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ANALYSIS
Feasibility study to assess the needs for modernization of post-harvest processing infrastructure in ATU Gagauzia and Taraclia District

Developed by: National Federation of Agricultural Producers of Moldova "AGROinform"
Summary

The production of fruits and table grapes in ATU Gagauzia and Taraclia is concentrated in large agricultural enterprises. 83 agricultural enterprises are involved in this sector in ATU Gagauzia and Taraclia. The average area of perennial plantations per farm is 42.2 hectares, which is typical for quite large farms (of which on average 31.93 ha are planted with fruits and 10.23 ha are planted with table grapes).

The forecast of the fruiting of perennial plantations in ATU Gagauzia and Taraclia for the period 2017-2022 shows that by 2022 the areas that will enter the fruiting stage will be 80.9% larger than in 2017, and namely, the area of orchards will be 55.6% larger and that of vineyards will be 159.8% larger.

According to the planning of the gross harvest for perennial plantations in ATU Gagauzia and Taraclia, by 2022 most of the areas will enter the fruiting stage and the gross yield will be 126.1% higher than in 2017, and namely, the production of fruit will be 92.8% higher, while that of table grapes will be 244.2% higher. The higher production of fruits and table grapes is very good for the region, but at the same time, all business processes of the fruit business and the value chain development should be assured.

The Moldovan fruit production sector, including fruit production in ATU Gagauzia and Taraclia, needs to diversify the export markets for fruits and vegetable products. The signing of the Association Agreement between the Republic of Moldova and the European Union, as well as the revitalization of activities of professional associations contributed to the qualitative differentiation of export markets and the improvement of technology and quality of exported products.

The market of the European Union (e.g. Romania, Poland) for some fruits and, in particular, for table grapes is an entry gate, and we should develop this strategic and promising direction.

In 2016, the share of exports to the European Union was 53% of the total exports of fruits and table grapes from Moldova, and the share of such exports to Russia was 24.6%. One of the reasons for the decline in exports of fruit and table grapes to the Russian market is the application of tariff measures in the form of customs duties for 19 products of domestic producers and non-tariff measures in the form of trade restrictions. Thus, domestic producers redirected themselves to the EU market.

The Moldovan sector of fresh fruits and vegetables does not meet the requirements set by regional markets, except those for walnuts and prunes. Because of the difference between what Moldovan producers can offer and what is the demand in the regional markets, Entry into these markets should be a long-term objective, which will remain unrealistic for the near future. The process of improving the quality of Moldovan fruits is ongoing and has notable successes. Therefore, the long-term objective of ensuring the delivery of goods to these strategic markets should be maintained. The European market is a place where one can compare a product’s competitiveness and producers who manage to enter this market will be able to sell their products in any other part of Europe.
It is necessary to adopt the experience of Moldovan farmers, who use advanced techniques and fruits and table grapes’ sorting and calibrating technologies, which started to generate higher profits already, as their products are better than those processed by hand, including equipment for the production of cardboard or wooden packaging (e.g. Packing-houses from Costesti and Sangerei).

Based on the findings of visits and the survey, an assessment was made of the value of the existing investments and funds required for upgrading and improving the existing refrigeration infrastructure in Gagauzia and Taraclia. While conducting a visual inspection, a survey of responsible persons and a subsequent analysis of the quantitative and qualitative condition of processing and refrigeration infrastructure for fresh fruits and table grapes in ATU Gagauzia and Taraclia, the group of experts determined that there are 9 cold stores built by private companies in the period 2010-2017. Their total storage capacity sum up **5,600 metric tons** of fresh fruits and table grapes.

The investment cost of all functional refrigerators in Gagauzia is 4,140,000 euros, and the additional costs necessary to upgrade the existing processing infrastructure in Gagauzia are around 720,000 euros. In Taraclia, there is only one functional cold store, which consists of 2 cold chambers that were reconstructed from an abandoned and non-functional refrigerator of MoldCoop. The amount of investment needed to replace the refrigeration equipment for the 2 chambers with a capacity of 300 tons is about 70,000 euros. To modernize these chambers, almost 86,000 euros are needed.

The infrastructure for post-harvest processing of fruits and table grapes is underdeveloped and funds should be identified for upgrading the cold chain, as well as for equipping it with sorting and packaging equipment, as well as equipment to produce wooden and corrugated cardboard packaging.

The current ratio between the total volume of harvested fruit products and the actual capacity of refrigeration and subsequent storage in Moldova ranges from 30 to 40%. In 2017, refrigerators in Gagauzia could ensure the refrigerated storage of only around 12% of the total volume of harvested fruit products (fruit and table grapes).

Based on the economic analysis of the fruits and table grapes production volume, taking into account that new orchard and vineyard surfaces enter into the fruit bearing stage, in the next 5 years (by 2022), specific needs in additional storage capacity of the cold chain infrastructure are identified. The analysis shows the above assumption that a 30% increase in cold-storage capacity is realistic for the whole Southern region. Meaning that, in the next 5 years, every year is necessary to build an optimal number of fruit storage facilities as to ensure a total storage capacity growth of 2,000-2,500 tons per year.

Based on future estimates of the fruiting of perennials in the new plantations, ATU Gagauzia and Taraclia need new facilities with a capacity ranging between 13 and 30 thou tons for the period 2018-2022, depending on the scenario chosen by the fruit business stakeholders in the respective region.
The amount of investments for the realisation of the three refrigeration capacity development scenarios is estimated as follows:

1. The pessimistic scenario (the need for refrigeration capacity is 30% of the production volume) – the capacity of refrigerators will reach 13,300 tons in 2022, and the amount of the projected investments is 5,543,887 euros;
2. The intermediate scenario (the need for refrigeration capacity is 50% of the production volume) – the capacity of refrigerators will reach 22,180 tons in 2022, and the amount of the projected investments is 11,925,616 euros;
3. The optimistic scenario (the need for refrigeration capacity is 75% of the production volume) – the capacity of refrigerators will reach 30,300 tons in 2022, and the amount of the projected investments will reach 17,775,144 euros.

Further to this analysis, two options were proposed for the development of a pricing policy for fruits and table grapes:

1. The first and the most realistic and affordable option is as follows: the Packing House in Congaz village, Comrat District. It is planned to be built from easily mountable parts (frame structures and sandwich panels) next to the existing refrigerator. It will look like a single-storey building with a total size of 48.0 x 24.0 m and a height under the cornice of structures of 5.0 m. The pre-feasibility study is presenting the Sorting and Packing House with a processing capacity for perishable fruits and table grapes proposes a throughput capacity of up to 20 tons per shift and a cold storage capacity of up to 1,500 tons of grapes or 1,700 tons of fruits such as apples, pears, plums. The total amount of investments is 591,932 Euro (excluding VAT and duties).

2. The second option is to build a Packing House with a cold store in the city of Comrat, with an outer size of 90x33x7.2H (under the cornice), and an area of about 3000 sq. m. The pre-feasibility study is presenting the Comrat Packing House with a processing capacity of up to 80 tons/shift for perishable fruits and table grapes and a storage capacity up to 1,000 tons of grapes or up to 1,300 tons of fruits (peaches, apricots, plums). The total amount of investments is 1,768,758 Euro (excluding VAT and duties).

The development and operation of the network of Packing Houses equipped with stand-alone or integrated pre-cooling chambers will help improve the quality of fresh products, will considerably increase the income from their sales in all markets, including the markets of the European Union.

To ensure a successful implementation of modern methods of fresh products processing in ATU Gagauzia and Taraclia, it is necessary to adopt the already existent advanced experience of Moldovan and foreign entrepreneurs, associations of producers and exporters of fresh fruit products.

The involvement of professional associations would greatly contribute to solving issues relating to the development and modernization of post-harvest infrastructure, organization of training of producers, processors and adoption of best post-harvest handling practices.