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Professional paper

THE PROGRESS OF THE CULTIVATION, COLLECTION, PROCESSING, AND MARKETING OF AROMATIC AND MEDICINAL PLANTS (AMP) BY THE ”BIO&BESI” COMPANY, LUSHNJE

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Abstract

BIO&BESI started working as a physical entity in 2012 and as a legal entity in 2014. It has planted areas with medicinal plants in several regions of Albania, specifically: Fier County, 60 ha of *Lavender* and *Cyanus* flowers; Korç County, 80 ha of *Marigold*; Elbasan County, 20 ha *Lavender*, Shkodër County 60 ha *Basil* and *Sage*, Berat County 25 ha *Sage*, *Ornamental sunflower*, *Melissa*. The labeling is according to the tracking. Labels are specific to organic products and according to the areas where they are collected. Sage is the most widespread aromatic and medicinal plant in Albania and the Albanian territories.

It represents a very important Albanian national product for internal medical, culinary, and export use. It is enough to mention that 42% of the *Sage* used in the USA is Albanian production (directly from Albania). The data shows that another 12% of the amount of *Sage* used in the USA goes indirectly from other countries that import it from Albania, process it (added value), and export it to the USA as their own processed product.

An interesting and very meaningful fact about *Sage* is that 80% of the world's production of *Sage* essence is produced from Albanian *Sage*. Natural *Sage* constitutes an employment opportunity in rural areas and provides significant financial income for many families in rural areas through harvesting and preliminary and urban processing, final processing of the herb, marketing, and even the production and packaging of the essence.

Keywords: *Plant, technology, professional, drying, labeling, essence, herb, and sage*.

1. Introduction

The collection, cultivation, processing, and export of Medicinal and Aromatic Plants (MAPs) is one of the primary and priority sectors in Albanian agriculture. BIO&BESI is one of the most successful companies in this field. In a short period since its foundation, it has rapidly developed in many directions, plant types, and aspects of its cultivation.

2. Scientific Methodology

The aim of the study: To analyze the development of the collection, cultivation, processing, packaging, and export of Medicinal and Aromatic Plants (MAPs).
Objectives:
1. Study the development of the MAPs collection by the company.
2. Study the processing development of MAPs by the company and improvements in processing technology.
3. Study the packaging development of MAPs and the quality of packaging.
4. Study the export trends of MAPs, both overall and by country.
5. Study the financial value of MAPs exports overall and by country.
6. Study the cultivation development of MAPs by total area and per plant across different districts.

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For the realization of this study, data on the collection, processing, packaging, and export of Aromatic and Medical Plants were used. The data were extracted from invoices for the collection (purchase) of Aromatic and Medical Plants, export invoices, and financial invoices according to the countries where the Aromatic and Medical Plant products were exported. At the same time, discussions were held with the Company Administrator and specialists in the relevant fields. A special item is the progress of cultivating "BIO" Aromatic and Medicinal Plants, without using chemical fertilizers and pesticides.

3. Results and interpretation

3.1. History of the company: The company started working as a physical person in 2012 and very soon as a legal entity in 2014. It has planted areas with medicinal plants in several regions of Albania, specifically: Fier Region, 60 ha of various plants such as Lavender and marigold (kokoçel). Korçë Region 80 ha of calendula, Elbasan Region 20 ha of lavender, Shkodër Region 60 ha of basil and sage, Berat Region 25 ha of marigold, sage, ornamental sunflower, and melissa.
The labeling has been done according to the tracking and to reflect the real and accurate situation for each plant. The labels are specific for organic products and according to the areas where they are collected.

3.2. Packaging and process description: Drying is done in drying ovens until the moisture reaches 7 - 15%, depending on the species and plant organs in accordance with the required standards
Cleaning is done to remove stones, foreign plant and non-plant matter, weeds, dust, and metals, and finally, separation into fractions is performed. After the separation into fractions, pressing is done with presses, and finally, packaging is done according to the requirements presented by the various companies. A label is placed on the packaging stating: Place of collection, cleanliness from foreign and plant matter, humidity, net and gross weight of the packaging, and the packaged product.

3.2. The progress of the collection of plant products
3.2.1. The harvesting progress hawthorn (Crataegus monogyna L.)

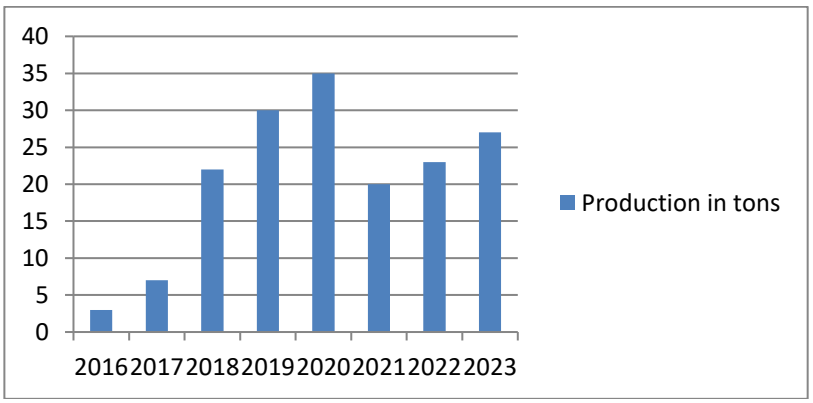


Chart No. 1 Hawthorn collection progress

Hawthorn (*Crataegus monogyna L.*) is the plant that has been collected and traded since the beginning of the work of the BIO-BESI Company. The amount collected has been increasing and the largest amount collected and traded was reached in 2020.

3.2.2. Collection progress of wild rose (Rosa canina L.)

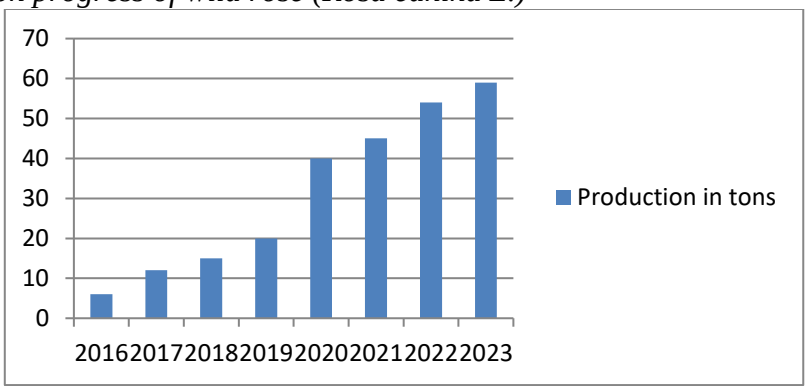


Chart No. 2 Collection progress wild rose (*Rosa canina L.*)

Wild rose (*Rosa canina L.*) has been collected since the beginning of the work, and the amount collected and traded has been constantly increasing. The amount collected increased significantly in 2020, and the maximum was reached in 2021. The difference in collection in 2020 compared to 2019 is much higher than the difference collected in 2021 compared to 2020. Wild rose collection is carried out in all areas where the company operates, but the majority is collected in Skrapar, Berat, Gramsh, and Elbasan. Grumbullimi i trëndafilit të egër është realizuar në të gjitha zonat ku operon kompania por pjesën më të madhe e ka grumbulluar në Skrapar, Berat, Gramsh e Elbasan.

3.2.3. Collection progress of lavender (Lavandula officinalis L.)

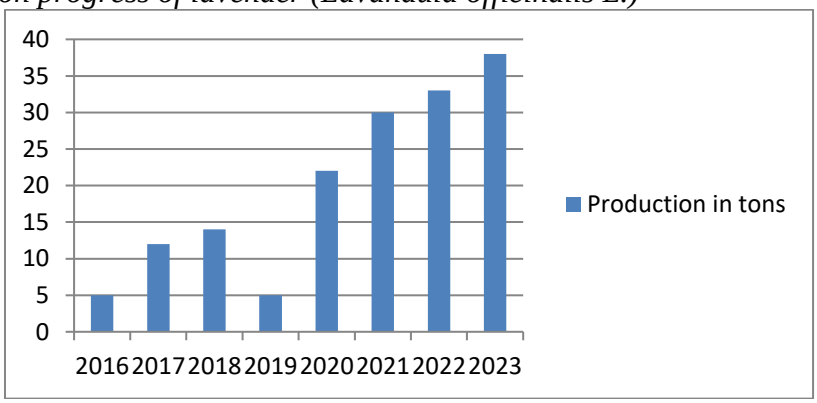


Chart No. 3 Lavender collection progress

It can be clearly seen that the collection of lavender has increased. Only in 2019 was there a decrease in production.

3.2.4. Sage collection progress (Salvia officinalis L.)

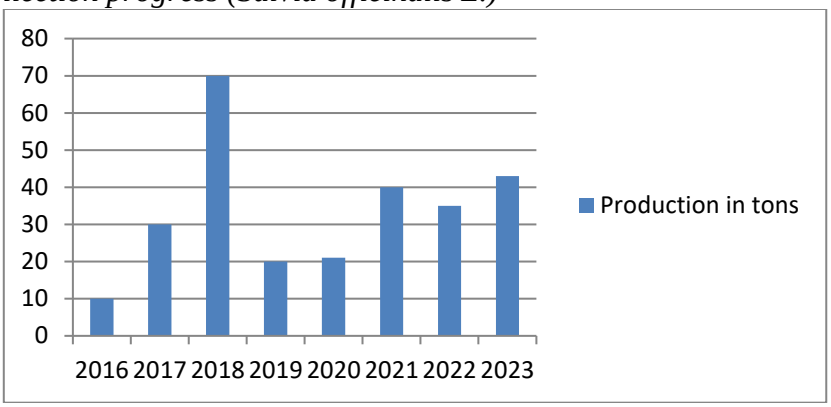


Chart No. 4 Progress of sage collection

Sage has been the most important plant for export. It is exported to the USA, and several companies of Aromatic and Medicinal Plants compete for collection. Meanwhile, to respond to market demands, it has been cultivated earlier and on a larger surface than other plants. But due to cultivation without scientific criteria and the unscientific use of chemical nitrogen fertilizers, especially ammonium nitrate, the quality has decreased. This has caused market demand to fall and the selling price in European and world markets to decrease significantly. Precisely, this has been the main reason for the oscillations in the collection and export of sage. In search of more profitable routes, the production was distilled in Albania, reducing the cost of international transport. The maximum amount of sage collection was achieved in 2018 and then decreased, and the last two years have had an increasing trend, but not a high. The production of natural sage (not cultivated) has been decreasing due to the degradation of the massifs with the sage surface. This has come from harvesting without respecting the technical criteria of cutting, the time of harvesting, and uprooting the plants. The number of plants/ha is very low, and replanting in the massifs is not ensured, so the reduction in production is very significant.

3.2.5. Oregano (Origanum officinalis L.) collection progress

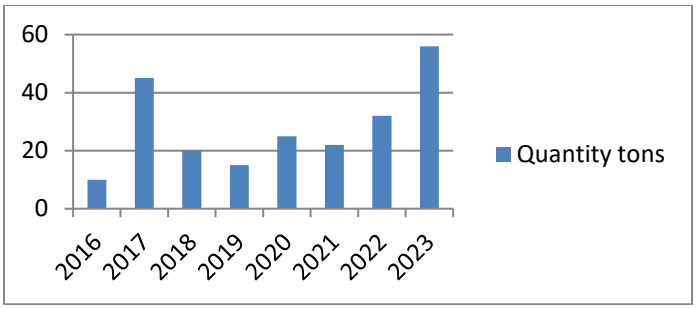
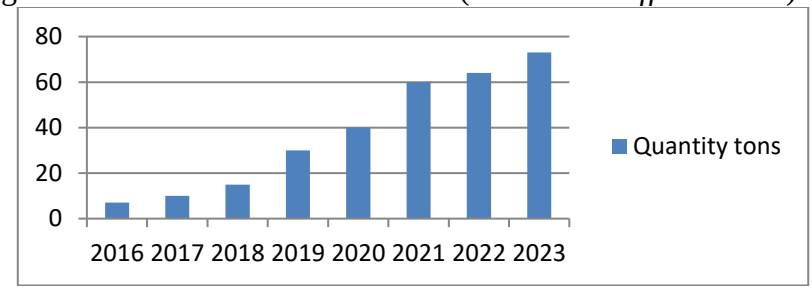


Chart No. 5 Progress of oregano collection

Oregano is the plant that took a large weight in 2017, reaching 45 tons and later stabilized at the levels of 15-25 tons, its cultivation being regionalized in the area of Dumre.

3.2.6. The progress of the collection of dandelion (*Taraxacum officinalis L.*)



Graph No. 6: The progress of the collection of dandelion

The collection and export of dandelions has been increasing. It began to be collected for the first time in 2016 with 6.0 tons and has continued to increase, reaching 60 tons in 2021, or ten times more in 2021 compared to 2016 or doubling from year to year.

3.2.7. Progress of nettle collection (Urtica dioica L.)

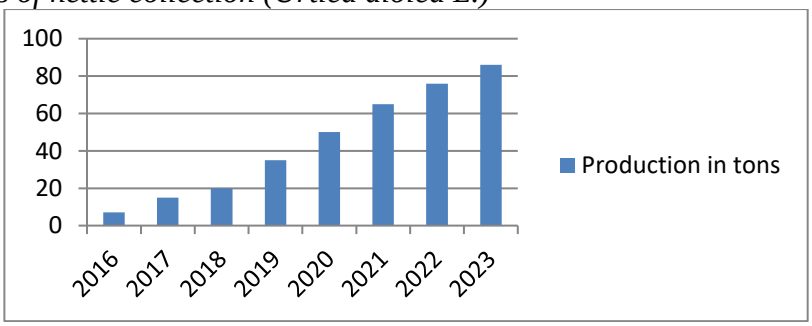


Chart No. 7 Nettle collection progress

The collection of nettles has been increasing. The needs of the international market have led to a tenfold increase in the collection of this plant in the past eight years.

3.2.8. Juniper (Juniperus communis L.) collection progress

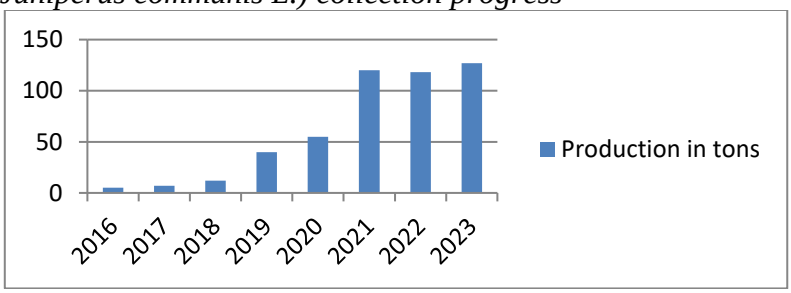


Chart No. 8 Juniper collection progress

Juniper has also grown very quickly. It started in 2016 with only 3 tons and reached 120 tons in 2021, that is, forty times more. especially in the last three years (2021, 2022, and 2023), there has been a very large increase due to the fact that it has been demanded by the European market and especially by Germany.

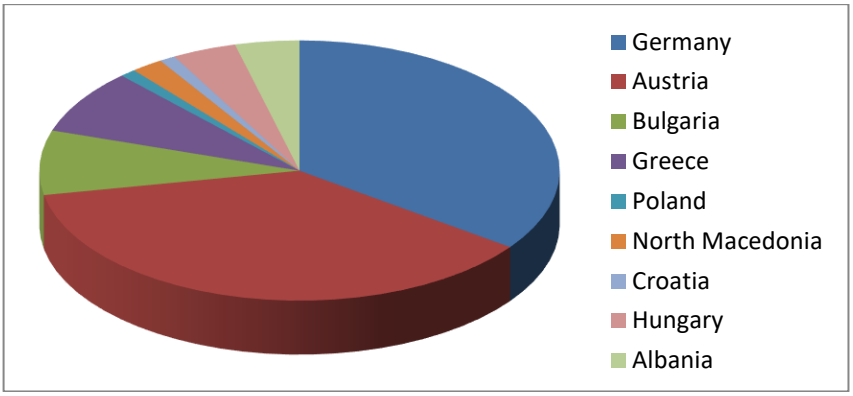


Chart No. 9 Market by countries where AMP is exported (in %)

3.3. Market by country: Germany and Austria are the countries that import the most AMP through the company BIO&BESI, accounting for over 75% of the total exported production. While domestic use is very small.

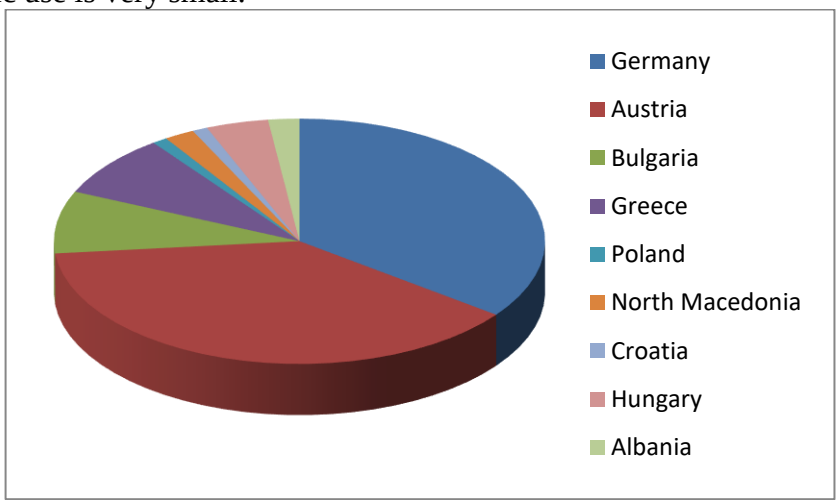


Chart No. 10 Value of exported goods by country (Euro)

3.4. Value of exported goods in euros: The volume of exports in Euros follows the same pattern as exports, which indicates that price changes are small.

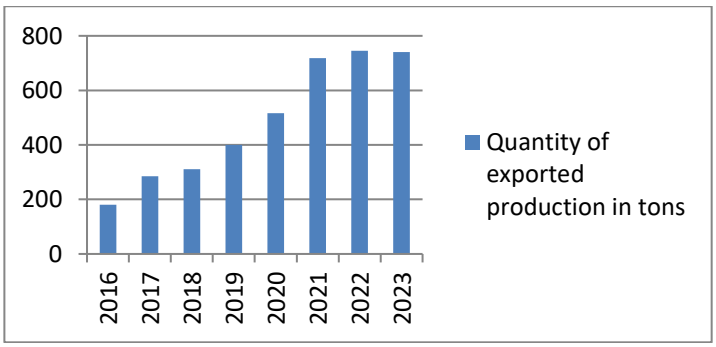


Chart No. 11 Total production export performance (tons)

The growth rate of BAM's export production is very fast, which indicates the quality of production as well as the ability of the company, which has worked very effectively in the European market. Since 2016, when work began with 175 tons, it has reached 700 tons in 2021, or four times more.

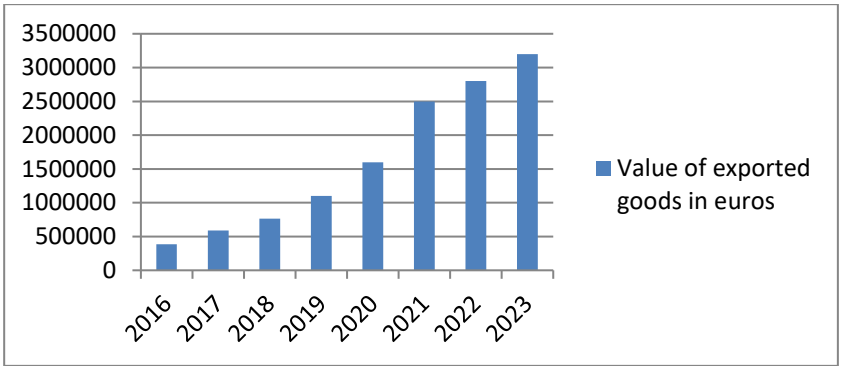


Chart No. 12 Performance of the value of exported goods (Euro)

The value of the export of the product has increased more than the quantity in tons. This indicates not only the increase in price but also the improvement of the quality of the product through the improvement of the quality of drying, cleaning from foreign substances. A very big impact has been given by the establishment of the production cleaning plant, grinding, packaging, and storage in warehouses. These factors have caused that if production in tons has increased four times, the value in euros has increased six times. This has only been achieved in the case of the production of the goods without going through direct distillation of the product, which only reduces transportation costs. Suffice it to mention that a trailer costs 3300 euros. If the essence is transported, transportation costs can be reduced by 15-20 times. This is also according to the experience of other Balkan countries.

4. Conclusions and recommendations

From the general analysis of production indicators and financial values of AMP production exports, we can draw some conclusions and provide relevant advice.
Among the main conclusions that we can draw from the analysis of this company, we can mention:
1. Albanian AMPs constitute a very important object and source for the export and presentation of Albanian products in Europe.
2.The BIO&BESI company has built a very successful and fast business in the collection and export of AMPs in Europe.
3. From 2016 to 2021, exported production increased fourfold, while its financial value increased sixfold.
4.The number of plants collected is still low at a time when the opportunities are even greater.
5.An important aspect is the cultivation of plants while maintaining BIO indicators, that is, without chemical and biochemical changes to the plants and without using chemical fertilizers and pesticides.
6.The improvement of drying, processing, and packaging technologies has led to a significant increase in the price and value of the product presentation: “Made in ALBANIA”
From a detailed study of the indicators and progress of the collection, processing, and trading of AMPs, we can recommend:
1. Improving the processing technology of AMP products by achieving what is called: "Added value of AMP production, which is usually 20 - 30% and in some cases goes up to 60%".
2. To switch to the cultivation of AMPs while respecting the original climatic and soil conditions characteristics of the plants and without using chemical fertilizers and pesticides.

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