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CULTIVATION OF NATURAL PLANTS; "MEDICAL MINT" EXAMPLE IN TOKAT-ERBAA

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Abstract

The rural part of Tokat's Erbaa County is very rich in terms of medical and aromatic plant diversity, and some people continue their livelihood by collecting them. Some of these plants that grow in natural environment are cultured depending on demand. As a matter of fact, some plants such as rosehip, poppy, fenugreek grass are raised by taking incentives from the government. One of these plants, Medical Mint (*Mentha x piperita L.*), has grown over the last years in terms of the size of the cultivation area, as well as the

amount of production. In the research, the subjects such as the production, drying, processing, packaging, marketing and exporting of the medical mint in the rural part of Erbaa have been determined on site by contacting the relevant institutions. The research also examines the place of other plants in Erbaa's natural plant diversity and the potential and emphasizes its contribution of Erbaa and Turkey to the economy in case of making use of this potential.

Some of the farmers who participated in the medical and aromatic plant course launched in Erbaa in 2012 applied for the benefit of the relevant monetary grant and incentive for production after they have received their certificates. The mint seedlings brought to Erbaa through a company were replicated by two farmers in an area of 100-150 m² and first production was achieved. Thus, the medical mint whose production started in 2013, soon attracted attention with its efficiency in rural part of Erbaa due to the suitability its geographical conditions. Later, as a result of the fact that purchase guarantee was provided for this plant whose production continued with contracted agriculture method to the producers, they achieved a guaranteed and stable income.

The harvest that starts on May, despite changing based on the natural conditions, continues up to November in harvesting 4-5 times. At each harvest, 2 tons per acre are produced. There is also no need for extra labor due to the fact that the natural environment conditions are effective and machinery is used during harvest. The harvested medical mint is dried with natural methods and exported abroad through the related company. There are around 10 farmers who produces it, as well as the farmers who are currently in the preparation stage for sowing.

With the increasing demand for natural products, studies on medical and aromatic plants in the world and in Turkey have gained importance. Natural plants and new drugs derived therefrom are becoming more and more important as an alternative to widely used drugs such as antibiotics, etc. The increase in the consumption of these plants as raw materials both in the chemical and pharmaceutical industries has also changed the way these plants are obtained. The production in the form of harvest in the past is being replaced with plantation-type production over time. As demand increases in the market, this transition is accelerating. Increasing market value of natural plants has led to the necessity of readdressing the production and sale of these plants with more scientific methods. In addition, in order to slow down the immigration process from rural areas to urban areas, which is one of the biggest problems of our country, the cultivation of these products in the rural areas provides an important contribution. The revenue generated is likely to be an important revenue channel for those residing in rural areas and wanting to engage in such agricultural activities. As one of the leading counties in Turkey, Erbaa contributes to the economy of the country through both rural development and exports.

Keywords: Medical and Aromatic Plants, Medical Mint, Erbaa, Tokat.

Introduction

As is known, interest in medical and aromatic plants has increased in Turkey and in the world in recent years. According to the definition of World Health Organization (WHO), finished, labeled products or preparations that have herbal drugs as is or in herbal mixtures as effective ingredients for the purpose of protection from diseases and

treatment are defined as "herbal medicine" (Kıncı, 2015). According to the definition in Biodiversity Handbook published by United Nations Food and Agriculture Organization's (FAO), medical and aromatic plants are plants that provide medicine to humans to prevent disease, protect health, and treat illnesses (Marshall, 2011).

The use of plants for treatment goes back to almost ancient history. The term "phytotherapy", which means "treatment with medical plants", was first used by the French physician Henri Leclerc (1870-1955) (Faydaoğlu and Sürücüoğlu, 2011). Throughout human history, many diseases have been tried to be treated using plants.

While medical plants are found in fields such as nutrition, cosmetics, body care, incense or religious rituals, aromatic plants are used for giving good fragrance and taste. Especially after the 1990s, the availability of new uses of medical and aromatic plants and the demand for natural products have increased the usage of these plants. Medical and aromatic plants, which are considered an alternative to common drug use and unhealthy cosmetics in the world, have become important in this process. The most important factors that are effective in this development are that people start to see the drugs they use as a threat because of their side effects and the damages caused by the cosmetic products used for beauty.

The World Health Organization (WHO) reports that around 4 billion people around the world are trying to get rid of health problems with herbal drugs in the first place (Faydaoğlu and Sürücüoğlu, 2011). This situation has led to the fact that medical and aromatic plants, which were not needed much and met the demand when supplied from the natural environment, gradually failed to meet such demand. As a result, they need to be treated with scientific methods in order to be able to respond to increasing needs and cultivate these plants and produce them in larger areas. All these developments have enabled the cultivation of such plants to become a new potential and activity line for rural people.

Another issue that needs to be addressed today and which is becoming more important every day is migration, which is mostly towards cities from rural areas that live off of agriculture. Briefly, the migration, which is called the movement of population between two places, is one of the main problems of rural areas in particular. In areas where the intensive migration process is taking place due to social and economic problems, reducing the demand for the problem by diversifying economic activities in the country it is one of the proposed ways. According to Yilmaz (2007) stating that the main reason for the migration from the rural areas to cities is the rural financial difficulties and the additional income need, one of the main ways of slowing this migration is to reduce rural poverty. One of the alternative income-generating efforts to reduce poverty in rural areas is medical and aromatic plant cultivation. Where geographical conditions are appropriate, it is considered that the cultivation of such plants in the requested amount will be an additional income generator for farmers living in rural areas, thus the demand for medical and aromatic plants can be met.

Turkey is one of the leading countries with the potential to grow medical and aromatic plants thanks to its geographical location, climate and plant diversity, agricultural potential and large surface area. Tokat-Erbaa region in our country is one of the places that possesses this potential (Figure 1). The medical mint, which has recently begun to be

contractually cultivated in Erbaa, has already become an important source of income for the rural areas. Over time, the cultivation of other species and the increase in the interest of the people in this direction will make it possible to hear its name more in the future.



Figure 1 : Erbaa Location Map

Method

In the study, the subjects such as production, drying, processing, packaging, marketing and exporting of Medical Mint in Erbaa rural have been discussed and the related institutions and persons have been interviewed; detailed information about the operation of this whole process has been obtained and then the production process has been observed with in-site observation method.

Findings

Due to its rich flora, our country hosts a large number of medical and aromatic plants. According to our findings, Erbaa, our place of research, is also rich in such plants. The vast majority of these plants are still available from the natural environment in the form of gathering. However, some species such as rosehip, poppy, fenugreek and parsley have been cultured with government incentives.

Among these, growing Medicine Mint, which constitutes our subject matter, has been continuing in a large scale since 2012 (Figure 2). Farmers who participated in the course of Medicinal and Aromatic Plant Breeding, which was originally established as a part of Public Education, have applied to the relevant body for the production by benefiting from the incentives proposed after the certificate was obtained. Mint seeds brought to Erbaa by means of a company were initially planted in 150-200 m² area by 2 farmers. Thus, after this process, production commenced in 2013. Erbaa's suitability in producing medical mints due to climate and soil requirements has resulted with large productivity. Therefore, with production of more products than expected, Erbaa Medical Mint has reached an important point in production and export. In addition, the fact that the produced mint has

a purchase guarantee by the relevant company is regarded as a fixed income for the farmers, which is received pleasantly.

In addition, studies have indicated that medical mint production is an easy type of agriculture (Figure 3). In the beginning, the process of preparation of the field in compliance with the production is the most exhausting part of mint growing. 2 tons per acre are produced per harvest, increasing every year in a field cleared of weeds. The harvesting process, which starts in May, continues with an average of 4-5 harvests, depending on weather conditions, until September. Besides the suitability of the natural conditions, the fact that machinery is used during the harvesting does not necessitate extra labor is another advantage.



Figure 2 : *Mentha x piperita L*



Figure 3: *Mentha x piperita L* Cultivation

Discussion, Conclusion

Today, medical and aromatic plants, which are being used more and more as raw materials in the cosmetics and pharmaceutical industry, have started to be produced in large quantities throughout the world. As demand increases, production also increases, and various countries have entered the competition to produce products for this market. Countries that do not want to stay back in this race are striving to produce such plants on large farms/plantations.

As can be understood from the definitions and studies conducted, the increasing contribution of medical and aromatic plant production to the potentially rural development in Turkey is significant, and this new activity in Erbaa is the most beautiful example of this activity. Depending on the increasing demand in various regions of Anatolia, especially in Erbaa, the potential of the Turkish rural area will be boosted by increasing the variety and growing areas of such plants.

It can be said that Erbaa is a very important example for Turkey at this stage. As a matter of fact, one of the medicinal and aromatic plants cultivated has been observed to have contributed greatly to rural development in Erbaa. Some of the produced mint is directly exported as raw material, while a portion of it are exported abroad by being transferred from Yalova. This success in medical mint production is an important example for other plants in Erbaa and all these developments started to attract the attention of people in rural areas.

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