalers and farmers deliver vegetables themselves to night markets, which are held from 10 p.m. to 6 a.m. on the territory of the Navtlugi market, where there is a "Flea market" trade operating during day. There is an similar trade in front of the Central Super market 4 a.m. to 6 a.m. Farmers also deliver their production to these markets. Products on these markets are mainly purchased by small retail second-hand traders.

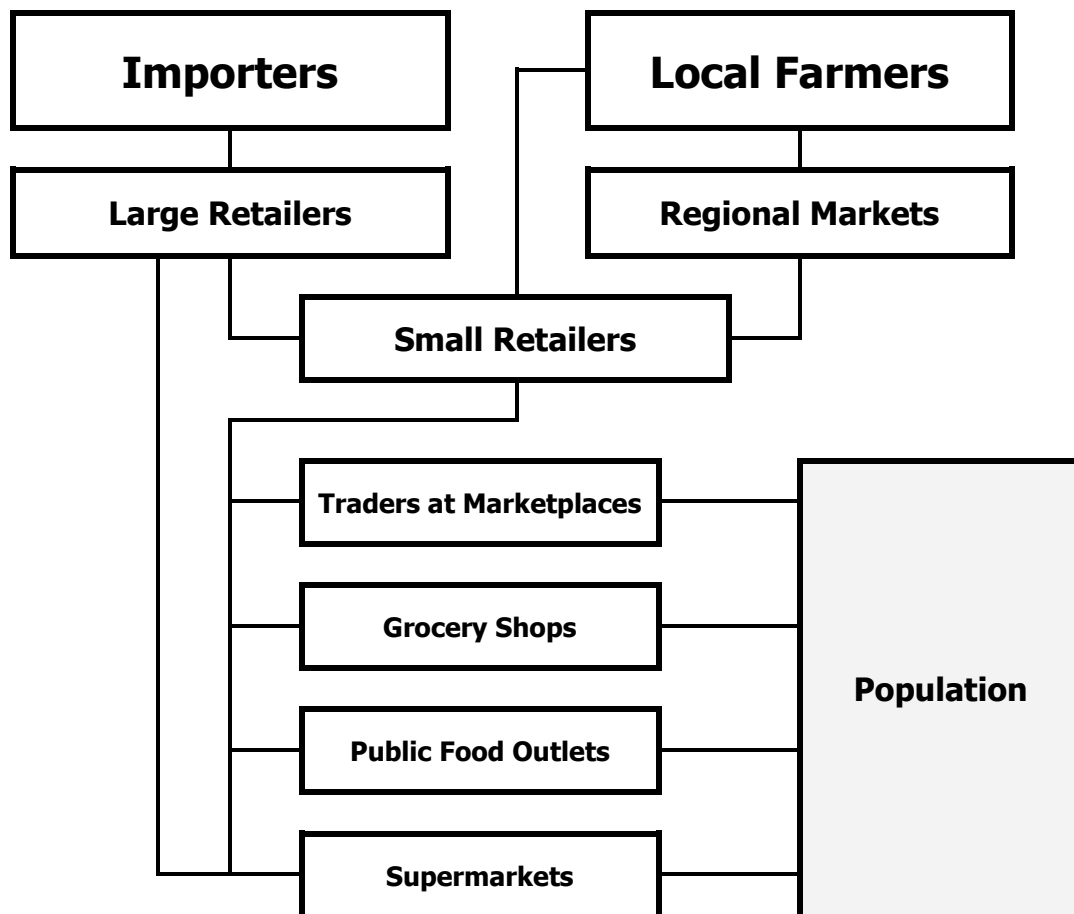
Homestead farmers also sell own produced vegetables at retail markets, but their number is very small as the best trade places are occupied by small second-hand dealers.

Below, as example, is given overhead costs calculation of all costs associated with delivery and sales of 16 MT of potato (the maximum amount of potato cargo allowed on the 20 ton trucks) on the market (including the cost of the product transportation by trucks per each 100 km, the daily cost of the truck's parking fee at the market and the daily cost of the truck's standing idle while the product is being sold from its side).

Type of expense	Unit	Unit cost	Quantity	Total
Sacks	Gel/sack	0.50	320 sacks	160.0
Loading trucks	Gel/kg	0.02	16,000 kg	320.0
Transportation	Gel/km	1.4	100 km	140.0
Sales costs at the market	Gel/day	20	1 day	20.0
Idle standing cost of track	Gel/day	40	1 day	40.0
<b>Total Costs</b>	<b>Gel</b>			<b>680.0</b>

### 3.2.2. The Scheme of the Product Movement on the Market

Currently, products (except milk) move on Georgian markets according to the following scheme:



### 3.2.3. Main Players in Product Distribution

Main players in distribution of products are importers and small wholesalers.

**Importers** It is to be emphasized that there is no importer organization, which imports vegetable products of all the types. Import is carried out proceeding from the periodically occurred deficit and therefore has a sudden character. Importers are constantly changing and tend to import one particular main product. That makes it difficult to predict the frequency of delivery of the imported product volume and therefore there often is created a deficit or market saturation with certain product which naturally results in great fluctuation of prices. It is also necessary to note that period of deficit is not long and continues during maximum of 10 days, as most products are imported from neighboring Turkey. Importers place the imported products in Batumi and Tbilisi, from where smaller wholesalers distribute it to other towns of the country.

**Small wholesalers** Small wholesalers operate in their towns and from season to season are basically engaged in distribution of various products. Small wholesalers are divided into two categories: wholesalers dealing with import and wholesalers working with local products.

- ***Small wholesalers dealing with imported products*** purchase goods from large importers mainly in Tbilisi and Batumi or import them on their own from Armenia and Azerbaijan. Amount of products imported by small wholesalers from Armenia and Azerbaijan does not exceed 0,5 tons and import is basically carried out by importers' own cars. Transportation of products from Batumi and Tbilisi is carried out both by passenger cars and by rented 7-15 ton trucks. Most of the products transported by passenger cars, due to their small volume, are not subject to customs clearance and are not registered.
- ***Small wholesalers working with local products*** basically purchase products at regional Sunday markets and sometimes directly in villages. In this case also products are transported mainly by small cars and quantity ranges between 0,2 to 8 tons. Small wholesalers engaged in trading with local products deal with various products depending on the season but they mainly supply the same market.

### ***3.2.5. Market Drivers***

Volume of products present on the market is the main driver of the market what is naturally ensured by both local production and import. Quantity of locally produced products significantly determines situation at the market.

In good harvest years, market is driven by local primary production which regulates the market prices. Certain imported products, which have no analogues in local production (like some exotic varieties or varieties with exclusive quality and characteristics) do enjoy special premium prices but they occupy too small a market niche to make significant impact on overall price situation at the market.

During the bad harvest years, market prices are determined by the imported products' prices.

As for export of products from Georgia, this factor is not influencing local market at the moment. Such an influence may take place only when Russian markets will be again open for Georgian produce.

Still, primary local production should be considered as the main market driver, the volume, quality and cost of which defines situation on the market. Correspondingly, stabilization of the local market formation is determined by current condition of the local production.

At town markets, a specific factor, that makes strong influence on product prices, is existence of the practice when traders of similar products, by agreement among themselves, set the identical sales prices for their goods, which are significantly higher than the producers' prices. The occurring extra profit brought about by the above price difference works only to the advantage of traders as retail customers have to pay higher prices for products at the markets and as for product producers, they are still left with their usual low profit margin which is not allowing them to further expand their production volume and diminish production costs and therefore, facilitate to overall further decrease of the product purchase prices for population.

### ***3.2.6. Information Concerning Product Storing***

#### ***3.2.6.1. Product Storage Infrastructure***

There are warehouses in each marketplace, but neither their quantity, nor their conditions meet the necessary requirements. In most of the cases the products imported wholesale are

sold right from the trucks. Only in rare occasions, especially in winter months, imported products are stored. The warehouses are not equipped with humidity and temperature regulation systems. Storage conditions in such warehouses are provided according to the empiric method (aeration of the building, protection from frost with warming of windows and doors). The situation is similar at localities of production. These products are mostly stored in the plain holes dug out in the cellars or small underground storage facilities.

### **3.2.6.2. Issues Related to Product Storage**

Non-existence of vegetables storage infrastructure basically determines the trade cycle developed in the country and it is one of the reasons of seasonal surplus of production and the reduction of local production volume in the period that follows.

The research has shown that the deficit is covered with imported product which means that the country thoughtlessly utilizes vegetable storage capacities of neighboring countries, which conditions placing of minimal product quantity on the internal market of the country (due to danger of the product perishing and deterioration of its quality). As result of such a trade cycle, losses resulted from long storage of products are borne only by the producer (farmer) and they double his production costs. Because of their unattractive look, low quality and high production costs, local products are not competitive in comparison to similar products imported from neighbor countries that have attractive appearance, are relatively more cost-efficient and well-stored. This naturally causes gradual reduction of local production's presence on the market and the corresponding growth of the amount of the import.

### **3.2.6.3. Product Realization Losses**

Below are given the average indicators of the product losses during realization according to products and towns, as estimated by products' traders:

<b>Product</b>	<b>Tbilisi</b>	<b>Rustavi</b>	<b>Batumi</b>	<b>Kutaisi</b>	<b>Akhalsikhe</b>	<b>Marneuli</b>	<b>Telavi</b>	<b>Zugdidi</b>	<b>Gori</b>	<b>Average %</b>
1. Garlic	2%	3%	1%	3%	2%	2%	3%	3%	2%	<b>2.3%</b>
2. Onion	2%	3%	2%	3%	3%	2%	3%	3%	1%	<b>2.4%</b>
3. Carrot	2%	3%	2%	2%	1%	2%	2%	3%	1%	<b>2%</b>
4. Beetroot	2%	2%	2%	2%	2%	2%	2%	2%	2%	<b>2%</b>
5. Tomato	4%	4%	4%	2%	8%	2%	2%	2%	2%	<b>3.2%</b>
6. Potato	3%	3%	3%	3%	1%	3%	3%	3%	2%	<b>2.3%</b>
7. Milk	0%	0%	0%	2%	5%	0%	0%	0%	0%	<b>0.7%</b>
8. Cheese	3%	2%	2%	2%	6%	2%	5%	5%	3%	<b>3.3%</b>

As it is indicated in the table, losses at product sales are rather low, which is conditioned by the short trade cycle. In Telavi, Akhalsikhe and Zugdidi, significant losses of cheese are explained with its crumbling and drying out (losing of liquid) at cutting of large cheese.



### ***3.2.7. Existing Information Systems About the State of the Current Market***

The study has revealed that there exists no proper system through which traders or the population can obtain qualified information concerning volumes and prices of products in stock at the market. The only source, which regularly publishes weekly market prices, is newspaper "Sitkva da Sakme ("Word and Deed"). However, this information can hardly be useful for both consumers and traders as it usually does not reflect the current price changes at the markets as well does not provide any information concerning price dynamics, volumes of the current stock or the estimated longevity period of the currently established prices.

Traders determine the current market prices and the general state at the market according to the situation at the main marketplace on the given day. In rare cases information is being corrected proceeding from the current situation existing at production locations. Therefore, next 2 or 3 days are more or less predictable for traders. Making of long-term forecasts and corresponding action plans is practically impossible, as identification or prediction of the amount and prices for neither local, nor imported products can be achieved.

Some international organizations have made attempts to establish information systems which were aimed at establishment of connection between the producer and the trader.

For example, within the frameworks of the project of the GTZ FRCS (Food Security, Regional Cooperation & Stability in South Caucasus) Sadakhlo Informational Unit was established. The main goal of the project was to assist to development and intensification of trade relations between Georgia, Azerbaijan, and Armenia through help of the Informational Unit. Presumably, the Sadakhlo Informational Unit was to become an intermediate between the producer, buyer and trader. With this purpose, informational database was developed where information about the products to be sold was accumulated. The main emphasis in the informational data was made on assistance to sales of the agricultural produce. Similar units were established in Armenia and Azerbaijan as well.

Unfortunately, from the very beginning, the weak points of this idea were manifested which made its successful realization impossible. In particular, information provided by the informational unit about the products on sale did not create enough motivation for the customer to purchase the goods. For example, if some interested person in Armenia got information about potato being sold in Marneuli by some trader at a certain price, he still, in case of interest, came to Marneuli in advance and visited not only this particular seller, but studied the product prices at the whole Marneuli market and only after that made a decision whether he should buy production from this or another trader.

It is also to be mentioned that sometimes prices of products changed very quickly. In particular, it was enough for 2-3 trucks to appear at the Sadakhlo market with this or another product, when price for this product immediately fell down. And the Information Unit had already specified higher price! Because of such cases, there were frequent reproaches from the side of unsatisfied clients.

Proceeding from the above-mentioned, the only purpose of informational unit remained to be provision of customers with general information concerning approximate prices on certain products in the region. As for providing of specific and timely information on prices and products, this has lost its relevancy.

And finally, we would like to note the main factor, because of which such structures failed to become viable and sustainable – this is that neither farmers, nor buyers were prepared to pay for services of the Informational Unit. Accordingly, such structures operated only due to donor's financial support and after termination of financing, all of them ceased to exist.

The similar project was carried out within the framework of CHF 's GEII project. In particular, 3 informational centers in Tbilisi, Kutaisi and Akhaltsikhe were established. In informational centers there was accumulated information about local farmers and the agricultural goods they produced. The task of the informational center was to connect farmers with the buyers of their agricultural produce.

Lack of vitality of the above project was revealed rather quickly and it was very soon terminated. During discussion with CHF employees, they specified that failure of informational centers was basically connected with weak informational campaigns related to their activity. However, like with the GTZ project, the real reasons of failure of such systems seems to lie more in general lack of effectiveness of their operations and in financial instability.

### ***3.2.8. Existing Professional Associations and their Role in the Existing Market Structure***

None of the interviewed traders know about the existing trade or producer associations. They also do not possess any information about collecting centers existing in the towns or in the places of production and perceive such structures to be the regional Sunday markets or wholesale warehouses of imported goods. After having being provided with relevant information, almost all of them agreed with the idea concerning necessity of establishing the collection centers at locations of the agricultural production.

### ***3.2.9. Legal and Regulatory Environment***

Food safety issues are covered in the *Law on Food Safety and Quality (LFSQ)*, and *Sanitary Code*. The Law on Food Safety and Quality (LFSQ) was adopted by the Parliament of Georgia in December, 2005, and took effect in January 2006.

It has a significant impact on the dairy sector of Georgia, in particular (milk collection centers, cheese producers). It enforced producers to develop a labeled package for their products. However, small-scale producers have an opportunity to avoid the labeling requirement in case they fall into the category of peasant/farmer/smallholder producers. However, town shops are not free from the above obligation and are required to trace their suppliers. Thus, the smallholder milk and cheese producers prefer selling out their production in open market in order to stay unidentified.

According to the Sanitary Code, the sanitary certificate is obligatory for each product produced. It is prohibited to sell out any uncertified product. However, local small-scale entrepreneurs have no capacity to fulfill all legal requirements. Thus individual farmers have kind of comparative advantage over medium and large-scale producers.

However, according to the recent decree of the President of Georgia, function of certification, phyto-sanitary and quality control services are suspended till 2009. Accordingly, there is not any official structure in the country which carries out control over the quality of production. Proceeding from conversations with marketplace owners, there is a rather normal quantity of free places on all the markets of the target towns where anyone can trade without any problems after payment of the appropriate sum. As a rule, trade places are not given for a long-term rent and traders pay the rent sum every day. Officially, location of trade places is not registered for anybody but the best trade places of the market are occupied by local small traders who have traded in this particular place for years and have stable customers. Appearance of a new trader at the market is perceived as an unwelcome competition by local traders and results in open or hidden resistance from their

part when they try to create various problems to new competitor's activities on the market. Therefore settlement into the farmers' market is a long and complicated process and a trade based on non-permanent presence at the market is impossible for a one single farmer.

The situation is comparatively more welcoming at a small wholesale markets where informal regulations networks are less influential and where small wholesalers change frequently therefore they do not have any special permanent trade places that they consider their own.

The most intense competition exists at large wholesale markets in which participate both the already settled competitors as well as certain representatives of the administration and representatives of the law machinery (security, police, tax inspection).

In respect of food safety issue, there is no difficulty concerning delivery of any products to the market. At official interrogation of market owners, they declare that they demand the so-called "Form # 2" (which is issued at localities of production) from each trader and they themselves check only physical appearance and taste of the delivered product. Only in case of the raised doubt the product is sent for testing to special laboratories. At the same time the doubtful product is neither vetoed, nor placed in a certain closed premise. According to the traders, laboratory of the market contents itself only with collection of money does not make any analysis. Only milk and cheese are examined. It is to be noted, that taking of samples of the products for examination takes place not upon the product's arrival on the market but in the course of a day when 90% of the product may already have been sold by the time it is tested. For example, on one of the days of the research visits, milk analysis at the Central Supermarket was carried out at 12 o'clock on noon.

Before 2006, the "Form # 2", specified by the market owners, was issued by the regional veterinary service that had its representatives at Sakrebulo (self-governance councils) of each district. Since 2006 a reorganization of regional veterinary services was carried out and they were abolished. Now only staff of 1 or 2 specialists of the veterinary service have remained in the region and they are located in the regional center. Therefore, taking of the "Form # 2" is really complicated for a countryman, as first he should come to the regional center to make analysis of the product, wait for the response and obtain the necessary document. Only after that he can go to another town to trade. Therefore, examination of product quality and its compliance with norm is only an academic exercise.

As for the imported production, the phyto-sanitary service is abolished at the customs and currently, customs officials basically rely upon certificates issued by exporting country.

## **4. RECOMMENDATIONS**

### **4.1. Potato**

As it was identified by the research, consumers give preference to locally produced potato of medium size, oval or oblong tuber shape, neutral taste, with thin and smooth skin.

Accordingly, it is necessary to take these specified requirements into consideration during initial production of the product. Farmers should apply the seeds from which they can grow product having the above specified characteristics. Correspondingly, realization of the above products will be simplified and farmers will gain more profit.

In the localities of production it is relevant to establish collection centers, with special emphasis made on storage of potato. Before storing, it should be cleaned from remains of soil, calibrated, and only afterwards stored in the conditions of optimal temperature and humidity. Optimal temperature and humidity should be maintained for the whole period of storage.

At the same time it is noteworthy that Georgia has a real opportunity to enter into the Azerbaijani market with late potato. There, product imported from Russia dominates at the market for almost the whole winter period. Provided its compliance with the required quality characteristics it can become possible for the Georgian produced late potato to occupy a certain share at the Azerbaijani market.

Consideration of prospects concerning the increase of early potato production volume will become relevant only after restoration of Georgian produce's export to the Russian market.

### **4.2. Seed Potato**

As it has become obvious from the conducted research, there is a great deficit of seed potato in the country. Therefore we consider it as expedient to provide support to establishment of new producers of seed potato (through delivery of appropriate trainings to interested farmers) and assist the existing seed potato producers by supplying them with elite seed potato and various farming input materials. Development of the local seed potato production is an urgent issue as otherwise, in the nearest future there will arise a strong necessity of importing significant quantities of seed potato from abroad.

### **4.3. Beetroot**

Results of the conducted enquiry have identified that consumers prefer locally produced beetroot of medium size, round shape, neutral taste, deep vinous color core and root, with thin and smooth skin. Majority of customers prefer to buy calibrated product and half of the customers require it to be packed in nets containing 1 kg of product.

Accordingly, it is necessary to consider the above specified consumer requirements during the primary production. Farmers should grow the varieties which will bear all the above-mentioned characteristics. Correspondingly, selling of the product will be simplified and farmers will gain more profit.

Special attention should be paid to storage of beetroot. Before storage, it should be cleaned from the remains of soil, calibrated and only after that stored in conditions of optimal temperature and humidity that is to be maintained for the whole period of storage. Only provision and observance of the above conditions will allow local beetroot to compete with the imported similar products and guarantee the growth of the local product's share at the market for about 10%.

#### **4.4. Carrot**

According to the conducted research, population prefers locally produced carrot of medium size, round shape, sweet taste and smooth skin. 80% of the population prefers calibrated products.

Similarly to the beetroot, requirements of population towards the product should be taken into consideration at the stage of its primary production. Farmers should grow the varieties which will ensure production of goods possessing all the above-specified characteristics to comply with consumers' demands.

Correspondingly, realization of the products will be simplified and farmers will gain more profit. According to the last 2 years' data from the customs office the volume locally produced carrot does not meet the existing local consumption demand. Summing up the legal and illegal import, the lack of the carrot stock, occurring during the period between late winter and early spring, makes up to 400-500 tons per year.

Special attention should be paid to storage of carrot. Before storing, it should be cleaned from remains of soil, calibrated and only after that stored in conditions of the optimal temperature and humidity which should be maintained throughout the whole period of storage. Only maintaining of these conditions will make it possible for local carrots to be competitive to similar import. Observance of the above stated conditions will guarantee growth of the local products' share at the market.

#### **4.5. Onion**

The enquiry results indicated that consumers prefer locally produced onion of medium size, round shape, neutral taste, thin core leaves and red color peel. According to the color of the core preference is given to onion of white color. 52% prefer to buy calibrated product and 98% prefer to purchase packed product.

Accordingly it is possible to establish collection center at localities of production, where selection, sorting and calibration of products will be carried out.

Provided that farmers select varieties with required characteristics as well as quality seeds, realization of production will be much simplified.

Special attention should be paid to onion storage. Before storing, onion should be cleaned from remains of soil, calibrated and measured. Also, preventing sprouting of onion should be undertaken and only after that it should be stored in conditions of the optimal temperature and humidity. Optimal temperature and humidity should be maintained for the whole period of storage. Only observance of these conditions will make possible for local onion to compete with the imported products.

#### **4.6. Garlic**

According to conducted enquiry, consumers give preference to locally produced garlic of medium size bulb, medium size clove and strong scent. Majority of customers (78%) prefer to purchase calibrated product and only 38% demands packing of the product up to 0.5 kg. As it was mentioned above, the majority of the population today prefers to purchase garlic by 1-3 bulbs at a time rather than by bulk.

Accordingly it is possible to establish collection center at localities of production, where selection, sorting and calibration of products, removal of external superfluous peels and remains of the roots will be carried out.

Provided that farmers select varieties with required characteristics, purchase quality seeds, and improve the product storage conditions partial substitution of import with local production will be possible.

The large share of the local product is sold during the period of September - November. It is basically due to low storing characteristics of the product in usual conditions. Introduction of modern technologies of garlic storage will provide opportunity for farmers to spread the product realization over the course of the whole season.

#### **4.7. Tomato**

Proceeding from the results of research, population gives preference to locally produced tomato of medium size, with red color skin and sweetish-sourish taste. As for greenhouse tomatoes, they, due to their high price, are consumed by only 2% of the population during the winter period of time.

Provided dissemination of hybrid seeds of varieties possessing characteristic peculiarities and introduction of modern methods of production (modern type herbicides and means of plant protection), the quality and volume of the yield will increase and the production cost will diminish.

Substitution of the imported greenhouse tomato with local production is possible with introduction of new production technologies and application of alternative energy sources. It is also possible to substitute the Azerbaijani import with seasonal products grown in temporary type of greenhouses in Marneuli and Gardabani.

We would like to note that, considering the fact that at this moment (in February) there are only very few traders of field tomato present at the market, we consider it necessary to further specify these issues obtain the additional information when the appropriate season comes.

#### **4.8. Milk and Cheese**

We consider it to be appropriate to establish milk collection centers locally, where collection, cooling of natural milk and its transferring to the processing enterprises will take place. Additionally, it is also possible to attach small processing shops to milk collection centers.

Also, given the anticipated introduction of new food safety regulations, in the near future there will arise considerable need for training farmers/small producers/processors on the safe production technologies' issues.

## **5. GENERAL RECOMMENDATIONS**

### **5.1. Vegetables**

Results of the research have clearly indicated that consumers greatly prefer locally produced agricultural products (even though much of what they usually consume are imported products). At the same time consumers exactly defined as to what kinds of products they give their preference. Therefore, the situation requires drastic changes in the primary production. This means that farmers should be provided with better access to quality seeds to ensure production of goods that meet the consumer requirements. Simultaneously, significant attention should be paid to introduction of modern technologies in crop sowing and harvesting and to types and quality of those fertilizers and plant protection means that are necessary for quality and effective production.

It is also to be mentioned that small size farmers correspondingly produce small volumes of goods and are not able to enter the retail distribution channels with small lots of products at their hand. Particularly, individual farmers do not produce so much goods to be able of supplying even a single retail trade outlet throughout the season without interruption.

At the same time, farmers are forced to store the harvested goods in their own rather inefficient storage facilities where degree of the product spoilage is quite high. Therefore in spite of all the efforts from the part of farmers, the produce still loses its quality and degrades in the inadequate storing conditions. After some months, a faded product that by this time has lost its "sellable appearance", fails to compete with the imported well-stored similar products and therefore can not be sold at the appropriate price.

Proceeding from the above, the phase of storing of the received harvest is very important. The matter is that, in Georgia, currently there are no warehouses equipped with modern climate control and ventilation systems, equipment for cleaning, sorting and calibration of produce, etc.

Therefore, we consider it as essential to establish the collecting centers nearby localities of agricultural goods production. The capacity of such collection centers can vary between 1000 and 1,500 MT, and they should be capable of simultaneously storing the number of different products (potato and various vegetables). The center should be equipped with all the necessary facilities, like semi-automatic (for it to be not very expensive) systems for modern climate control and ventilation, equipment for cleaning, sorting and calibration of produce, etc. Regarding for the premises for collection centers, our suggestion is to use the existing buildings of the appropriate size in the target localities (former warehouses, etc.) the average cost of rehabilitation of which may be about 60, 000 - 80, 000 GEL. As for costs of the required equipment's purchase and installation, these by our estimation, should not exceed 150,000 – 180,000 GEL.

The experience from other countries show that such enterprises can play the significant role not only in product storing but also at the production stage. In particular, these organizations should be providing farmers with quality seeds, fertilizers and means of plant protection, assist and support them in carrying out their agricultural operations through employment of modern technologies. Implementation of the above is possible by forming Futures Contracts with farmers according to which a farmer is to bring part of his produce to collection centers at a previously agreed price and quality.

This, in the first place, will allow farmers to more efficiently conduct their business, increase production effectiveness and what is more important, produce such goods that will enjoy

bigger demand on the market. At the same time he will have a guaranteed opportunity to deliver and sell part of his produce to collecting centers.

Taking into consideration that collection centers will have possibility to accumulate certain stock of good quality products, they will be capable of entering the retail trade network and therefore receive more income.

At the same time, collection centers will protect market from price fluctuations resulted from product deficit.

Also, collection centers can become organizations that farmers and/or buyers can apply to for learning about current prices on particular products.

Regarding the product packaging we consider it necessary to conduct the additional research for determining the optimal options of packaging per each specific product.

Provided establishment of collection centers, it is necessary to develop special trade marks that will help to identify products made by any particular enterprise and make them easily distinguishable in the eyes of a customer.

Considering that consumers give their open preference to locally produced agricultural goods, it is necessary to bring to effect the law which will oblige the seller to indicate the product producer's name on the packaging label . This will put local products in preferential position as consumers will easily differentiate local and imported products.

## **5.2. Milk**

Regarding milk, we think that most optimal way will be to establish milk collection centers together with such large dairy producer companies as "JSC Sante" and "Soplis Nobati" through financial co-participation with these organizations. It can also be an option to link milk collection centers with small cheese processing enterprises.



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# **ANNEX - B**

## ***Analytical Questionnaire for Business Consultants for "xxx" Product***

1. a) What is the estimated total demand in your town?  
b) What might influence the demand and how?  
c) How might that demand change over time and under what circumstances?
2. Describe seasonality factors for each product.
  - a) Which factors influence the volume?
  - b) Which factors influence the price?
3. Market drivers - what factor or factors control and/or influence the selling and the buying?
4. a) Who are the major players, wholesalers, middlemen?  
b) Where does the supply take place?  
c) Existence of middle-men?
5. a) What storage issues relate to the produce?  
b) What infrastructure exists in this respect?
6. Can any profitable niches be identified?
7. a) What potential exists to add value in the chain?  
b) Where?  
c) How much?  
d) How?

# **ANNEX - C**

## **Questionnaire for field research (combined)**

### **- How do you learn about the product's retail and wholesale prices?**

- *"Eliava" marketplace*
- *"Dezertirebi" marketplace*
- *District market*
- *Neighbor store*
- *Other*
- *No answer*

### **- How timely, accurate and useful is this information?**

- *Timely, accurate*
- *Other*
- *No answer*

### **- How could the system be improved and/or made more accessible?**

- *Hot line phone number*
- *Web site*
- *Other*
- *No answer*

### **- Wholesale and retail price trends**

<b>Year 2005</b>		<b>Year 2006</b>	
December - April		December - April	
May - August		May - August	
September - November		September - November	

### **- What might influence the demand and how?**

- *Seasonality*
- *Holidays*
- *Economical condition of population*
- *Competition*
- *Price*
- *Has no influence*
- *No answer*

### **- Volume of produce placed in the market over that period.**

a) What quantity of product he/she has currently in stock at the market?

- *Has not answered*
- *up to 5 kg.*
- *from 5 to 10 kg.*
- *from 10 to 15 kg.*
- *40-50 kg.*
- *Other*

b) How much product do you sell per day?

- *Has not answered*
- *from 1 to 2 kg.*
- *from 2 to 7kg.*
- *5-50 kg.*
- *Other*

c) How long it takes to sell the current product lot?

- *Has not answered*
- *from 1 to 5 days*
- *from 5 days to 1 months*
- *Other*

**- Seasonality factor**

*Trade volume by seasons*

- December - April
- May – August
- September - November

**- Where do you get your product supply from by months?**

January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

**- Who are consumers?**

- *Population*
- *Other*
- *No answer*

**- Do you have information about any trade associations?**

- *Yes*
- *No*

**- Are you a member of any such association?**

- *Yes*
- *No*

**- Do you have information about any collection center or wholesale trade centers?**

- *Yes*
- *No*

**- What is your opinion about necessity of such centers?**

- *Desirable*
- *Do not know*
- *No answer*

**- What is an approximate product realization loss (by percentage)?**

0%	
2%	
2-5%	
5-10%	
No answer	

**- Product storing**

a) What specific care condition are that the product requires during transportation and trade?

- *keeping in nets (bags)*
- *Dry storage place*
- *None*
- *Other*
- *No answer*

b) What means of preserving the product quality is applied?

- *Cleaning*
- *Humidity regulation*
- *None*
- *No answer*

c) What are product packaging requirements??

- *Packaging is desirable*
- *No packaging requirements*
- *No answer*

**- What characteristics define the product quality?**

- *appearance*
- *Other*
- *No answer*

**- What are phyto-sanitary requirements, etc?**

- *Laboratory examination (at marketplace)*
- *Delivery of the already examined (certified) product on the market*
- *No examination applied*
- *No answer*