



New agricultural trends in the use of blueberries for a new lifestyle

Nuevas tendencias agrícolas en el uso de arándanos para un nuevo estilo de vida

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Abstract

"New agricultural trends in the use of blueberries for a new lifestyle."
The purpose of the research is to develop a comparative socioeconomic study of blueberry cultivation in the municipality of Tenjo Cundinamarca, through a productive model according to the determinants focused for the development of blueberry cultivation in the municipality of Tenjo where it is intended to create new processes manual in each of the areas required by the project, such as in the planting area, the cultivation area, the area of (MIPE) integrated management of pests and diseases, in the area of (MIRFE) integrated management of irrigation and fertilizer, In the area of production and in everything involved in the process of marketing the final product and thus reach the community of the village of Carrasquilla and generate a better economic development for more than thirty families, since generating a viable and sustainable blueberry project will improve the economic development of the farmers in the region, with this project is intended to make known to all people the benefits of a viable and sustainable business, well structured and which is intended to make the best profit starting in the municipality of Tenjo Cundinamarca in the village of carrasquilla but with a purpose to take it to a growth where it can be generated in many of the regions of

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Colombia, and thus to contribute to a better lifestyle for all those people who make part of the project.

Keywords: agricultural, socio-economic, Mirfe, Mipe, cultivation, blueberries, commercialization

Resumen

“Nuevas tendencias agrícolas en el uso de arándanos para un nuevo estilo de vida”. El propósito de la investigación es desarrollar un estudio socioeconómico comparativo del cultivo de arándanos en el municipio de Tenjo Cundinamarca, por medio de un modelo productivo acorde con los determinantes focalizados para el desarrollo del cultivo de arándanos en el municipio de Tenjo donde se pretende crear manual de procesos nuevos en cada una de las áreas que requiere el proyecto, como lo es en el área de siembra, el área de cultivo, el área de (MIPE) manejo integrado de plagas y enfermedades, en el área de (MIRFE) manejo integrado de riego y fertilizante, en el área de producción y en todo lo que conlleva el proceso de comercialización del producto final y de esta manera llegar a la comunidad de la vereda de carrasquilla y generar un mejor desarrollo económico a más de treinta familias ya que al generar un proyecto de arándanos viable y sostenible se podrá mejorar el desarrollo económico de los campesinos de la región, con este proyecto se pretende dar a conocer a todas las personas los beneficios de un negocio viable y sostenible, bien estructurado y del cual se pretende sacar el mejor provecho empezando en el municipio de Tenjo Cundinamarca en la vereda de carrasquilla pero con un propósito de llevarlo a un crecimiento donde pueda ser generado en muchas de las regiones de Colombia, y de esta manera poder contribuir con un mejor estilo de vida para todas aquellas personas que hacen parte del proyecto.

Palabras clave: agrícola, socioeconómico, Mirfe, Mipe, cultivo, arándanos, comercialización

Introduction

While it is true that the agricultural sector in Colombia has presented many problems due to the imminent increases in inputs and the high cost of the same at the time of importing them since they arrive at dollar prices and this currency has a very high value compared to the Colombian currency, This is why farmers have stopped producing their land to the point that they have realized that it is not profitable to plant and sell their products in the interior of the country, a strategy to combat this problem is through an alternative that in recent years has had an exponential growth in the U.S. market, When making an analysis of the characteristics that must be taken into account for the production of this fruit we find that Colombia is one of the countries that has many advantages over other countries at the time of producing it because Colombia has all the climatic conditions to carry out the production of this fruit, in addition in Colombia you can get continuous production since not having climatic seasons does not affect anything to plants and can be harvested throughout the year.

According to Martínez Pardo, C. L., & Bautista Espinosa, A. M. (2021). Cooperation and political support from the United States for Colombia's entry into the OECD began, which is a strategic objective for the Colombian government and has been key to carrying out important economic reforms in the country, including support for Colombia's exports to the United States with a product that is the blueberry, which is highly sought after in that country due to its high benefits and its characteristics, In this way and with many other projects the United States seeks to help the economic development of Colombia, and taken to our project is of a very high importance because in this way our product is on the list of products that will be exported and more requested by that country increasing the chances of success.

According to Trigozo Alvarado, T. L. (2021). The blueberry is known as the super fruit due to its excellent properties and all the characteristics it contains, which is why the blueberry has a great approval in many of the different markets in the world, and this is because the global trend is moving towards a healthier diet, This

generates a great opportunity in the international business world and allows access to markets where the purchasing power of customers is higher, as is the case of Singapore, one of the strongest economies in the world.

According to Álvarez, A. (2018). Around the world the blueberry or blueberry has positioned itself as one of the most desired fruits due to its characteristic high nutritional powers, which are rich in vitamins, antioxidants and low in calories and this is why it is one of the most marketed fruits in the last two decades, this is where lies an importance of maintaining a constant agricultural production in the use of time, the United States and Canada as powers in the development have reached approximately a producing area of 440000 hectares leaving in evidence that its consumption has shown a considerable increase around the world.

According to Ghezzi, Stein, E. H., & Invest, (2021). Blueberries in Peru. The Peruvian blueberry boom is an undoubted success story. The country went from exporting virtually nothing in 2014 to exporting USD1 billion, and being the world's largest exporter of blueberries, just 5 years later. This phenomenon occurred thanks to exceptional conditions for blueberry production (high productivity, extremely short growing periods, large tracts of available land), a highly professional private sector and a set of good public policies (well-functioning SENASA, the TCs, irrigation projects, the agrarian promotion law, etc.).

From the point of view of Farfán Casallas, H. I. (2016). The constant changes that the country has suffered reveal a problem where the main affected are the farmers at local and national level, so the main producers are wondering what alternatives they can consider to reduce the environmental impact and that can be profitable to improve the peasant economy, and be able to compete in the local and international market, the blueberry market offers competitive advantages for Colombia at a productive and commercial level against its competitors given the various conditions that favor its application and subsequent product supply in the world. Therefore, it is important to generate an identity and information regarding the application and development of this crop, mainly by classifying the areas that, due to their characteristics, are suitable for the application of fruit trees.

According to Triana Campos, M. I., & López Beltrán, C. A. (2018). Through the mayor's office of Tenjo Cundinamarca a project was designed to develop business plans according to the needs of the population where several community projects were rescued, the strengthening of the project consisted in the presentation of a training program with topics of general acceptance or need among the participants and through weekly workshops and counseling in the administrative and accounting area and thus had the basis for the development of each business plan, within the framework of the project, fifteen entrepreneurs were accompanied and their projects were started by providing weekly consulting services with professionals in the administrative and accounting areas so that the people involved in the project could move from empirical practices to established processes.

As Caballero Carvajal, J. D. J. (2015) stated. The United States is the main producer and consumer of blueberries worldwide, which is why it is one of the fruits with the highest demand, for its part in South America were introduced at the time of the 80s and since then it has been cultivated in countries like Chile, Argentina, Colombia and Uruguay where Chile is the main producer in South America and second worldwide maintaining its largest counter season in the northern hemisphere countries (United States and Canada) where it exports the largest amount of fruit, The permanent demand at world level and the good prices have made that in many countries of South America the interest of establishing crops has been awakened, for the case of Colombia have begun to create these blueberry crops due to the plants with low requirement of cold and that can be adapted to the climatic conditions of the Colombian tropics.

According to Mesa Torres, P. A. (2015). The Bogotá savanna is defined as one of the areas with high probabilities of success for the development of blueberry plantations due to its agroecological conditions, although the introduction of the project is relatively recent, the objective of the project is to characterize some of the aspects related to the phenology, growth and production of blueberries.

According to Villegas Lozada, (2022). The blueberry (*Vaccinium corymbosum* L.) fruit market has experienced an increase in demand in the last 10 years, placing it worldwide as the fourth fruit of economic

importance, because they are considered natural products with many benefits for human health. Since there is no information on blueberry production in the country, this study evaluated the effect of the type of substrate on the vegetative growth of the Biloxi variety blueberry crop in the Montalvo parish of the Ambato canton, province of Tungurahua. Three types of substrate were used: rice husk (T1), Pindstrup (T2), coconut fiber plus perlite (T3) and the following variables were measured weekly: number of shoots, number of leaves, shoot diameter (mm), plant height (cm), crown, vigor, number of internodes, length of internodes and stem diameter.

Methodology

The project will be a quantitative project of non-experimental design with a non-pyrobolic design approach, where it relates a review of specific data for the economic development of the region about the cultivation of blueberries, the sample will be in the municipality of Tenjo Cundinamarca specifically the analysis component of the economic development of Tenjo, we will have phases of instruments and a literature review for the comparative analysis, econometric review, variables will be identified for the search process of its state of the art relating the econometric aspects for the reading and its respective description. To develop a little better the idea of the research about the project "new agricultural trends in the use of blueberries for a better lifestyle", we have developed some analysis with several research works under the following determinants: competitiveness and Michael Porter's theory, innovation under the Oslo and Frascati manuals, and strategic direction under Peter Drucker's theory.

One of the sources of income that contribute to the country's economy is the export of food products, however, in our country Colombia these types of practices are not so well implemented is why from the project we want to publicize the benefits that will have the implementation of new practices in the use of blueberries, according to Diéguez Cuellar, M. Á. M., Jara Rojas, R. A., & Cofré Bravo, G. D. C. (2019). in analyzing the export of blueberries, we find two countries that have been working on it, these countries are Chile and Peru, notwithstanding the work that these countries have developed, the increase in demand for this product is evident in the export market,

however the supply of these countries has not been able to meet the demand for the product due to the rapid growth of global demand, which has caused an excellent opportunity for those countries that meet the necessary conditions to be producers of blueberries, when making an analysis of the production of blueberries and comparing the characteristics that this demands we can realize that in our country Colombia and in the municipality of Tenjo Cundinamarca we fulfill all the characteristics to be able to develop the project, as for example the height to be able to sow this plant is between 2000 and 2600 meters above sea level, and the municipality of Tenjo fulfills these conditions among others, due to the high demand of the product new competitors have appeared that grant a greater dynamism in the market, forcing the industry to improve the productive and commercial efficiency.

According to Pacheco Huaman, M. D. (2017). In his work he sought to describe that both the blueberry agro-exporting companies employ strategies for a product that is growing, in which he tries to determine the market development, product development, and related diversification are part of the strategic activities of companies for the export of blueberries, in the case of Colombia has an advantage and is that it has signed the FTA with the United States since May 15, 2012, in Colombia began to plant blueberries since about 2008 and where exponential growth is evident in recent years, One of the advantages that Colombia has is that thanks to its climatic conditions the production of blueberries can be done throughout the year and when comparing this determinant with other countries is a key point for the export of the product because at times when other countries can not export blueberries because their climatic conditions do not allow it, there is an opportunity for Colombia to supply the international market demand for this product.

For the production model to be generated in the municipality of Tenjo, and thinking about Porter's five forces, a manual was designed to start training farmers in the following aspects;

The power of negotiation with customers: this is intended to make the farmer understand that customers are the ultimate goal of the company since they are the final consumers of our products, to raise awareness of the farmers will create manuals that will be shared with each of them.

Negotiating power with suppliers: at this point we must let the farmers know how important it is to have a good relationship with suppliers, since the viability of the business and the profit we can obtain from it depend on this.

Threats of new competitors: for our project it is very important to make farmers understand that being a business that is having an exponential growth, it can become a threat because new competitors will want to enter with new products, which is why it is important to provide advice to farmers to diversify and be at the forefront of our products in terms of quality, marketing and other aspects that may threaten our products.

The project will be carried out taking into account the GAP (good agricultural practices), the GMP (good manufacturing practices) and it is intended to generate an agreement to have the support of the ICA (Colombian Agricultural Institute), it is of great importance to train farmers from the beginning with all these practices because in the medium term when the export process begins all these practices will give us a plus to our product making the processes easier, The project is divided into several stages starting with the planting of the product of the plants, the production and management that must be taken in each step as they grow and harvest the fruit, and ends with the marketing process.

According to Ballesteros Roncancio, J. A., Sandoval Chaves, C. A., & Cueva Garzón, M. H. (2019). The project has an establishment time of five years in which the first two years the planting and growth process will be carried out and from the third year onwards, when the harvest begins, a point of equilibrium is established where the farmers begin to see the profitability of the project, In the planting process it is planned to start with 1000 plants of the variety (biloxi) since this variety is the one that best adapts to the climatic conditions of the municipality of Tenjo, for this process a manual has been established which will be delivered to the farmers so that they follow the process to the letter, the planting is intended to be done in ecological materials generating an awareness of the environment, A coconut substrate mixed with rice husks and worm humus will be used, since these components provide many benefits that contribute to a healthy growth of the plants, avoiding future diseases. For the land, the area will be enclosed with anti-bird netting to prevent animals from

affecting the process of fruit growth, disinfection fumigations will be done with a product called defender + liquid soap (natural products), this in order to avoid possible diseases in plants, manuals are created to know in which weeks of planting should be done transplanting plants to larger pots so that their growth is even and does not affect the root of each one of them, In these same manuals information will be given on how pruning should be done so that the plants have a uniform growth and the foliage and fruit are not affected. For the irrigation area a system will be generated by means of drip hoses controlled with submersible pumps that will be in fertilization tanks where the mixture is prepared with the weekly irrigation program that will be specified for the weeks of life that the plants have, This irrigation and fertilization program will be delivered by an agronomist. For the harvesting process, another manual will be generated with all the instructions on how to harvest the fruit, For the commercialization process, the farmers will be trained months before the crop is to start producing so that they can start negotiating with clients, A marketing campaign will be carried out to publicize the work of the farmers from the very beginning in order to attract more clients.

Results

By creating a viable or sustainable blueberry plantation business we can improve the economic development of the municipality of Tenjo, since the blueberry business is one of the businesses called to be more successful in the future due to all the benefits, characteristics and properties contained in the fruit, Because of this it is one of the fruits that has had more approval in the different markets of the world since the tendency of the people is in the future to achieve a healthy diet and the blueberry contains many characteristics that contribute to this, therefore it is a business that has characteristics of a high demand both nationally and globally. The objective of the blueberry project is to design a production and marketing model for blueberries in the municipality of Tenjo, recognizing the farmers of the municipality for implementing this type of business by helping them with training and implementing manuals on the tasks to be performed according to the types of varieties planted by each one of them, generating marketing strategies through manuals either at the

national level or at the export level to markets where the demand for the product is greater.

Conclusions

For the realization of this project we took into account instruments such as interviews with farmers in the village of Carrasquilla in the municipality of Tenjo, where many of the farmers were excited and received in a very pleasant way the realization of this project, giving contributions and making known their support for it.

During the course of the project, several activities were developed, such as obtaining information to clarify doubts about the project, new agricultural strategies were created for the farmers in order to optimize processes and generate better results, process manuals were created for each of the activities required and training was given to each of the people who are part of the process, a marketing process was created to ensure that the project has the expected results and that the farmers achieve the successful results that were proposed from the beginning of the project.

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