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ORIGINAL

Identification of management practices in broiler chicken producers in the Ceibas Arriba village, San Vicente del Caguán, Caquetá

Identificación de las prácticas de manejo en productores de pollo de engorde en la vereda Ceibas Arriba, San Vicente del Caguán, Caquetá

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ABSTRACT

Broiler production is a globally relevant agricultural activity, with chicken meat being one of the most consumed meat products worldwide. In 2018, per capita consumption experienced an increase, led by countries such as Brazil, Israel, the United States and Colombia. At the continental level, the Americas produced around 48,4 million tons of chicken meat, with Brazil as the largest contributor. A significant increase in global chicken meat consumption is expected by 2030, according to FAO. Despite the growth of Colombia's poultry industry, the department of Caquetá has a modest share of national production. San Vicente del Caguán, traditionally focused on livestock, is experiencing growth in poultry production, driven in part by the presence of a veterinary school. In the village of Ceibas Aribas Arriba, about 20 families are engaged in intermittent broiler production. They face challenges such as high feed costs, susceptibility to disease, sudden death and marketing difficulties. Although some families have experienced losses, others have managed to recover with the support of other production systems. Given these challenges, there is a need for research to understand the factors that affect poultry production in this region of San Vicente del Caguán. Poultry farming, despite its influence on the local economy, faces obstacles that limit its development.

Keywords: Broiler Production; Poultry Production Factors; Poultry Production Factors; Economic Losses.

RESUMEN

La producción de pollos de engorde es una actividad agropecuaria globalmente relevante, siendo la carne de pollo uno de los productos cárnicos más consumidos a nivel mundial. En 2018, el consumo per cápita experimentó un aumento, liderado por países como Brasil, Israel, Estados Unidos y Colombia. A nivel continental, América produjo alrededor de 48,4 millones de toneladas de carne de pollo, con Brasil como el mayor contribuyente. Se espera un significativo aumento en el consumo mundial de carne de pollo para 2030, según la FAO. A pesar del crecimiento de la industria avícola en Colombia, el departamento del Caquetá tiene una modesta participación en la producción nacional. San Vicente del Caguán, tradicionalmente centrado en la ganadería, está experimentando un crecimiento en la producción de aves, impulsado en parte por la presencia de una facultad de medicina veterinaria. En la vereda Ceibas Arriba, alrededor de 20 familias se dedican a la producción intermitente de pollos de engorde. Enfrentan desafíos como el alto costo de alimentación, susceptibilidad a enfermedades, muerte súbita y dificultades en la comercialización. Aunque algunas familias han experimentado pérdidas, otras han logrado recuperarse con el respaldo de otros sistemas productivos. Ante estos desafíos, surge la necesidad de una investigación para comprender los factores que afectan la producción avícola en esta región de San Vicente del Caguán. La avicultura, a pesar de su influencia en la economía local, enfrenta obstáculos que limitan su desarrollo.

Palabras clave: Producción de Pollos de Engorde; Factores de Producción Avícola; Pérdidas Económicas.

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INTRODUCTION

Broiler production is an agricultural activity of great relevance globally, nationally, and regionally. Chicken meat has become an essential pillar of the family food basket due to its accessibility, low prices, and being one of the most consumed meat products in the world. According to Rodriguez (2020), approximately 34,9 % of world meat consumption corresponds to chicken meat, with a total inventory of 103 740 143 tons. This figure represents the most outstanding contribution to animal protein production worldwide, and its growth is undeniable. Asia leads with 35 % of total production, reaching 40 036 139 tons, followed by America with 42,3 %, Europe with 16,3 %, and Africa with 5 % of world consumption.

Per capita consumption of chicken meat has experienced a significant increase in the last decade, not only due to population growth, but also to the increase in consumption per individual. In 2018, countries such as Brazil, with an average of 71,2 kg per capita per year, led consumption, followed by Israel (65,2 kg/inhab/yr), the United States (59,8 kg), and Colombia (35,5 kg/inhab/yr). In 2018, the Americas produced around 48 363 436 tons of chicken meat, with South America contributing 22 454 138 tons, led by Brazil, which produced 70 % of the total production in this sub-region. Argentina and Colombia followed with 9,7 % and 7,45 %, respectively.

A significant increase in global chicken meat consumption is expected by 2030, which will considerably double per capita consumption (FAO, 2020).

Despite the importance and growth of the poultry industry in Colombia, especially in the last 60 years, where chicken meat production increased from 30 000 tons to one million tons with an average annual growth of 7,1 % by 2012 (Aguilera, 2014), the department of Caquetá had a modest participation in the national poultry production. By 2015, production was 1771 tons, and in 2018 it dropped to 1127 tons, ranking 22nd in national chicken meat production. The department had an inventory of 385 290 birds distributed in 14 994 farms with poultry production. Of the 16 municipalities that comprise the department, only 65 % are dedicated to chicken production (Herrera & Ruiz, 2021).

San Vicente del Caguán, with a population of 43 150, has traditionally been a livestock-focused municipality. Poultry production, including broilers, is gaining strength. This is due, in part, to the presence of the school of veterinary medicine and zootechnics in the region, which has prompted more producers to incorporate this activity into their business (Rodríguez, 2020).

Broilers are highly productive due to their rapid growth, which makes them a valuable source of tender, juicy meat. This characteristic makes them highly demanded and contributes significantly to the economy of producers.

In the village of Ceibas Arriba for more than 7 years, about 20 families have been dedicated to the intermittent production of broiler chickens, each of these raises between 50 and 100 chickens every 45 days, one of the main challenges faced by these families is the high cost of feeding the animals, as well as disease susceptibility, One of the main challenges faced by these families is the high cost of feeding the animals, as well as the susceptibility to diseases, the occurrence of sudden death, the difficulty in marketing and if the seed is not adequate, they may not have sufficient profits to meet their economic needs and recover the investment, for these reasons many families in the village have tried to implement this production system without success, resulting in their abandonment. On the other hand, those that have managed to maintain production have experienced economic losses, but have managed to recover with the support of other farm productive systems.

In this context, the need arises to conduct research that allows the systematic and detailed identification of the factors affecting poultry production. Still, all this to understand the management practices in the Vereda Ceibas Arriba, San Vicente del Caguán, Caquetá. Poultry farming is one of the most influential activities in the local economy; however, it faces several challenges that limit its development and growth at different levels.

Broiler poultry production has grown over the years, influenced by factors including history, national policies, development plans, problems, experiences, and models established in the country. This theoretical framework will delve into each of these aspects to better understand the panorama of poultry production in Colombia.

History of poultry production

The history of poultry farming in Colombia began in the early 20th century, when poultry such as hens and chickens were introduced. Initially, poultry production focused on meeting local needs for meat and eggs. However, in the 1970s and 1980s, a growing demand for high quality proteins emerged in the country, which led to a rapid development in the industry (Sanchez,2018).

National policies on poultry production

In the area of poultry farming, CONPES has made efforts to formulate a National Health and Safety Policy for the Poultry Chain, according to document 3468 of April 30, 2007 (Florián,2017). The document aims to ensure that Colombia maintains a high and constant production while complying with health standards and providing the final consumer with healthy, nutritious, and safe poultry products. However, to date, no policies have been implemented to promote the growth of the poultry industry. Unfortunately, the sector lacks significant political influence, which distances it from the development environment in which it should be inserted (Bohorquez, 2014).

The Colombian government has implemented policies and regulations to promote poultry production and ensure food security. In addition, trade agreements have been signed that have facilitated the export of Colombian poultry products to other countries, which has boosted the development of the industry (Bocanegra, 2015).

Development and support plans for the poultry production sector

The Colombian government has played a key role in stimulating and extending the poultry industry. In addition, support and

guidance initiatives have been carried out for farmers (Varela, 2006). Already established approaches are usually exposed to identify structures that can serve as tools in the creation of new projects, including planning at national and provincial levels, with the formulation of strategic approaches (Vicuña,2017).

Production issues

The poultry sector in Colombia faces significant challenges. International competition, particularly with other poultry-producing countries, can pressure local prices. In addition, the emergence of poultry diseases, such as avian influenza, has threatened the industry, resulting in the need to implement strict biosecurity measures. Environmental sustainability is also a concern, as poultry production can result in the generation of waste and the use of natural resources. Finally, logistical challenges, such as transportation and distribution of poultry products in a country as geographically diverse as Colombia, are also important (Melo,2015).

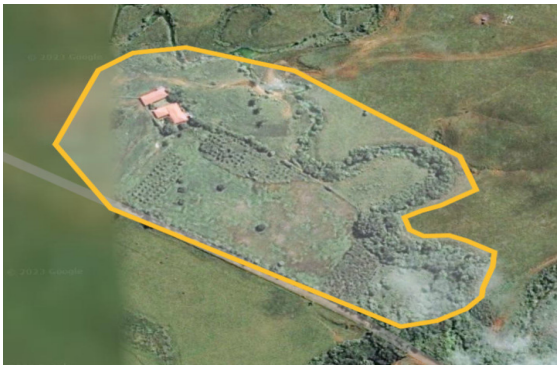
An analysis of the interaction between labor and capital, with more complete dynamics, must consider how they contribute to the benefit and growth of social production in space and territory. This analysis is crucial in government policies and is important in the processes of increasing productivity. In addition, it highlights the great relevance of natural resources, which represent a considerable proportion in the current reality (Valenzuela,2018).

Poultry production experiences and established models

In Colombia, numerous examples of successful poultry producers have adopted innovative and sustainable practices. For example, farms implementing integrated production systems, utilizing by-products, and reducing waste have positively impacted the industry. Poultry production models that are more resistant to diseases and adapted to local conditions have also been developed, which has improved farm efficiency and profitability (Huepa,2020). The main poultry products that reach consumers' tables are poultry meat and eggs, and this is achieved through various procedures that make poultry farming a highly technified production system that requires strict control in areas such as genetics, feed, health, biosecurity, and environmental care (Herrera,2021).

METHOD

Location of the study



Source: Google Maps (2023)

Figure 1. Map of the Tocaima farm, located in the village of Ceibas Arriba, in San Vicente del Caguán - Caquetá

The study site will be located in the Tocaima farm, Ceibas Arriba, located in San Vicente del Caguán, Caquetá, with the following coordinates 2°06'44'' N 74°26'53'' W, which has 5 hectares, where 3 are intended for livestock, the others are intended for the conservation of water sources and the production of broiler chickens, in the property live 3 people, the father, mother and an adult (figure 1).

Population and sample

This work will be developed with a broiler chicken producer in the municipality of San Vicente del Caguán. It is the only one that carries out this activity on the farm. With a population composed of only one producer, the sample concept acquires a singular nuance. Since the entire population is represented by this single case, the margin of confidence and representativeness are intrinsically related to the full participation of the producer in the research.

Methodological approach

The current research is based on the social critical research paradigm, which reveals interconnected challenges that significantly affect the local community. Technical and economic constraints in broiler chicken production hinder agricultural development and amplify pre-existing socioeconomic inequalities (Ferro,2017). This situation raises critical questions about equity in access to productive resources and highlights the need to address technical constraints and underlying structures (León & Vázquez, 2007).

Likewise, the limited production of broilers can directly impact the community's food security, intensifying the vulnerability of those with limited resources. A social-critical approach, therefore, seeks not only to overcome the immediate obstacles to production but also to question and transform the social and economic dynamics that continue the inequity in Vereda Ceibas Arriba (Campo, 2004).

The research pattern is descriptive, known as diagnostic research; much of the literature and analysis in the social field tends to remain at this level. It focuses on characterizing a specific phenomenon or situation, pointing out its most distinctive or differentiating attributes (Morales, 2012).

The research will adopt a mixed design, combining quantitative and qualitative methods, to understand the different constraints foreseen in the broiler production system. Qualitative data will be gathered to understand the social domains of the system and generate thematic analysis to identify patterns and perceptions of production. Quantitative data will be provided to analyze the different constraints statistically. In the case of the research on broiler production system constraints, the mixed design will allow for a more complete understanding of the factors contributing to the constraints (Johnson, Onwuegbuzie, and Turner, 2007).

A semi-structured interview was conducted with a family that works with broiler production, in order to understand and know the information and knowledge they have about their production, in this way the producer, who is in charge of the production system provided us with the required information through guiding questions, which would aim to identify the management practices used by broiler producers, in order to understand their difficulties. The data were collected and planned in an orderly manner to transcribe the interview into Word. Next, the keywords were taken and passed through ATLAS.ti 23, where codes were assigned to these keywords to analyze the data provided. Subsequently, the codes were used to create the networks to understand how the various key points of the research were connected. The findings of this data were used to generate a conclusion.

RESULTS AND DISCUSSION

Production management

The responses of the people interviewed showed the management of the production system, on the one hand, from prevention, taking measures to avoid that the production has some affectation in terms of diseases, in addition to precaution, to keep them with the most favorable conditions for the welfare of the chickens and the management of chickens that are slaughtered because of some affection, also the application of preventive measures such as the application of specific remedies to reduce the incidence of infectious diseases. It is vital to separate and isolate those affected by diseases so that they can be cared for and prevent the spread of these diseases.

Precautions are one of the best measures to ensure stable production, and house management and disinfection are key parts of the broiler processes. The main rooms must be designed to constantly purge and hydrate the animals to generate an adequate environment. Also, a sufficient temperature for the chickens and ensuring their comfort are essential, as is an energetic production for subsequent sale.

These diseases are significant difficulties in poultry production systems, costing producers millions of pesos yearly (ICA, 2009). Dealing with live animals is a considerable risk; every precaution must be taken. Currently, poultry producers constantly face the challenge of ensuring that their production is free of pathogens (GFM and SENASICA, 2010).

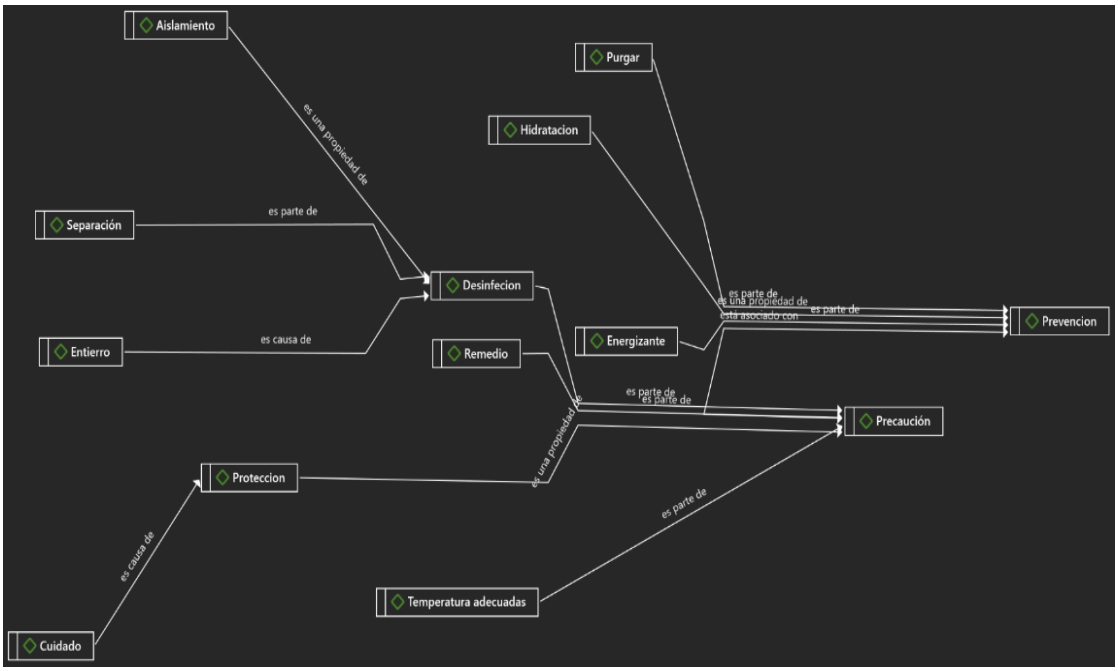


Figure 2. Network Management Production

Marketing-Economics

The information provided by the families interviewed shows that the chicken market has been associated with different factors that make up the fundamental parts of a good marketing of chicken meat. This demonstrates that for the producing families, it is aimed at future development, improving the demand for this production, and improving their income.

According to Sanchez (2014) the chicken market in Colombia has been evolving permanently, due to its peasant origin of

tradition, through the different areas in which this type of production is generated, standardizing processes, choosing the best processes, ensuring growth, competitiveness and sustainability through technological development, sanitary to create equitable scenarios—strengthening food security through sustainable breeding, where with the help of a well-established capital, we can include the different market scenarios to improve and expand the supply to meet the needs of potential customers, all this to make a sustainable investment.

According to Méndez (2011), chicken meat is an essential food in the family basket, present in all stages of a person's life. It is a high-value protein containing different vitamins and minerals, making it a food frequently used on a large scale for food sovereignty.

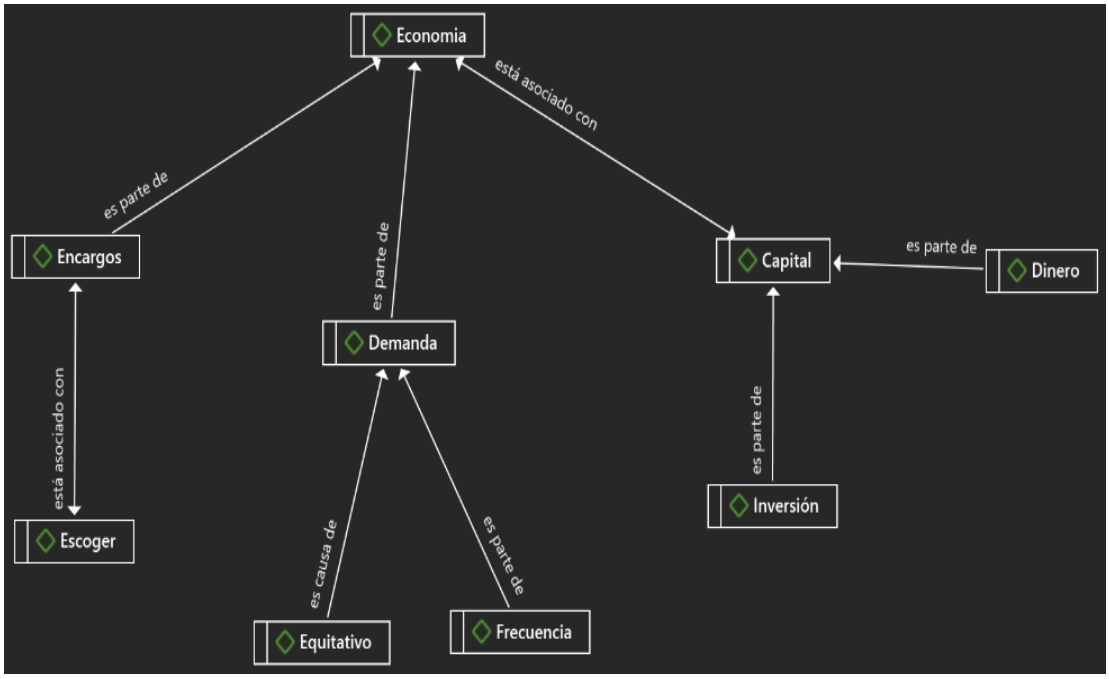


Figure 3. Network Marketing-Economics

This product is a high-value food that is present in families' diets, thus having a high supply, improving its demand compared to other products in the family basket. This leads to an improvement in the economy of each family that is aimed at the production of broilers.

CONCLUSIONS

Caquetá has been a cattle-raising department for many years, and San Vicente del Caguán is one of the most important municipalities in this industry. Today, due to the increase in the price of meat, different production systems are being implemented, such as broiler chickens, where the meat from these animals is cheaper and generates income in a shorter period. This system, which is considered profitable, has also generated the fact that not all families continue to implement it on their farms, due to the high price of feed, medicines, the incidence of diseases, and the challenging access routes to market the meat of these animals. For this reason, it is essential to generate answers and improve the conditions of the productive system to make it more participatory in the region.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

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Data curation: Lina Fernanda Trujillo Becerra, Niyireth Ortiz Guaca, Juan Pablo Castañeda Gutiérrez, Verenice Sánchez Castillo.

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Writing - proofreading and editing: Lina Fernanda Trujillo Becerra, Niyireth Ortiz Guaca, Juan Pablo Castañeda Gutiérrez, Verenice Sánchez Castillo.

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