

Joint Stock Company for Promotion and selling of agricultural products

Agri Lend AD Skopje

INFORMATIVE MATERIAL

**CONTAINING THE CONDITIONS FOR CONSTRUCTION OF A MODERN PLANT
NURSERY FOR THE PRODUCTION OF SEEDLINGS FOR AGRICULTURAL
PLANTS**

December 2013, Skopje

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Resume:

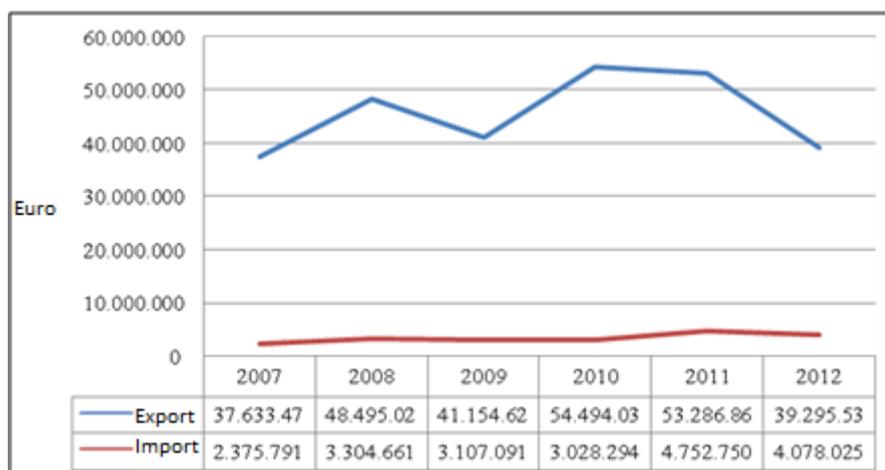
The purpose of this informative material is to provide information regarding the conditions of the agricultural sector in the Republic of Macedonia, with special accent on the gardening sector and fruit tree orchards. This includes an overview of the capacity of the agricultural sub-sectors, with the highest potential for investing in the specialized centers for manufacturing seedlings from gardening and bedding plants from fruit tree orchards. This informative material will help identify the development trends and create a certain prediction of what could happen in the future as well as define the investment potentials with specialized capacity for the manufacturing of seedlings and bedding plants.

1. Analysis of the gardening plants sector

Looking at Chart 1 we can agree that Republic of Macedonia is an export-oriented country when it comes to gardening plants. The export, within the analyzed period of six years, has its largest growth of 32% in 2010 compared to 2009. In 2012 the export dropped down to 26% compared to 2011.

The import of gardening plants in the period of the six years in question, marks a growing trend, i.e. in 2012 compared to 2007 it grew 72%, while the average growth is 15% .

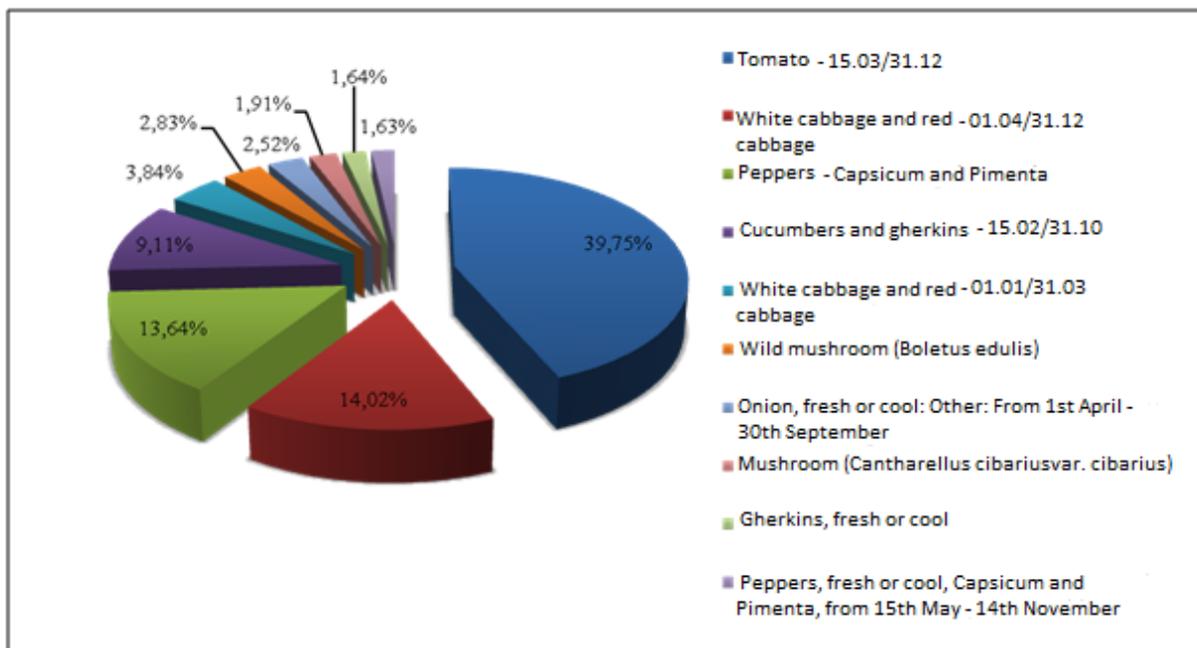
Chart 1: Import and export of gardening plants in millions of Euros for the period of 2007 - 2012



Source: State Statistical Office 2012

For the six-year period, the total amount of the exported gardening plants is 274,3 million Euros. The top ten most exported gardening plants from the total number of gardening plants exported from the Republic of Macedonia in the period of six years are given in Chart 2. From the ten products, the most common five products take up 80% from the total value of the gardening plants. The export of the Republic of Macedonia is mainly consisted of tomatoes 15.03-31.12 (40%), white and red cabbage 01.04 - 31.12 (14%), sweet peppers (14%), cucumbers and gherkins - 15.02 - 31.10 (9%), white and red cabbage 01.01. - 31.03 (4%).

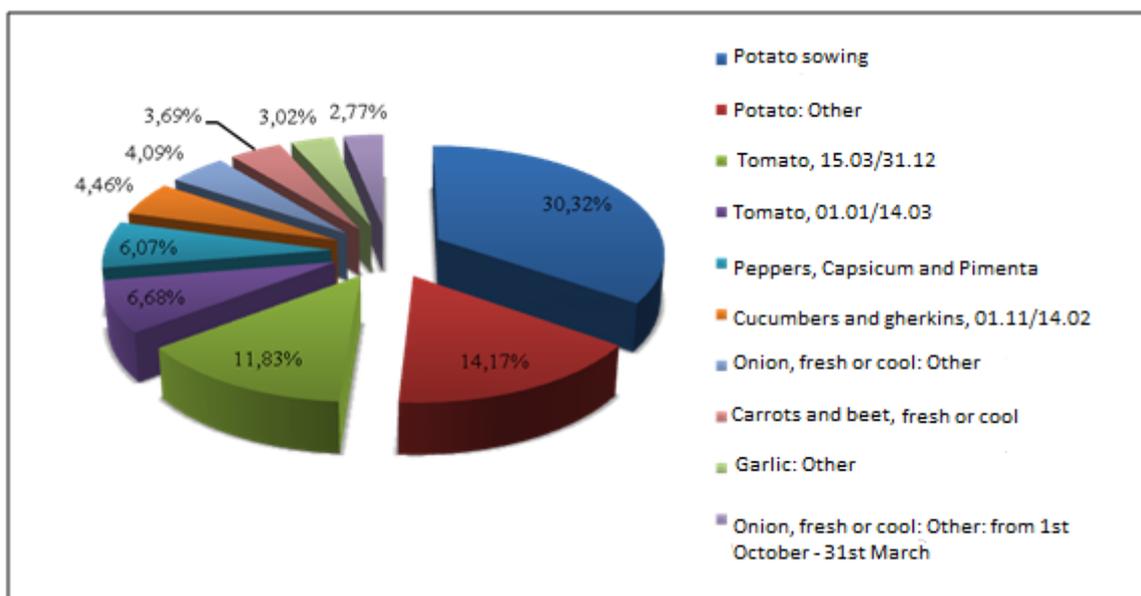
Chart 2: The top ten most exported plants for the period 2007-2012.



Source: State Statistical Office 2012

Regarding the import, the total value for the six-year period is 20,6 million Euros. The top ten imported gardening plants from the total number of imported gardening plants in the Republic of Macedonia are given in Chart 3.

Chart 3: The top ten imported gardening plants for the period 2007-2012

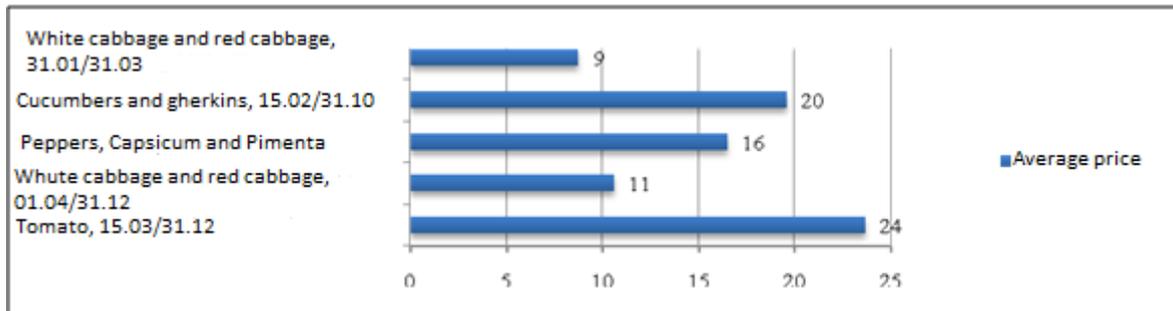


Source: State Statistical Office 2012

The dominating gardening product with the highest average price in the export conducted by Republic of Macedonia is the tomato – with average price of 24 denars MKD

per one kilogram, whereas the white and red cabbage – 01.04/31.12 has the lowest average price of 11 denars MKD per kilogram.

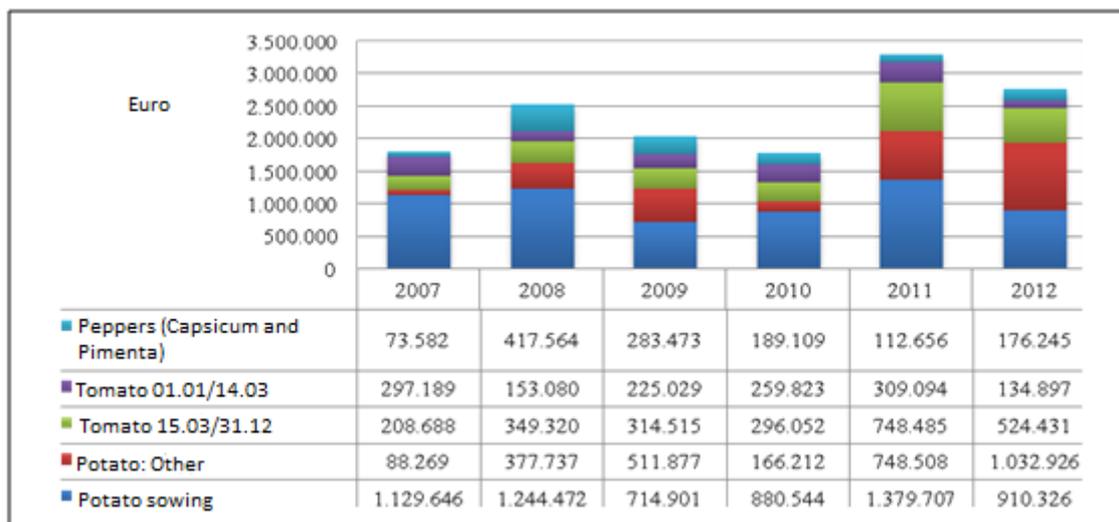
Chart 4: Average prices of the top five exported gardening plants for the period of 2007-2012.



Source: State Statistical Office 2012

In Chart 5 we are given the trend of the top five imported gardening plants for the period between 2007-2012. Up to 2011, the top imported product was the potato with an average growth of 3% for the six-year period. In 2012, the top imported gardening plant was the potato.

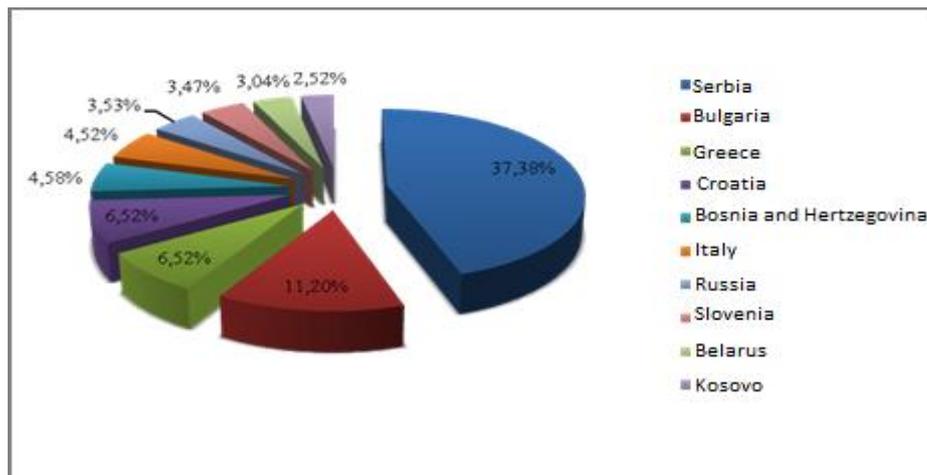
Chart 5. Value of the top five imported gardening plants for the period 2007-2012



Source: State Statistical Office 2012

The analysis includes an overview of the countries of export where the gardening production from the Republic of Macedonia was exported to. The top ten countries to which Republic of Macedonia has had the highest export include Serbia (37,38%), Bulgaria (11,2%), Greece (6,52%), Croatia (6,52%) and Bosnia and Herzegovina (4,58%). Republic of Macedonia has exported 66% from the total gardening production to these countries (Chart 6).

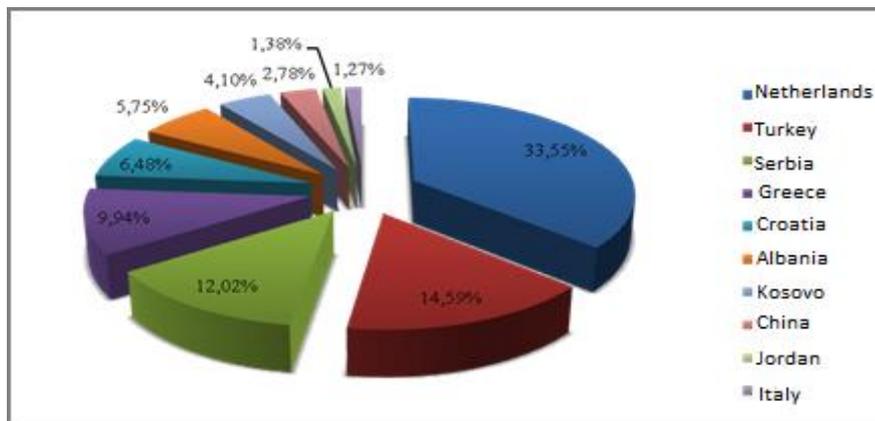
Chart 6: Top ten countries to which Republic of Macedonia exports gardening plants.



Source: State Statistical Office 2012

The ten countries which Republic of Macedonia imports the most products from are The Netherlands (33,55%), Turkey (14,59%), Serbia (12,02%), Greece (9,94%), Croatia (6,48%). Republic of Macedonia imports 77% of its total import from these five countries (Chart 7).

Chart 7: The top ten countries which Republic of Macedonia imports gardening plants from



Source: State Statistical Office 2012

2. Analysis of the fruit tree orchard sector

Unlike the gardening plants, where Republic of Macedonia marks a significant favorable trade balance, when it comes to fruit orchards the situation in the trade balance is quite different. Namely, the export from 2007 to 2009 marks a drop (38%) and reaches its minimum in 2009 (25,8 million Euros). From 2009 to 2012 the fruit orchard sector marks a growth of 114%.

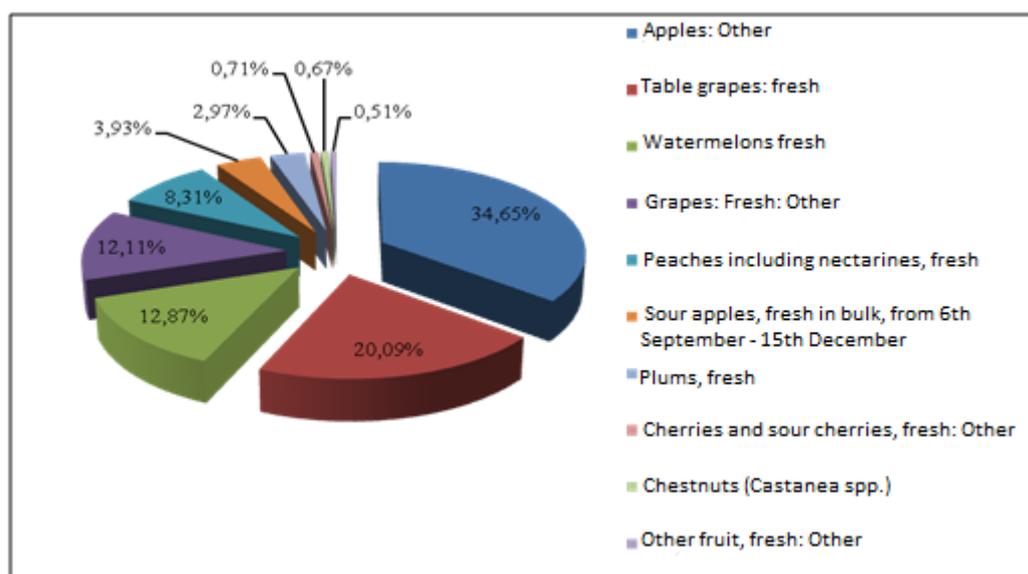
Table 1: Growth and drop of the export and import of fruit plants given in percentages

Year	Export	% change	Import	% change
2007	31,185,521		18,834,800	
2008	25,847,149	-17	20,660,508	10
2009	19,265,020	-25	22,453,736	9
2010	33,546,981	74	23,522,365	5
2011	38,371,515	14	25,272,917	7
2012	41,346,930	8	15,156,881	-40
2007 / 2012		33		-20

Source: State Statistical Office 2012

The total value of the exported fruits for the period of six years is 189,6 million Euros.

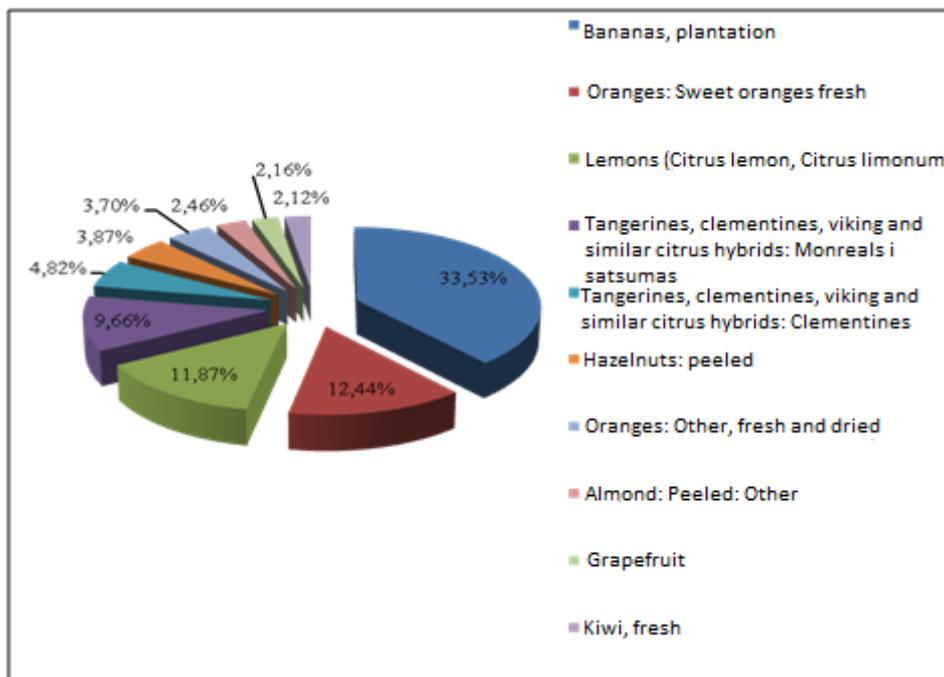
Chart 4: Top ten exported products in the period 2007-2012.



Source: State Statistical Office 2012

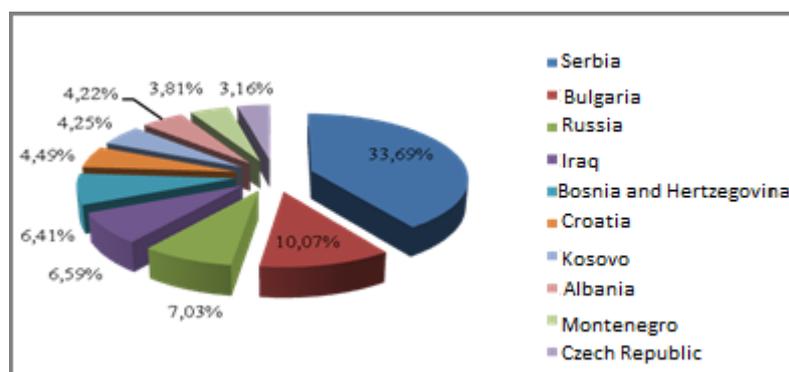
The total value of the import for the six-year period is 125,9 million Euros.

Chart 5: Top ten imported fruit plants in the period 2007-2012.



Based on the analysis regarding the dominating destinations for export, the top ten destinations for export are Serbia (34%), Bulgaria (10%), Russia (7%), Iraq (6,5%) and Bosnia and Herzegovina (6,4%) (Chart 45). Five of these countries make 64% of the total fruit plant export from Republic of Macedonia.

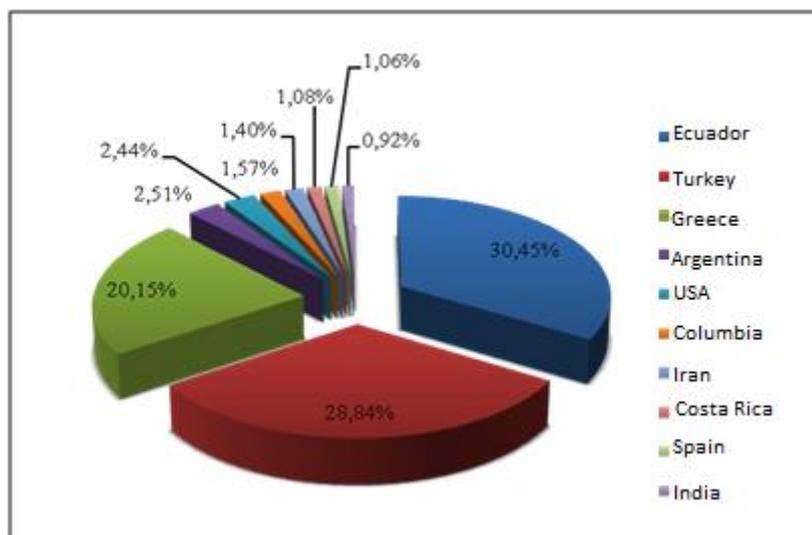
Chart 10. Top ten countries to which Republic of Macedonia exports fruit plants in the period 2007-2012



Source: State Statistical Office 2012

The top ten countries which Republic of Macedonia imports from the most are Ecuador (30%), Turkey (29%), Greece (20%), Argentina (2,5%) and USA (2,4%) (Chart 46). The top five of these countries make 84% of the total import.

Chart 6: Top ten countries which Republic of Macedonia imports fruit plants from, in the period 2007-2012



Source: State Statistical Office 2012

3. Analysis of the structure and size of the agriculture economies in the gardening plants and fruit tree orchard sectors in the Republic of Macedonia

An insight of the size structure of the agricultural economies has a great significance in defining the strategy for entering the fruit tree orchard market. Based on the data in the charts and tables, we can see that Republic of Macedonia marks a significant complex structure of the agricultural economies when it comes to their size. In all three analyzed sub-sectors, the small farms are mainly the dominating ones.

Table 2: Size structure of the agricultural economies in the sub-sector - gardening (open-air)

Gardening				
area / threshold	0,3	0,4	0,5	0,6
Number of parcels	13697	17820	20756	22949
% participation	46,80%	60,89%	70,92%	78,41%
Total in hectares	2186	3598	4900	6091
% participation in the total area	12%	19%	26%	32%

Table 3: Size structure of the agricultural economies in the sub-sector - gardening (in controlled micro-climate conditions)

Gardening (controlled conditions)			
area / threshold	0,3	0,4	0,5
Number of parcels	149	210	243
% participation	46%	64%	74%
Total in hectares	27	48	62
% participation	9%	17%	21%

Table 4: Size structure of the agricultural economies in the sub-sector – viniculture (wine growing)

Viniculture			
area / threshold	0,3	0,4	0,5
Number of parcels	14362	19219	22375
% participation	48%	64%	74%
Total in hectares	2546	4204	5601
% participation	14%	23%	31%

Table 5: Size structure of the agricultural economies in the sub-sector – fruit tree orchards

Fruit tree orchards			
area / threshold	0,4	0,5	0,6
Number of parcels	4442	5474	6203
% participation	46,93%	57,83%	65,54%
Total in hectares	959	1417	1813
% participation	5,32%	7,86%	10,06%

4. Analysis of the price of seedlings production

In the price analysis for the gardening plant products, the following types of plants are taken into consideration: tomatoes, peppers, cabbage and cucumber. The primary parameter to include these products into the analysis is their participation in the total export of gardening plants. All of the calculations given further in the text are made on one joint area of 1000m² i.e. 0,1 hectares. All parameters in this calculation have been adjusted to fit this given area.

4.1 Analysis of the price of tomato seedlings

In the calculation for the tomato seedling production, in average, every individual agricultural economy plants around 11% more tomato seed material in order to achieve the desired number of beddings, i.e. the percentage of efficiency in the seedling production is 89%. We can assume that the additional costs for the production of the required number of seed material are 11%, which in our case can be translated as 6066 denars. The size of the average capacity for tomato production from 0,3ha, additional costs are 8199 i.e. 60600 denars from 1 hectare area. We can summarize that the total costs for the tomato seedling production would be 49.084 denars, or 12,27 per bedding. Also, the price taken in the example is based on the price of the cheaper seed types. In case we use a tomato seed with a price of 7 and 8 denars per seed, the costs would be much higher.

Table 2: Calculation of the price for tomato seedling

Costs	Amount	Price	Total
Seed	4500	5,5	24750
Turf	1650	5,6	9240
Fertilizer	2	100	200
Plastic foil (50 kg/5 years)	10	210	2100
Heating (electricity for 2 months)	2	2500	5000
Protection of the seedling (fungicides)	1	500	500
Protection of the seedling (insecticides)	1	1000	1000
Manual labor (70 days x 1,5 hours)	105	100	10500
Styrofoam boards	8	30	240
Plastic pots (4500 no./5 years for certain seedling)	900	1,8	1620
Total costs			55150
(55150/4000=13,78 denars)			

Source: Original

4.2 Analysis of the price of pepper seedlings

Similar as with the tomatoes, when it comes to the sweet peppers, we can identify a significant percentage of additional input of seed material invested in order to reach the desired number of sweet pepper bedding plants. In this particular example, it is 8,3%. Unlike the tomatoes, all participants questioned have shown greater efficiency in the sweet pepper production. Based on the same presumptions as in the previous calculation with the tomatoes, this would mean an additional cost of approximately 400 denars. On the average area of 0,3ha, this cost would be 1200 denars, i.e. 4000 denars per hectare. If this additional cost is lower than the one from the production of the tomato seedlings, we consider that the former is not to be taken into account since we are dealing with a type of pepper with lower price of seed material as well as lower income per bedding. In case of a more expensive hybrid seed material (for example 3 denars) the conditions change.

Table 3: Calculation of the price for sweet pepper seedling

Costs	Amount	Price	Total
Seed/no.	6000	2	12000
Turf/l.	1900	5	9500
Fertilizer/kg.	3	100	300
Plastic foil (60kg/5 years)	12	200	2400
Heating (electricity)	2	2500	5000
Protection of the seedling (fungicides)	4	450	1800
Protection of the seedling (insecticides)	2	300	600
Manual labor (70 days x 2 hours)	140	100	14000
Plastic pots (8x8, 6000 no./5 years)	1200	1,8	2160
Styrofoam boards /no.	10	30	300
Total costs			48060
(48060:5500=8,70 denars)			

4.3 Analysis of the price of cucumber seedlings

For the production of cucumbers, farmers order 11% more seed material in order to achieve the desired number of beddings. After applying the same principle as in the previous calculations, the additional costs for the cucumber seedling production is 4583 denars. On average area of 0,3ha, this cost is 13749 denars, i.e. 45830 for one hectare. We can conclude that in this case, as it was with the tomatoes, farmers are exposed to a significant cost.

Table 4: Calculation of the price for cucumber seedling

Costs	Amount	Price	Total
Seed	2600	6,6	17160
Turf	1000	5	5000
Fertilizer	2	100	200
Plastic foil (60kg/5 years)	12	200	2400
Heating (electricity) 2 months	2	2500	5000
Fungicide 5 treatments	5	320	1600
Insecticide 5 treatments 25gr	25	4	100
Manual labor - 60 days 1,5 hours = 90 hours	90	100	9000
Pots for seedling pallet number / 5 years (110/5)	22	55	1210
Total costs			41670
41670/2300=18,10 denars			

4.4 Analysis of the price for cabbage seedlings

The production of the cabbage is slightly different from the above mentioned examples. Namely, even though there is an 11% larger amount of seed material, the low price of the seed as well as its production technology, influence the low costs of the seedling production. According to the same analogy from above, the additional production cost of the required seedlings is 2077 denars. On average area of 0,3ha, this cost is 8310 denars, or 20770 denars per one hectare.

Table 5: Calculating the price for the cabbage seedling

Costs	Amount	Price	Total
Seed	4500	0,6	2700
Turf	1650	5,6	9240
Fertilizer	1	100	100
Plastic foil (50kg/5 years)	10	210	2100
Protection of the seedling (fungicides)	1	200	200
Protection of the seedling (insecticides)	1	500	500
Manual labor (40 days x 1 hour)	40	100	4000
Styrofoam boards (8 no/5 years for seeds)	1,6	30	48
Total costs			18888
(18888/4000=4,72 denars)			

5. Import and export of seedlings in Republic of Macedonia

Chart 12: Export of seedlings for the period 2007-2012

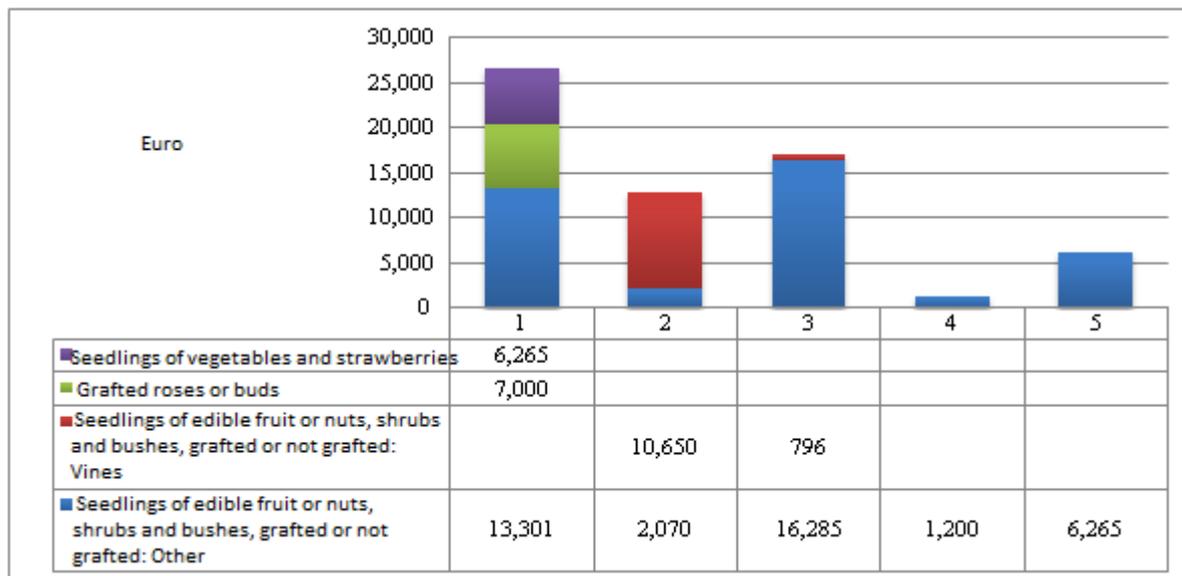
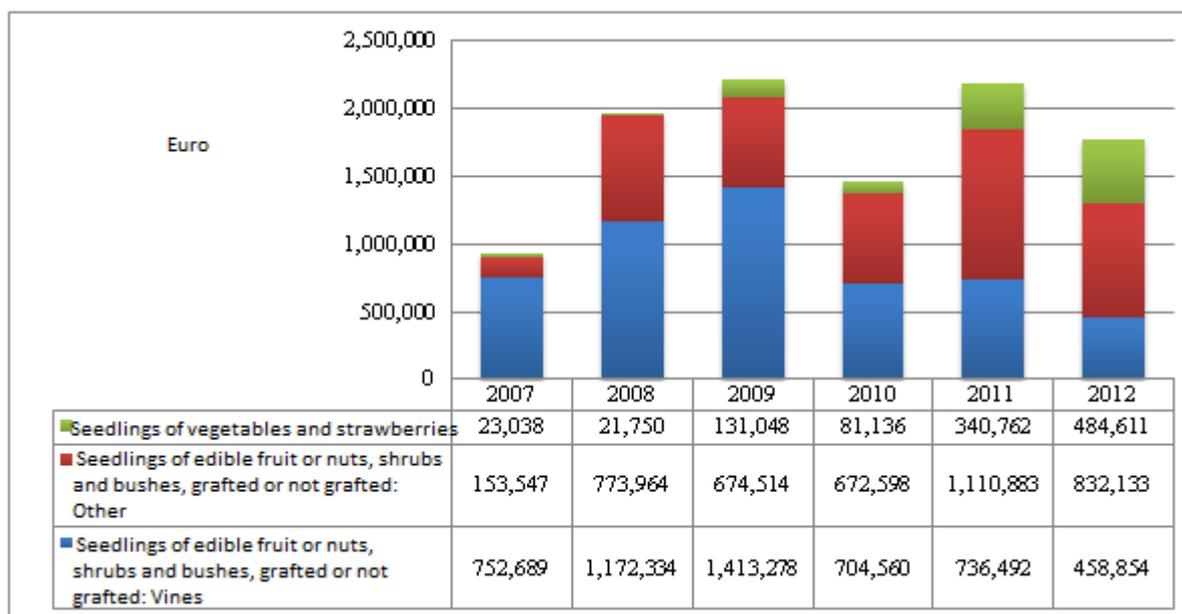


Chart 13: Import of seedlings for the period 2007-2012



6. Production of seedlings from gardening plants

In Republic of Macedonia there is no organized production through specialized centers for seedling production. More precisely, every agricultural economy in most cases produces the gardening plant seedlings individually. This unorganized model of gardening plants production refers to all dominating gardening products. Spontaneous production of seedlings for the purpose of selling only comes in moments when agricultural economies among families produce larger amounts of seedlings than necessary, in order to satisfy the available

production capacities. This seedlings trade is unorganized and unofficial, usually conducted locally among agricultural economies. Such trading with seedling material can have significant negative effects on the final production because there is no control on the health safety of the seedling and there is no guarantee of its quality. Other negative influences on the seedlings can happen during their transport and handling from one farmer to another.

It is significant to mention the existence of organized production i.e. the official and organized supply of seedlings. It has been identified only at manufacturers of early-gardening products by using a heating system (greenhouse production). This is expected to a certain extent, because the final price of the gardening product after using the heating system justifies the high price of the seedling. Representatives of these manufacturers usually acquire the seedlings from Republic of Greece. Another significant fact is that the price of this seedling is high. This type of production has serious weaknesses, even though it is an organized production and the supply of seedlings is based on using modern technology, acquiring the seedlings from specialized centers.

7. Analysis of the price perception for a final product – seedlings for agricultural plants

Price – The willingness to pay for a seedling can be seen among people who produce gardening plants with high added value, like tomatoes or cucumbers, as well as among farmers that have larger capacities from the average capacity of 0,3h and protective production area. **Quality** – Farmers' perception about quality seedlings is very limited. One significant thing is that more than half of the farmers questioned do not focus on the health condition of the plant nor if the plant was grown in optimal conditions and has all the physical predispositions to provide an optimal crop. Most of them have no knowledge to evaluate the health condition of the seedling beyond its physical appearance nor they use expert advice at all.

Manual labor and production costs – Most of the farmers don't have detailed information regarding the production costs on their farms, which include the final production costs and seedling production costs. It can be assumed that most of the farmers keep a rough calculation that enable him to reach a decision whether or not what he is doing is profitable, i.e. whether or not he should change something in the gardening plant production. Such rough calculations lead to general decisions (change of the production product or change in the area of production).

From all of the above mentioned, we can reach to a conclusion that having great knowledge in all three components from the research has a great significance in defining the model for business development in the seedling production. Raising the awareness among the

farmers when it comes to these three components is the key to success in order to enter the final seedling market.

8. Production of seedlings from fruit tree plants

One thing that is characteristic about fruit tree plant seedling in that unlike the gardening plant seedling production, this is more organized in Republic of Macedonia. There are many legal entities that are part of the production of seedlings from fruit tree plants. The analysis of seedlings' export and import also shows that the import of seed material from fruit tree products is larger than the one for gardening products. This signifies that the awareness for fruit tree seedling supply is much higher. The production of seedling and the trade with fruit tree plant seedling can be identified as a special sub-sector in the agriculture because it has a significant role in the fruit production chain. We should also point out that the fruit tree plant seedling production same as the gardening plant production can have an individual seedling production but only in small amounts. The reasons for such condition in the production and trade with seedlings are the following:

Financial support for using certified seed material – the support from the country/government to plant and grow new seedlings as well as nurture one-year seedlings when using certified seed material is one of the factors that influences the high demand for certified seedlings from specialized centers for seed material production.

Awareness of the production costs – unlike the farmers in the gardening plant sector, the farmers in the fruit tree plant sector are quite different when it comes to knowledge about farm economy. The later demonstrate accounting skills connected to their farms unlike the farmers in the gardening plant sector. The reasons for such behavior is the characteristic of the fruit tree orchard sector, as products are usually multiple-year plants, and the quality effect of the seed material and its treating can be seen in a longer period of time than in the gardening plant sector, and the risk of mistakes in the early stages is much higher. As additional argument we can state that a large number of the farmers use growing fruit tree orchards as a secondary activity.

Awareness of the seed material quality – Farmers demonstrate higher awareness and knowledge of the quality of the seed material and its relation to the production costs in the later stages of production (protection and fertilizing), as well as the connection between the quality of the seedling and the profit.

Entering the market for production and trading fruit tree plant seedlings is actually entering a much bigger market than the one related to gardening plant seedlings. When approaching farmers, potential investors would face much greater awareness related to the usage of their product, but on the other hand the company that would be part of this process would be under greater pressure from already established companies in this business.

9. Governmental financial support for the production seedlings from gardening plants and fruit tree plants

The financial support of the state in the gardening plant seedling production and the fruit tree plant seedling production is conducted through two programs: **Program for direct financial support in the agriculture¹** and **Program for financial support of the rural development²**.

9.1 Financial support of the seedling production through the Program for financial support of the rural development

The Program for financial support of the rural development plans a nonrefundable financial support for investments of new vine plants, fruit plants and honey-producing flora (Facelia, Evodia and Locust) on new areas, planted between 1 of September and 31 December 2012 and 2013. The financial support for planting new vine and fruit plants is 45.000.000 denars per hectare. A condition to acquire these means is a planted surface with certified seed material or vine coil.

9.2 Financial support of the seedling production through the Program for direct financial support in the agriculture

The direct financial support in the agriculture, seedling production and bedding plants is supported by the state through the following measures:

1. Direct payments per arable land for keeping already planted fruit tree plants:

¹ http://www.ipardpa.gov.mk/Root/mak/default_mak.asp

² http://www.ipardpa.gov.mk/Root/mak/default_mak.asp

- Beneficiaries of this measure are agricultural economies that have minimum 0,2ha area with existing fruit tree plants for each fruit type separately and are registered in the Registry book for agricultural economies, with payments being made in the second year from the growth of the fruit plants.
- The required minimal number of fruit plants per one hectare for each fruit type is given in the Table for acceptable number of fruits – beddings per hectare for existing fruit plants grown up to the spring of 2012 per fruit types in attachment 3 part of this Decree;
- The amount of the direct payments is **90.000,00 denars** per hectare for strawberries grown in pots in controlled conditions (greenhouse or orangery);
- The amount of the direct payments is **33.000,00 denars per hectare** for: pear, cherry, sour cherry, apricot, peach, kiwi and apple plantations with the number of seedlings over 1.000 per hectare;
- The amount of the direct payments is **28.000,00 denars per hectare** for: quince, medlar, prune, olive, pomegranate, persimmon, fig, aronia berry, blueberry, briar, gooseberry, raspberry, bramble, strawberry on the open air, almond nuts, hazel nuts and apple plantations with a number of plant from 400 to 999 per hectare;
- The amount of the direct payments is **15.000,00 denars per hectare** for plantations with nuts and chestnuts; The amount of the direct payments from this point is lowered in percentage with the increase of the reported areas for each type of plant such as: from 0,2ha to 5ha 100%, from 5,1ha to 30ha 60%, from 30,1ha to 50ha 30% and over 50ha 10%.

2. Direct payments per arable agricultural area for maintaining the existing vine plantations from 10.01.2013

- Beneficiaries of this measure are the agricultural economies that have areas under vine plantations registered in the National registry of vine plantation, with a starting payment in the second year from the growth of the vine plants;
- The minimal area under vine plantation is 0,2ha, while the minimal required number of seedlings is 1.500 per hectare;
- The amount of the direct payments is **40.000,00 denars per hectare** or 100% for vine plants on an area from 0,2ha to 5ha, **24.000,00 denars per hectare** or 60% for an area from 5,1ha to 30ha, **12.000,00 denars per hectare** or 30% for an area form 30,1ha to 50ha and for an area over 50ha **4.000,00 denars per hectare** or 10% of the maximal amount of support.

3. For direct payments regarding the home-made vine soil and fruit tree material:

- Beneficiaries of this measure are agricultural economies registered in the Registry of manufacturers of seed and planted material that have produced a certified vine and/or

fruit material in 2013 according to the Law on seed and planted material and have also received certificates for it;

- Produced or sold home-made vine coil and fruit tree seed material no later than 31 March 2014;
- The amount of the direct payments is **25,00 denars per coil** i.e. bedding plant for produced and sold coils / beddings, including bedding that are used individually for personal needs.

4. Direct payments for production of seed and planting material for gardening products

- Beneficiaries of this measure are the agricultural economies registered in the Registry for suppliers of seed material for gardening products (except potato) with minimal production capacity of 500.000 plants annually which also have a production and planting material for gardening products on the home market in 2013;
 - The amount of the direct payments is **5 denars per sold young plant**;
 - The maximal selling price of the service for growing the planting material of 5 denars per plant, which is also produced in greenhouses designed especially for the production of the seedling material in sanitary-correct and virus-free conditions by: usage of certified elite hybrid seed material; conducted Integrated management for pest control and following certain diseases (Integrated Pest Management System); on erected boards used for growing surface plants for at least 80 cm and a covered floor; with computerized operating systems: the system for Official Gazette of RM, no. 5 from 10.1.2013, 5 to 14 irrigations, to control the pest presence, insects and diseases, system for climate maintenance of specific conditions and system for mechanical planting; as well as in logistical systems for material supply and storage of the seedling which are protected from contamination.
 - Beneficiaries of this measure are agricultural economies registered in the Registry of seed material manufacturers (potato seed, production of pepper seed and tomato seed) that have achieved seed material production in 2013 and have received certificates according to the Law on seed and seeding material for agricultural plants.
 - The amount of the direct payments is 40.000 denars per hectare for registered surface meant for production of potato or tomato seeds, i.e. 35.000 denars per hectare of registered surface for production of pepper seed.

10. Analysis of the law regulations for the production of seedlings from gardening and fruit tree plants in the Republic of Macedonia

10.1 Production of the seed material from gardening and fruit tree plants

The production of seed material from gardening and fruit tree plants is regulated with several laws and bylaws in Republic of Macedonia. The laws and bylaws for this area are as following:

- Law on seed and planting material for agricultural plants (Revised text) Off. Gazette no.55/2011;
- Law on plant health (Off. Gazette of RM no.29/05, 81/08 20/09, 57/10, 148/11, 69/13;)
- Law on State Inspectorate for agriculture (Off. Gazette of RM no. 23/09, 53/11);
- Rulebook on conditions required to be met by the supplier in order to be registered in the Registry of seed material and Registry of planting material, content and ways of keeping the registers and the content of the registering request (Off. Gazette of RM no. 08/07);
- Rulebook on the trade with seed material from gardening plants (Off. Gazette of RM no. 158/08);
- Rulebook on the trade with reproduction material and planting material derived from fruit tree plants, meant for fruit production (Off. Gazette of RM no. 84/11);

Material law from this area is the Law on seed and planting material for agricultural plants³. This law stipulated the conditions and criteria required for a certain subject to be able to produce, trade and import seed material from gardening plants.

According to Article 5 from the Law on production, trade preparation, import-export, seed material for wholesale trade from gardening plants, can be executed only by home or foreign legal or individual entities - suppliers registered in the Registry of suppliers of seed material. In the Republic of Macedonia, foreign legal entities can perform this work through branch offices according to the Law on trade companies⁴.

Registering in the registers for suppliers of seed material can be done by submitting a request and certain documentation for fulfilling the required conditions. Such request is sent to the Directorate for seed and planting material. Whenever the companies stop meeting the supply criteria and conditions, they get erased from the registries. Other conditions that every supplier needs to fulfill regarding the agricultural land, equipments, business offices and

³(Off. Gazette of Republic of Macedonia no. 84/11)

⁴ Article 26

adequate storage facilities are stipulated in the Rulebook for conditions suppliers need to fulfill in order to get registered in the Registry for seed material and Registry for planting material, content and ways of keeping the registers and the content of the registering request.⁵

⁵http://mzsv.gov.mk/files/PRAVILNIK_ZA_USLOVITE_STO_TREBA_DA_GI_ISPOLNUVA_SNABDUVAC_OT_%20ZA_DA_SE_ZAPISE_VO_REG_NA_SEM_MAT_I_REG_NA_SAD_MAT.SODRZ.pdf

11. SWOT Analysis

11.1 Analysis of the ADVANTAGES from entering the market for seedling production from gardening plants and fruit tree plants

- The unfavorable characteristics of the seedling production technology used by individual agricultural economies (Physical space for growing the plants, low isolation and phyto-pathological protection by using expensive heating elements, low level of automation of the production process) gives a serious advantage to enter the production market for seedlings from gardening plants, through an investment in a modern center for certified seedlings.
- Improvised technology and limited knowledge causes an increase in the amount of acquired seed from gardening plants for 5-20%. By entering the market with gardening plant seedling production through an investment in a modern center for certified seedlings, there will be a significant influence on lowering the import of seed and other agricultural materials as a result of a higher efficiency in the production and producing healthier seedlings. The healthy seedlings will lower the treating/protection costs that come later in the growth period significantly.
- The gardening products that have higher added value and a higher price of the final product are a significant market segment for entering. People dedicated to the production of gardening products with high added value like tomatoes or cucumbers, have been identified as ready to pay for such seedlings.
- Farmers that have greater capacities than the average one of 0,3h at their disposition, demonstrate a significant readiness to order seedlings outside their own farms.
- The fruit orchards sector demonstrates a higher knowledge in the farming economy compared to the gardening plant sector. In the former, there are much greater management decisions when it comes to conducting farming economy, supported by specific measurable data. According to this conclusion, entering this market is much simpler than the approach farmers have with the gardening material.
- A much higher awareness can be seen among farmers about the quality of the planting material and its influence on the production costs in the later stages of the production as well as the profit. Such condition represents an argument to invest smaller efforts to convince farmers in the production process.

11.2 Analysis of the WEAKNESSES that come from entering the production process for seedlings from gardening plants and bedding plants from fruit tree plants

- The low level of expertise that can be seen among farmers in the seedling production area, especially in the gardening sector. Farmers rely on their own experience, exchange of experiences with other farmers, inherited habits and traditions from former generations. Such condition in the sector makes it harder to enter the market, i.e. requires great work to access those farmers and persuade them to purchase the product.
- There is no interest in acquiring seed that is grown on open-air (red pepper, watermelon, tomato, cabbage, broccoli etc.). Such conditions limit the possibility to enter the market as well as the possibility to implement economy in the production process.
- During the production of the seedlings, farmers have little awareness of the phytopathological elements in the production process as well as low perception and limitations on what is quality seedling. Farmers value the quality of a seedling according to the fact how much of the planted seeds is the closest to the planned number of bedding plants to satisfy the production capacity. Such condition in the sector makes it more difficult to enter the market, requires a lot of investments and a lot of efforts to approach the farmers and persuade them to buy the product.
- There is limited knowledge of the costs required for the seedling production. Farmers usually don't keep any financial records in their farm. The awareness for optimization and division according to separate agricultural plants through good management of the production costs is still limited. Such condition will influence the farmers' perception on the price of the seedlings significantly.
- The awareness for the costs is much more present in cases when the product being grown has a lower price compared to the awareness when the product has a higher price.
- The work force in reality has a very low value among farmers. The price of the work force (manual labor), especially the labor among one agricultural family economy is used as a factor to compensate the costs from the other production factors. The awareness of the opportunity costs of the invested labor is also very low, especially when such labor is significantly high due to its intensity in the production phase - "seedling production". Such condition insinuates that the factor "time" will not be graded very high by the farmers as an argument of persuasion.
- The insufficient usage of expert knowledge and services from the seedling production area from gardening plants as well as the low awareness and lack of information the farmers have when it comes to using prevention measures to stop the phytopathological consequences, additionally complexes the selling process and requires

putting more energy in the process of changing the farmers' perception about the meaning of supplying certified seedlings.

11.3 Analysis of the POSSIBILITIES from entering the market of seedling production of gardening plants and bedding plants from fruit tree plants

- There is a positive trend in the trade balance within the fruit sector. The import of fruits has a decline while the export is growing. Such condition shows a significant potential for entering the seedling market.
- There is a much unfavorable import (regarding the average price) than export. The structure of the import is unfavorable compared to the fruit export regarding the prices. We import much more expensive products than the ones we produce. This is an additional motivation to lower the costs of production through acquiring planting material that has the prospect of greater production and lower production costs.
- We mark a rising trend in the fruit export to more distant destinations that are quite further away from the traditional ones.
- In the gardening sector, we cannot see an organized production of seedlings through specialized centers i.e. there is no direct competition.
- Organized production and trade with seedlings from gardening plants has been noticed among manufacturers of early gardening products by using heating systems. Such condition sends signals that there is a certain form of awareness present among farmers about the advantages of final seedling.
- The significantly high price of the imported seedling from gardening plants provides an opportunity to enter the market through competitive prices and aspects regarding logistics.
- Significant financial support for using the certified planting and seedling material provides a significant advantage to enter the market.
- The structure of the export, except for the apples, is much more favorable regarding the one for the gardening products. Products with higher added value mark a much more favored availability.

11.4 Analysis of the THREATS from entering the production market for seedlings from gardening plants and fruit tree bedding plants

- The price structure of the export of gardening plants is unfavorable. Despite the rise of the prices of material, the prices of the gardening plants remain the same. This can significantly influence the demand of seedlings, if the price is regarded as unfavorable.
- Unfavorable structure of prices regarding the export destinations. Lower export to countries with higher average prices (for example: Croatia) compared to a country with low average prices (Bulgaria). This can significantly influence the seedling demand if the price is regarded as unfavorable.
- The structure of the export of gardening plants demonstrates a low diversification, i.e. the export of limited number of products (4-5) with a significant dominance of 40% of one plant. Such condition limits the market for seedlings from gardening plants.
- With the exception of the tomatoes, the primary agricultural products with high added value and high export prices have a very low representation in the export, or there is a significant participation of products with low added value (for example: cabbage). The white cabbage and the red cabbage (average growth of 46%). This is a product that has a significantly low added value.
- Such condition limits the market for seedlings from gardening plants.
- Republic of Macedonia demonstrates a large dependency from traditional markets (for example: Serbia and Bulgaria) to export the gardening products to the region and also demonstrates low signs of entering other markets. A significant presence on the West Europe markets cannot be notified due to being very low.
- In a 6-year period Republic of Macedonia marks a low average growth of the export of gardening products. There is a significant drop of export of the dominating gardening products in the last 2 years.
- There is a drop of the export of gardening products on the traditional markets as well (Serbia, Bulgaria, and Bosnia).
- The structure of the export towards the traditional markets of export is becoming quite unfavorable i.e. products with high added value continue to drop.
- There is a stable growth of the import from other countries.
- The spontaneous production of seedlings from gardening plants as an unregulated market is a non-loyal competition for the modern centers for gardening plants.
- The production of bedding plants from fruit tree plants in Republic of Macedonia is much more organized. Such condition creates a larger pressure to work more

professionally and qualitatively and lowers the chances of creating large profit mark-ups.

- The law regulations do not provide protection from the unfair competition. In case of entering the market through installing modern centers, the law regulations and inspection supervision do not guarantee that the informal trade with extra seedlings will stop from happening.
- The lack of precision within the law regulations regarding the seedling production, allows every individual agricultural economy to produce seedling in unlimited amounts without having to satisfy certain standards for quality.

12. Defining the target countries that have the knowledge and experience in producing the seedling material

Following the executed research, the target countries, which possess the knowledge and experience in producing seedling material, were defined:

- Countries Members of the European Union
- Israel
- USA
- Switzerland
- Norway
- Turkey

13. Cooperation

The partnership with the interested company can be established through joint investment and establishment of a mutual company that will realize the previously mentioned investment, in which the input of the country in question would equal the amount of the executed state investment in the infrastructure.

Based on this input and the influence in the management, the country can protect its interests through securing continuous training and transfer of information through the investor, which would refer to the area of using certified seedlings and their correct exploitation, thus securing an influence on the amount of the selling price and providing a certain amount of income to the budget of the country.

Nevertheless, if decided, the foreign investor can do the following:

- Execute the investment independently, for which he will be provided with an appropriate government agricultural land, all appropriate information and logistical support for the execution of procedures of the investment, or

- Buy out the Government's stake in the project later on.

Agri Lend AD Skopje will be appointed as a representative of the Government in the joint investments with the potential private investor, while the means for the participation would be secured through the Program for Financial Support of the rural development.

