

Administration in Livestock Organizations in Colombia

Aylin Patricia Pertuz Martínez, Álvaro Enrique Santamaría Escobar, John
Arturo Buelvas Parra

PhD in Social Sciences. University of Sucre. Colombia.
Email: Aylin.pertuz@unisucra.edu.co

Abstracts

This article aims to analyze livestock organizations in Colombia based on their administrative processes, according to what is recorded in the historiography of the 19th, 20th and 21st centuries. It includes the topics of: companies, societies, models and administration; strategies and production chain. At the beginning of the 20th century, the administration presented paternalistic characteristics; Subsequently, administrative processes were developed empirically, improving the application of the processes from the 1940s onwards. Livestock organizations or companies have implemented innovation, diversification, growth, export and status quo strategies.

Keywords: Cattle farming, Colombia, organizations, management, strategies.

Introduction

The objective of this article is to analyze the livestock organizations of Colombia in terms of their administrative processes, based on what is recorded by economic, social and business historiography regarding the nineteenth and twentieth centuries and what happened in the first two decades of the twenty-first century.

Cattle ranching is a very important economic activity in the Colombian agricultural sector. By 1915 the number of head of cattle was 3,034,504, increasing this amount to 6,175,000 in 1925. In 1950 it was about 15,511,677 head of cattle (Kalmanovitz, Lopez, Romero, & Astrid, 1999). The 2019 cattle census was 28,245,262 (Colombian Agricultural Institute, 2019, as cited in Directorate of Livestock, Fisheries and Aquaculture Chains, 2020).

According to Cuenca, Chavarro and Díaz (2008), the country's livestock sector is composed of different production systems, among which are: the extractive system, traditional extensive grazing, which is the most predominant (61.4%), improved extensive grazing, improved intensive grazing and confinement, although the latter is uncommon. On the other hand, Viloria (2005) points out that the main livestock areas of the country include: the northern region (Atlántico, Bolívar, Cesar, Córdoba, Guajira, Magdalena, Sucre), where it focuses on meat

production and dual-purpose systems; the Magdalena Valley and the Andean region (Boyacá, Caldas, Cundinamarca, Huila, N. Santander, Tolima, S. de Antioquia), focused on milk production and dual purpose; the Cauca River Valley (Valle, Valle del Cauca, Quindío, Risaralda); the southern zone (Vaupés, Putumayo, Caquetá and Nariño); and the Eastern Plains (Cundinamarca, Meta, Arauca and Vichada), mainly dedicated to meat production.

This article, which is the result of a broader research, comprises three sections: the first addresses livestock companies, societies, models and administrative processes of the livestock company; a second focuses on the strategies used; and a third, exposes the process of productive chain of the sector.

Theoretical Framework

The business organization is defined in these times of the XXI century as a system immersed in a hostile environment with which energy, matter, information and money are exchanged, therefore, the organization is a "sociotechnical" system that includes inputs, outputs and feedback, to modify itself and thus be able to remain over time, in addition to readapting, build and self-repair, which helps it to interrelate with the environment (Velázquez, 2007). Organizations are dynamic, conflictive entities, they are open systems, they can learn, they have a structure of power and control and they have their own culture (Dávila, 2001).

The theories that address the organization comprise the classical approach, the main exponents being F. Taylor and H. Fayol. For Taylor, the main objective of management is "To ensure maximum prosperity for the employer, together with the maximum prosperity of each of the employees" (Taylor, 1961). Its four principles are summarized in the development of a science of management, the scientific selection of the worker, the education and development of the worker in a scientific way, and the cooperation between employer and workers (Taylor, 1987). H. Fayol (1987) established the six groups of operations, with the administrative functions (forecasting, organization, direction, coordination and control) acquiring great relevance. The human relations approach includes the theory developed by Elton Mayo, which, according to Chiavenato (2019), highlights key aspects such as social rewards and sanctions, social integration, and the social behavior of employees, among other elements, in the organizational context.

The neoclassical approach places its emphasis on the objectives and results of the organization, being led by P. Drucker with the theory of management by objectives. Carmen and Masias (2017) highlight that objectives are the means to evaluate the performance of an organization. The structuralist approach includes bureaucratic theory, whose referent is M. Weber, who exposed several characteristics of the bureaucratic organization such as formal system of rules, impersonality of command, division of labor, hierarchical structure, and authority structure (Hellrigel & Slocum, 2009). Structuralist theory seeks a balance between the company's resources and the external and internal factors that influence organizational performance. The organization is seen as an open system. One of its exponents is A. Etzioni (Viloria & Luciani, 2015).

The behavioral approach includes the contributions of A. Maslow and his theory of needs, as well as F. Herzberg and his motivational theory of the two factors (motivational and hygienic), as well as D. McGregor with theory X and Y. Terry and Franklin (2008) include M. Parker, Ch. Barnard and C. Argyris in this approach. The systems approach indicates that the company is an "artificial system", its subsystems work together to obtain the established objectives, but there are also external parties such as customers, suppliers, publics and government. The contingency approach attempts to operationalize systems theory by evaluating the large number of factors operating in any given situation "and establishing definite patterns and relationships among factors that might serve as guides in other similar situations." Exponents of this theory are D. Katz and R. Kahn, T. Burns and G. Stalker (Terry & Franklin, 2008). Within contemporary theory, Cardona, Ramírez, and Ramírez (2022) point to theory Z, process management, administrative leadership, innovation, and sustainability.

Contemporary theory also highlights concepts such as total quality, reengineering, outsourcing, Z theory, empowerment, benchmarking, the value chain and competency-based management, among others. Pabón (2007) mentions that in Colombia, the implementation of the classical theory (proposed by Taylor and Fayol) began at the National School of Mines in Medellín during the years 1911 and 1912.

Management in the twentieth century was traditionally defined from the functions of planning, organization, direction and control. According to H. Fayol (1987), planning involves anticipating the future and developing action plans; organization consists of establishing both the human and material structure to achieve objectives; management focuses on maintaining activity within the work team; coordination seeks to harmonize operations; and the control is responsible for verifying that what has been executed is aligned with the established plans. More recently, Mintzberg, Quinn, and Voyer (1997) point out that the manager's job comprises ten functions that are classified into three groups: interpersonal, information, and decision-making functions.

In the field of management, Mintzberg, Lampel, and Ahlstrand (2005) describe strategists as individuals with vision. Chandler (1962) defines strategy as the process of setting long-term goals, determining courses of action, and allocating the resources necessary to achieve those goals. For his part, Porter (2008) states that strategy focuses on the capabilities and resources of the organization, as well as on the opportunities and threats of the environment, with the aim of achieving differentiation and competitive advantage. Mintzberg, Quinn, and Voyer (1997) describe strategy in several ways: as a plan, that is, a conscious "course of action" to deal with a situation; as a guideline for action, or a "maneuver" to outperform competitors; as a pattern, referring to a "pattern" in the flow of activities; as a position, a means to situate the company in its environment; and as a perspective, a way of interpreting and understanding the world.

In the formation of strategies, Mintzberg, Ahlstrand, and Lampel (1998) establish that there are deliberate strategies, which are characterized by being formally constructed, using systematized procedures, formal analysis, and having a numerical foundation; and emerging, related to flexibility, uncertainty, and strategy depends on the context and identity of the organization. Whittington (2003) notes that strategies can be of different types, such as growth, and innovation, diversification and internationalization.

Methodology

The research approach was qualitative. The research was analytical. The design was documentary. The sources were secondary, such as books, book chapters, undergraduate and graduate projects, scientific articles, research reports, papers, with a total of eighty-three texts consulted. The unit of analysis was the livestock organizations and the methodological unit was the texts used. The technique or instrument for collecting information was the clocking. The retrieval technique was "hermeneutical interpretation".

Results

LIVESTOCK COMPANIES, COMPANIES AND ADMINISTRATIVE MODELS

In the nineteenth and twentieth centuries, Colombian livestock was developed by individuals and societies, the latter were collectives, corporations, as well as societies made up of different societies. On the Caribbean coast, the type of collective society, made up of members of a family or different families, was common. In the interior of the country, they exercised public limited companies. Many societies continued over time with the same corporate name, others were changing due to generational changes, there was also the disintegration of some properties due to the division of the haciendas into different farms and new owners. The large haciendas owned a large number of hectares by virtue of the extensive system of production.

Important companies were those of Manuel Burgos & Cía, the Sociedad Ganadera Berástegui, both at different times on a farm of about 12,000 hectares in Córdoba (Burgos, 2000); Diego Martínez Camargo & Cía, with cattle ranch located in Córdoba at the end of the nineteenth century and the first decades of the twentieth century (Ripoll, 1999); Vélez Danies & Cía, which was part of several livestock companies (Ripoll, 1997); Sociedad Agrícola del Sinú and Sociedad de Ganados e Inversiones Ltda, of Antioquia, between 1915 and the fifties, owner of the Marta Magdalena hacienda in Córdoba (Ocampo, 1988); the company of A. Held, owner of the Jesús del Río hacienda in Bolívar, of about 18,000 hectares between 1910 and 1963 (Meisel & Viloria, 1999); Arturo García and son and later Hijos de Arturo García & Cía, owners of the Santo Domingo hacienda, located in Sucre, with about 15,000 cattle, in force in the fifties (Viloria, 2001; Pertuz, 2015); the companies Cuarta Compañía, Los dos compañeros and Sierra Hermanos, owned by pioneer José Sierra, who had land in Cundinamarca, Antioquia, Valle del Cauca (Suárez, 2009); Colombia Products, which was in Sucre until the thirties (Machado, 1989); Jorge Escobar e Hijo and Escobar Villegas & Cía, owners of the Hacienda La Morela in Antioquia, which still existed in the eighties (Salazar, 2012).

Administrative thinking in Colombia began in 1911, almost at the same time as the publication of the book "Principles of Scientific Management" by F. Taylor, according to Mayor (1990). López (1998) points out that the theory of human relations became popular in the country around 1945; The concept of systems emerged around 1957; and in the eighties the notion of organizational culture was introduced. In addition, strategic planning, total quality, and reengineering appeared simultaneously with its development in the United States. The approach

most adopted by Colombian companies was the classic one by Taylor and Fayol, according to Pérez (2010).

Figure 1 shows the administrative models applied in livestock organizations:

Figure 1. Administrative models in Colombian livestock.



Note: Authors' elaboration based on Flórez-Malagón (2008), Palacios (1979, as cited in Bolívar, 2008), Ocampo (1998), Van Ausdal (2011), Posada (2006), Burgos (2000), Fals (1986), Bossa (1990), Kalmanovitz (2005), García (2003), Gómez (1976), Zapata (2006), Posada (1988), Vilorio (2009), Bossa (1967), Botero (2010), Salazar (2012), Espinel (1992), FEDEGAN (2006, as cited in Londoño, 2013), Betancur (2015).

In the livestock company, the management model is closely related to the production system. After the fifties of the twentieth century, certain Caribbean haciendas implemented the elementary bases of the classical model, specifically, what was exposed by F. Taylor and H. Fayol, although its principles were not fully applied and this knowledge was not disseminated in most of the cattle companies that continued with the precepts of tradition and experience. As indicated above, the country's livestock has been basically extensive, in fact, in the nineteenth century, as Arias (2004) expresses, the hunting system predominated, but it should be noted that some haciendas that were led decades ago by the Jesuits developed more advanced forms of organization, such as, for example, the specialization of workers. At the end of the nineteenth century, the administration of the haciendas was patriarchal (Támara, 1997) and absentee (Almario, 1994) or remote. At the end of the nineteenth century, cattle ranching in Cundinamarca was "mediocre" and extensive (Bolívar, 2008).

At the dawn of the twentieth century, the administration was paternalistic, as can be seen with the cattle rancher Julián Patrón (Moré, 2003) in Sucre or others in Sinú (Fals, 1986): a rancher running the hacienda as the father of a large family and the peasants and workers were treated condescendingly, but there were conflicts between them. Absenteeism continued (Ocampo,

1988). The absentee administration was reflected in the administration of the hacienda by a butler (Berrocal, 1980; Salazar, 2012), who did not have education or training. The administration in many haciendas was developed empirically (López, 1927); It was a routine of repetition of completely disorganized activities. The administrators of the haciendas received instructions from the owners (Ocampo, 2007), and decision-making was centralized. The lack of statistics (Machado, 1989) was another constant that evidenced the disorganization: the farmers did not know how many cattle died, the number of calvings, or the sick animals.

In the mid-twentieth century, empirical management showed informal centralized planning, since it was not a systematized or formalized action. In the thirties and forties certain administrative practices improved in several haciendas, especially the control of operations. The latter benefited, according to Van Ausdal (2008), from the introduction of barbed wire and other technical advances. However, some regions continued with the hunting system; according to Flórez Malagón (2008), by 1940 the "maroon stage" no longer existed in the country's livestock.

In the first half of the twentieth century, relevant business experiences were lived in terms of the implementation of the administrative process. A notable example is the Marta Magdalena farm, owned by the Sociedad Agrícola del Sinú, S.A.S., where principles such as discipline, unity of command, centralization, scalar chain, unity of direction and order were applied. Unity of command, unified management, and scalar hierarchy were evident in the staff's obedience to the decisions of the general management, located in Medellín, and in the clear subordination within the administrative structure. Decisions were centralized, and daily instructions were strictly followed, reflecting high discipline. Likewise, the division of labor and the specialization of tasks were implemented. Communication was constant and detailed, and leadership was autocratic, since the owners made all the strategic decisions of the society (Ocampo, 1998, 2007). It should be noted that empirical knowledge coexisted with classical principles on the farm, especially in the operational area, which over time became a tradition.

In the fifties, the absenteeism and traditional administration continued, characterized by following custom. As Zapata (2006) notes, the management of the cattle ranch had "pre-capitalist features" in its administration and exploitation. Absenteeism, tradition and empiricism were predominant and the rancher did not consider making substantial changes, since the market conditions were not favorable from his perspective to make large investments. According to Van Ausdal (2012), cattle ranching in the tropics between 1850 and 1950 faced various limitations, such as an underdeveloped domestic market, little government support, and the particularities of the region. Meisel (2009) adds that this sector was experiencing structural difficulties that prevented its growth in the twentieth century on the Caribbean coast.

In the department of Sucre, the paternalistic model was common, which according to Reyes (1978) showed an appearance of a good life in the peasants. In the eighties, certain haciendas such as La Morela had administrators and modern systems of exploitation. According to Botero (2010), in the Caribbean, the farms located in the Momposina Depression had a structure similar to the haciendas of the seventeenth century. On these estates, decisions were centralized in the hands of "absentee management," but certain operational activities could be shared with the stewards.

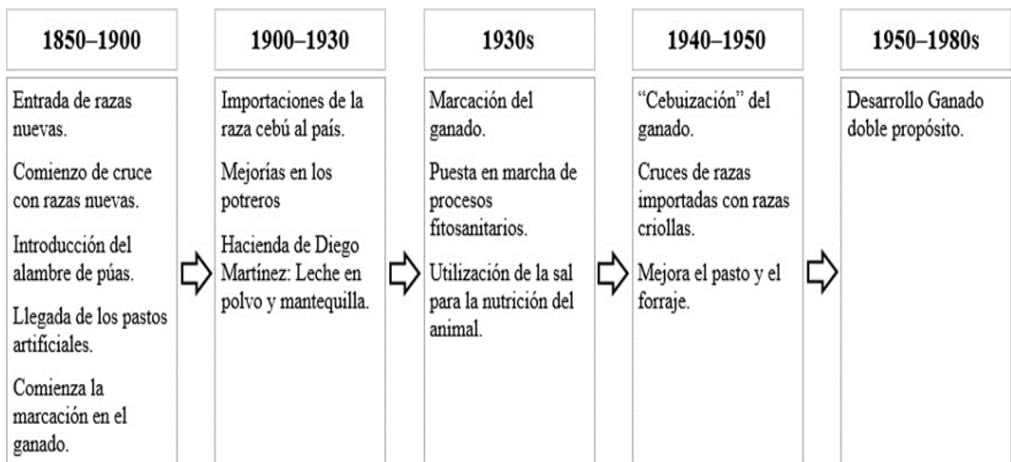
In the early 2000s, few livestock companies employed contemporary tools and management models. There were few that applied quality management, and those that did had the objective of being more competitive and aspiring to export. Betancur (2015) points out that, in 2013, only 742 farms achieved certification in "Good Livestock Practices", which makes them exceptional cases. Managerial or administrative changes have been slower in meat farming than in dairy farming.

Historiography does not clearly show the presence of other administrative models, such as the human relations approach, bureaucratic theory, management by objectives or organizational behavior. Nor is there evidence of the use of postmodern management tools or techniques, such as strategic planning or the value chain.

THE STRATEGIES

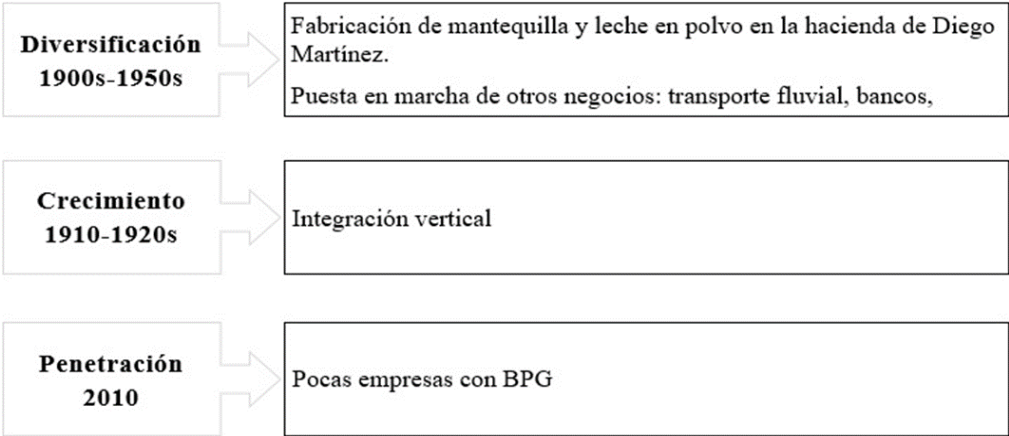
The strategies developed by livestock organizations or companies in Colombia since the nineteenth century can be classified into status quo, penetration, diversification, and innovation strategies, as shown in Figures 2, 3, and 4.

Figure 2. Innovation strategies in the Colombian livestock company



Note: Own elaboration based on historiography: Llorente (1986), Támara (1997), Arias (2004), Van Ausdal (2009), Almario (1994), Moré (2003), Van Ausdal (2011), Gallini (2008), Gómez (1976), Hollmann, Rivas, Carulla, Rivera, Giraldo, Guzmán, Martínez, Medina and Farrow (2004), Gallini (2008), Ossa, Abuabara, Pérez and Martínez (2011), Vargas (1987), Currie (1962), Montes and Candelo (1980), Holmann, Rivas, Carulla, Rivera, Giraldo, Guzmán, Martínez, Medina, and Farrow (2004).

Figure 3. Diversification, growth and penetration strategies in the Colombian cattle company



Note: Own elaboration based on historiography: Ripoll (1999), Támara (1961), pertuz (2008), Viloria (2001), Pertuz (2006), Betancour (2015).

Figure 4. Status quo and export strategies in the Colombian cattle company.

Estrategias de status quo	Estrategias de exportación
1850s – 1900 ✓ Uso de pastos naturales	1870s – 1920 ✓ Exportación de ganado en pie
⇓	⇓
1930s ✓ Quema, rotación, evasión ✓ Ganadería extensiva	1920 – 1970s ✓ Exportación mínima de carne procesada. ✓ Exportación de carne en canal. ✓ Exportación de cantidades menores de derivados lácteos.
⇓	⇓
1930s – 2000 ✓ Mantenimiento de razas criollas. ✓ Comercialización de leche, queso y mantequilla. ✓ Trashumancia. ✓ Sistema de roce y quema. ✓ Atención demanda interna. ✓ Pastoreo extensivo.	1980 – 2000 ✓ Exportación de leche

Note: Authors' elaboration based on historiography: Brew (2000), Almario (1994), Zapata (2006), Vargas (1987), Steinfeld, Gerber, Wassenaar, Castel, Rosales and de Haan (2006), Negrete (2009), Viloria (2003), Pertuz (2006), Bolívar and Flórez-Malagón (2005), Montes and Candelo (1980), Rivas (1981), Hertford, Nores, Ardila, Londoño, Rivas and Trujillo (1982); Gallini (2008).

As for innovation strategies, after the middle of the nineteenth century, the first importation experiences of the zebu breed began, destined to be crossed with Creole cattle, especially for meat use, as well as other breeds, generating some successes, but also failures, as a result of the lack of knowledge of the appropriate breeds and crosses. The massive establishment of the zebu took place in the middle of the twentieth century.

In the same way, the use of barbed wire and feeding with artificial pastures was introduced as part of the strategies, which optimized the feeding of livestock. However, these strategies were not massive. Negrete (2009) highlights that the Berástegui hacienda was an important example for other cattle farms at the end of the nineteenth century. And, in the same way, Van Ausdal (2009a) mentions that on the Marta Magdalena hacienda, weeding, fence repair, and livestock management were carried out monthly, to which salt was provided. In relation to the marking of cattle, the government established regulations for the determination of the animal's marking site in the 1930s.

According to Ripoll (1999), the first initiative to modernize the cattle industry in Colombia was the opening of the Packing House in Coveñas by the company Colombia Productos. This project sought to export chilled meat as part of a vertical integration strategy. However, it was unsuccessful due to both internal and external factors. According to Machado (1989), among the external causes were the limitations of international trade, while, internally, the lack of competitiveness of the organization was a determining factor in its failure. In the Colombian Caribbean, the strategy of vertical integration in the corporate management of business was established by entrepreneurs.

In the 1930s, innovations were implemented in the phytosanitary management of livestock to prevent disease and parasite infestation. Another important change was the introduction of salt supply to animals, which, according to Gallini (2008), helped livestock grow faster, be more resistant to disease, and improve meat quality. Likewise, vaccination began to be applied, although not on a massive scale. Van Ausdal and Wilcox (2013) point out that, by the 1950s, there were around 10 million hectares of artificial pastures, which represented approximately "two-thirds of the forage base".

Among the strategies, the dual purpose stands out, that is, the breeding and raising for the production and marketing of meat and dairy, which, according to Llorente (1986), has developed in a somewhat disorganized way, since no genetic or economic records are kept. The absence of statistical records and indicators, such as the use of computer systems, has been one of the shortcomings of the administration and operations of livestock enterprises.

Diego Martínez Camargo, as part of a diversification strategy, began to manufacture and market dairy products, such as cheese and butter, since the second decade of the twentieth century (Posada, 2003). Like other businessmen of the time, he diversified his businesses into different economic sectors, including some linked to livestock.

As for the export strategy, it was first developed before the end of the nineteenth century. Businessmen such as Arturo García e Hijos, in association with Samudio & Cía and Montoya e Hijos, carried out agreements to export live cattle from the bay of Cispatá in 1929 (Pertuz, 2006). Van Ausdal (2009) highlights that around the twenties of the twentieth century, export activity had an evident decline; However, in the 1940s, during the war, a series of exports were unleashed, which were later thwarted when foot-and-mouth disease spread in 1950. According to Rivas (1981), in the seventies it did not have great relevance, but towards the end of that decade refrigerated meat exports began, strictly implementing the cold chain, as Hertford, Nores, Ardila, Londoño, Rivas and Trujillo (1982) point out. Already at the beginning of the twenty-

first century, dairy products and some of their derivatives were exported (Dirección de Desarrollo Empresarial, 2004).

PRODUCTION CHAIN

The livestock production chain is divided into two main processes: the meat chain and the dairy chain. In the case of meat, it includes the production of specialized and dual-purpose livestock; the meat mill; the production of meat and by-products; and the supply of raw materials for industries such as leather, fur, tallow and fat. In addition, it covers the processing of certain cuts and by-products, as well as the production of sausages and other preparations (Martínez, Espinal, & Acevedo, 2005). Figures 5 and 6 show the characteristics of this chain.

Figure 5. The meat chain in the nineteenth and twentieth centuries.

Siglo XIX	1850 a 1920	Primeras décadas S. XX	Décadas de 1960 y 1970	Década de 1980	Décadas de 1980 y 1990
Sistema extensivo de producción. Ganado comercializado en pie con destino a ferias. Feria de Medellín más relevante que la Feria de Itagüí.	Ciclo largo en el sistema extensivo. De la curtiembre se pasa a la industria del cuero. Cueros demandados para zurrones. Frigoríficos inician hacia 1913.	Agentes de intermediación en la cadena productiva. Ganado comercializado en pie con destino a ferias. Producción cárnica y el cuero como subproducto.	Frigoríficos sin sistema de refrigeración. Existencia de frigoríficos. Transporte de ganado en furgones con refrigeración. Exportaciones de carne congelada y carne cocida. Exportación de cortes especiales por muy pocos frigoríficos. La mayor parte de los mataderos sin tecnificación y falta de sanidad. En la década de 1970 sin integración vertical entre producción y proceso de transformación. Ciclo largo en el sistema extensivo.	Mejoría en la integración de la cadena cárnica. Transporte de los animales en pie desde la producción hasta su lugar de sacrificio. Sin transporte de carne en canal. Intermediarios en la cadena que aumentan precio sin dar mayor valor. Mejor integración permite oferta con alguna homogeneidad.	Ferias y subastas ganaderas para la comercialización de ganado en pie. Centros de sacrificio en zonas urbanas. Empirismo en el manejo de la cadena. Incremento de los mataderos y frigoríficos. En la década de 1990 declina la Feria de Medellín.

Note: Authors' elaboration based on historiography: Llorente (1986); Brew (2000); Flórez (2012); Támara (1997); Montes and Candelo (1980); Bowser, (1969); Gómez (1976); Vargas (1987).

Figure 6. The meat chain in the first decade of the 21st century.

Siglo XIX	1850 a 1920	Primeras décadas S. XX	Décadas de 1960 y 1970	Década de 1980	Décadas de 1980 y 1990
Sistema extensivo de producción. Ganado comercializado en pie con destino a ferias. Feria de Medellín más relevante que la Feria de Itagüí.	Ciclo largo en el sistema extensivo. De la curtiembre se pasa a la industria del cuero. Cueros demandados para zurrones. Frigoríficos inician hacia 1913.	Agentes de intermediación en la cadena productiva. Ganado comercializado en pie con destino a ferias. Producción cárnica y el cuero como subproducto.	Frigoríficos sin sistema de refrigeración. Existencia de frigoríficos. Transporte de ganado en furgones con refrigeración. Exportaciones de carne congelada y carne cocida. Exportación de cortes especiales por muy pocos frigoríficos. La mayor parte de los mataderos sin tecnificación y falta de sanidad. En la década de 1970 sin integración vertical entre producción y proceso de transformación. Ciclo largo en el sistema extensivo.	Mejoría en la integración de la cadena cárnica. Transporte de los animales en pie desde la producción hasta su lugar de sacrificio. Sin transporte de carne en canal. Intermediarios en la cadena que aumentan precio sin dar mayor valor. Mejor integración permite oferta con alguna homogeneidad.	Ferias y subastas ganaderas para la comercialización de ganado en pie. Centros de sacrificio en zonas urbanas. Empirismo en el manejo de la cadena. Incremento de los mataderos y frigoríficos. En la década de 1990 declina la Feria de Medellín.

Note: Authors' elaboration based on historiography: Mahecha, Gallego and Peláez (2002); Ministry of Agriculture and Rural Development (2003); Viloria (2005); Galvis (2000); Martínez, Espinal and Acevedo (2005); Fedegan, 2006, cited in Gómez and Rueda (2011); Gómez and Rueda (2011); Acero, Riaño and Cardona (2013).

The extensive system is the predominant model in the country. Unlike fattening activity, cattle breeding has been developed in areas further away from consumption centers. The livestock fairs were the favorite place for commercialization, especially the Medellín Fair, but, as Posada (1994) mentions, the chain of intermediaries between the production of breeding and the butcher was extensive, which did not allow the development of a production chain, in addition, these intermediaries achieved greater profits than the producers.

At the beginning of the twentieth century, the chain tried to integrate with the Packing House of Coveñas, which was the first meatpacking plant in Colombia, being a failure due to different circumstances and only marketed live cattle. Galvis (2000) points out that, in the 1970s, the meat chain had not achieved vertical integration between production and manufacturing, unlike what happened in the poultry business. In the 1990s, according to Vargas, Restrepo and Leal (1999), the intermediation chain was composed of: commission sellers, placement commission agents, fair intermediaries, merchants-intermediaries, wholesalers, fairs or vendors and retailers. At the beginning of 2000, so many retailers were the product of the high participation of Colombian households in the total produced (Gómez & Rueda, 2011).

In the nineties, livestock auctions emerged, although fairs continued. The auctions were a strategy to deal with the country's insecurity, since the rancher could be hidden. The slaughter plants were in the cities, therefore land transport was necessary with all its problems. Slaughterhouses were already in the sixties, increasing in the first decade of the 2000s, some were technified, but were not competitive for export processes (Viloria, 2005). Slaughterhouses

in the seventies had very serious problems. In the 21st century, supermarkets and large chain stores were incorporated into the meat production chain, using cold chain technology. This has made it possible to improve the quality of the product, mainly targeting a segment of consumers with higher incomes.

As for the preparation of cold meats and other derived products, the process has evolved with the incorporation of new processing and conservation techniques, which has made it possible to offer a greater variety of high-quality products and extend their shelf life, adapting to market demands, the number of establishments grew in the nineties, but with setbacks. According to Martínez, Espinal, and Acevedo (2005), there was an advance brought about by technology and productivity. At the end of the twentieth century there are two visions about the integration of the meat market: the first states that it was a well-integrated chain, which was observed in the homogenization of the supply, and the second states that it was a chain managed empirically, within it and with other sectors, as well as in the technological field. administrative, economic and environmental.

By the first decade of the 2000s, the livestock chain covered almost the entire national territory, although the chains achieved did not reach the same level as in the agricultural sector. This was due to the high costs per hectare in terms of maintenance, inputs, and wages (Viloria, 2005).

The dairy chain includes several stages, ranging from the production of raw milk to its pasteurization and the production of derived products such as sour milk and cheese (Quintero, 2011). The characteristics of the milk chain are shown in Figure 7.

Figure 7. The dairy chain in the nineteenth, twentieth and first decade of the twenty-first century.



Note: Own elaboration based on historiography: Eder (2001, cited in Kalmanovitz & López, 2007); Rivas (1981); Department of Economic Research of the Caja de Crédito Agrario (1961); Cruz, Peñuela, Gómez, & Cedeño (1972); Gómez (1976); Vargas (1987); Montes & Candelo (1980); Quintero (2011); Business Development Directorate (2004); National Dairy Council (2003, cited in Dirección de Desarrollo Empresarial, 2004).

At the beginning of the twentieth century, the production of milk and its derivatives was rudimentary. During the 21st century, specialized milk production developed mainly in the cold climate areas of the country, due to the adaptation of European breeds, which contrasted with the situation on the Caribbean coast, where cheese production became the solution for the dairy industry. In addition, intermediation dominated this activity (Department of Economic Research of the Caja de Crédito Agrario, 1961). In the 1970s, the dairy sector was not yet integrated at the national level, although the marketing channel for pasteurized milk was more efficient than that for raw milk. To deal with distribution problems, the pulverization of milk was a mechanism used. Production in the cities arose as a result of the lack of integration, but in the seventies the collection and cold transport improved. During the 1980s, in some cases, the supply of producers exceeded the demand of the processing companies.

In the eighties the structure was oligopolistic, therefore, it represented greater benefit for the industrialists. In the 1990s, the use of technology increased significantly, which allowed milk production to increase, although powdered milk was produced by a small number of companies, including some multinationals. Throughout the 21st century, the agro-industrial chain has been consolidated with the participation of renowned companies, managing to satisfy the national market and developing efficient logistics.

Discussion

The action of the livestock organization reflects what Dávila (2001) expressed, since they are dynamic and conflictive entities, operating as open systems, and, as Velázquez (2007) reaffirms, they have entrances, outputs and a feedback process that has allowed them to resist the years, as happened with different farms present in history. In the administrative field, the livestock organization in Colombia has followed, since the nineteenth century, a traditionalist model, which results from the combination of the classic management approach of Taylor (1961) and Fayol (1987) with the cultural particularities of the country, such as its customs and beliefs. This is evident in cases such as the Marta Magdalena hacienda, owned by Antioquian businessmen familiar with the classical school. Few organizations have adopted more recent administrative or managerial models. According to Kast and Kahn (cited in Terry & Franklin, 2008), livestock organizations function as open systems, constantly interacting with their environment.

The strategies used in Colombian cattle ranching can be analyzed from the perspectives of pattern and culture, according to Mintzberg, Quinn, and Voyer (1997). Although they have been conservative strategies, their impact on the development of the sector is undeniable. These strategies have emerged in an emergent manner, as indicated by Mintzberg, Ahlstrand and Lampel (1998), and are framed in a pattern of behavior. As for the innovations, pointed out by Whittington (2003), together with diversification and internationalization as growth strategies,

these have focused mainly on the crossing of breeds, the use of artificial pastures, the fencing of farms and various actions related to food and phytosanitary management. Improvement in genetics was not the most indicated in some experiments, because they were carried out without the appropriate studies and techniques. This aspect has improved in recent years. Some innovations were mostly technological diffusions. "Status quo" strategies still persist. The business model has been that of primarily extensive livestock farming. Diversification in its investment portfolio was a recurring strategy.

Historiography shows a group of important businessmen who have stood out and acted as visionaries, which is evidence of the established by Mintzberg, Lampel, and Aslstrand (2005), given that who implemented strategies that allowed them to enlarge their haciendas and their businesses, being emulated by ranchers who followed. In the sector, the differentiation and competitive advantage defined by Porter (2008) is observed in the twenty-first century with the development of more successful genetic improvement strategies, and even, in the twentieth century, with the dual-purpose strategy and better integration into the dairy chain in the twenty-first century, especially in the industrial part.

Conclusions

In the history of Colombian livestock, livestock organizations or companies were made up of companies and individuals, with the presence of prominent businessmen in the different regions. In the administrative field, the cattle company has developed a traditional administrative model since the nineteenth century, as can be seen in the Hacienda Marta Magdalena, which became a benchmark for other haciendas in the Caribbean. Administrative processes improved from the 1940s onwards. However, the traditional model is still in force today and there are very few livestock companies that have implemented management models such as total quality. Paternalism was common.

The strategies have been basically conservative, but there have been processes of innovation and technological diffusion that allowed the development of the sector. Diversification, growth, export and status quo strategies have also been implemented. Regarding the export strategy, it was implemented at the end of the nineteenth century. At the end of the nineteenth century and the beginning of the twentieth century, exports allowed certain businessmen to amass important fortunes. In the twentieth century they did not have the due continuity.

Regarding the chaining strategy, it is important to note that the chaining of beef was not optimal or fully integrated during the twentieth century. However, from the eighties onwards, the errors began to be corrected. Livestock fairs, which were of great relevance in the twentieth century, began to lose prominence with the appearance of livestock auctions. The meat chain was characterized by the presence of numerous intermediaries, although it has improved thanks to the intervention of government entities, private organizations and guilds. For much of the twentieth century, this chain developed empirically. For its part, the dairy chain also faced integration problems in the twentieth century, which were overcome in the twenty-first century.

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