

CONSERVATION OF PANTANEIRO CATTLE IN BRAZIL. HISTORICAL ORIGIN

CONSERVACION DEL BOVINO PANTANERO EN EL BRASIL. ORIGEN HISTORICO

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SUMMARY

The Pantaneiro cattle is descendant from animals brought by settlers in the beginning of the colonization of Brazil. These cattle represent many generations of natural selection and adaptation to the ecological conditions of the Pantanal a floodland in the states of Mato Grosso and Mato Grosso do Sul (Central Western region of Brazil). This valuable genetic resource which was the basis of the beef cattle industry of the Pantanal region for the last 300 years, is now considered in danger of extinction, due to the introduction of Zebu cattle in the beginning of this century. The Brazilian Agricultural Research Corporation (EMBRAPA), through the Pantanal Agricultural Research Center (CPAP) and the National Research Center for Genetic Resources and Biotechnology (CENARGEN), is concerned with the conservation of Pantaneiro cattle populations. To clarify its origins means not only the recovering an important mark of the history of Brazil, but also generating basic information for conservation. It is shown that the origin of Pantaneiro cattle is related to the spanish expeditions in the *La Plata* river basin in the second quarter of the 16th century. There has also been some influence of a spanish jesuitic mission and of the indian popu-

lations established in the Paraguay river basin. Even though the influence of portuguese breeds on the formation of Pantaneiro cattle had been rather small during the first two centuries of settlement, they became important after the beginning of the 18th century, when some descendants from these animals, already adapted to many Brazilian regions, such as Minas Gerais and Goias, were introduced into the Pantanal region. Thus ancestor lines that formed the Pantaneiro cattle were predominantly the spanish breeds brought by the settlers.

RESUMEN

El bovino Pantaneiro es descendiente de los animales traídos por los colonizadores en el inicio de la colonización del Brasil. Estos bovinos representan muchas generaciones de selección natural y adaptación a las condiciones ecológicas del Pantanal, planicie inundable localizada en los Estados de Mato Grosso y Mato Grosso do Sul (región Centro Oeste de Brasil). Este valioso recurso genético, que fué la base de la ganadería de carne durante por lo menos tres siglos, es

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considerado, actualmente, en peligro de extinción, debido a la introducción de ganado Cebú en el inicio de este siglo. La Empresa Brasileña de Investigación Agropecuaria (EMBRAPA), mediante el Centro de Pesquisa Agropecuaria do Pantanal (CPAP) y el Centro Nacional de Pesquisa em Recursos Genéticos e Biotecnologia (CENARGEN), realiza esfuerzos para la conservación de las poblaciones remanentes de Bovino Pantanero. Esclarecer su origen constituye, no sólo la recuperación de un importante marco de la historia del Brasil sino también, la generación de informaciones básicas para su conservación. Se verifica que el origen del Bovino Pantanero está relacionado con las expediciones españolas en la bahía del río de La Plata, en el segundo cuarto del siglo XVI. También tuvo influencia de una misión jesuita española y de las poblaciones indígenas establecidas en la bahía del río Paraguay. Aunque la influencia de las razas portuguesas en la formación del Bovino Pantanero ha sido pequeña durante los primeros dos siglos de la colonización, aumentó su importancia después del inicio del siglo XVIII, cuando algunos descendientes de los animales, adaptados a muchas regiones brasileñas como Minas Gerais y Goiás, fueron introducidos en la región de Pantanal. Por lo tanto los ancestros que formaron el Bovino Pantanero fueron predominantemente las razas españolas traídas por los colonizadores.

INTRODUCTION

Pantaneiro cattle descends from the European cattle introduced into Brazil with the beginning of the colonization. This cattle represents many generations of natural selection and adaptation to the ecological conditions of the Pantanal. During at least three centuries the Pantaneiro cattle was the basis of the beef cattle industry of the Pantanal region. However, in the

first decades of this century, this valuable genetic resource was gradually substituted by Zebu breed and is now considered in danger of extinction.

The Brazilian Agricultural Research Corporation (EMBRAPA through the Pantanal Agricultural Research Center (CPAP) and the National Research Center for Genetic Resources and Biotechnology (CENARGEN) is concerned with a program for the conservation of Pantaneiro cattle populations. This program includes the clarification of origin, location and identification of the remaining populations, the phenotypic and genetic characterization of these populations and the preservation *in situ* and *ex situ* of this genetic resource.

To clarify the origin of Pantaneiro cattle constitutes not only the recovery of an important mark in the history of Brazil, but also the generation of information to understand its genetic evolution and, consequently, its current genetic constitution. This is fundamental in order to define strategies for its conservation. The formation of Pantaneiro cattle is closely related to the history of the colonization of the Central Western Brazilian region.

This paper will only discuss the origin of Pantaneiro cattle through historical data available in literature.

I. THE TERRITORIAL ISSUE.

The territorial situation which was not well defined in South America between the 16th and 18th centuries, produced specific characteristics on the social, economic and cultural development of the Brazilian meridional area. The Pantanal comprises floodlands in the Paraguay basin which

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now integrate the territorial areas of Brazil, Bolivia and Paraguay. In the Brazilian territory there are about 140 thousand km² between 16° and 22° S and 55° and 58° W.

In the beginning of the colonization and based on the Tordesillas treaty, the Pantanal region belonged to the Spanish Crown (**figure 1**). Until 1535, the Pantanal was part of the Perú viceroyalty, and later to the Plata viceroyalty, and from 1617 on to the administration of the Guayrá government. With the signature of the Madrid treaty, 1750, this region was officially incorporated into Brazilian territory under the Portuguese Crown which for a long time had already considered it a possession. It was part of the São Vicente captaincy and, after 1748, of the Mato Grosso captaincy. Now the Pantanal region is part of the Mato Grosso and Mato Grosso do Sul states (Southey, 1965; Vianna, 1972 and Araújo, 1990).

2. THE INTRODUCTION OF THE CATTLE IN THE PANTANAL.

The discoverers did not find in America any animals of the bovine species (Rouse, 1977). Thus, during the long colonization period, the settlers felt the necessity to bring cattle from the Iberian Peninsula to provide milk, meat and draught power (Santiago, 1975).

The cattle arrived in the new World from Europe with a single stop in the Canary islands. The majority of the cattle introduced into America came from the SW of Spain with the possibility of animal shipment also from the Canary Islands colonized by people from the north of Spain,

twenty years before the discover, of the Americas it is presumed that all the Criollo cattle ancestors that spread throughout Latin America and South Western regions of the United States, arrived during the first fifty years of colonization and were less than a thousand head of cattle (Rouse, 1977 and Wilhins *et al.*, 1982).

In the beginning of the colonization (from the second to the last quarter of the 16th century) predominated the spanish expeditions through the Plata river basin (**figure 2**). Going up the Paraguay river there was access to Assumption and the Mbotetel (now Miranda) and Cuiabá rivers (Mello, 1968 and Araújo, 1990). The first reported expedition bringing cattle to the Plata basin was that of Alvar Núñez Cabeza de Vaca, *2° adelantado y Capitán General del Rio de la Plata*, in 1542. The expedition arrived in Assumption, according to Araújo (1990) with seeds, horses and some cattle. According to the same author, Ñuflo de Chávez after opening a route between Assumption (Paraguay) and Lima (Peru) in 1548 and with the foundation of Santa Cruz de La Sierra in 1561 spread a great number of bulls and cows, among other domestic animals, throughout the Pantanal. This route also favoured a considerable flux of immigrants proceeding from Peru bringing lots of domestic animals including cattle. Another significant introduction of cattle in the Pantanal region occurred in 1568, when Felipe de Cáceres, who was in Peru, was appointed governor of Assumption. During his trip to Assumption, the indians stole about 600 head of cattle on the way to Santa Cruz and another

130 from the grasslands along the Paraguay river (Araújo, 1990).

The three indian groups that imposed greater resistance to colonization progress from the 16th to the 18th centuries, in the Pantanal and surroundings, were the Guaicurus, Paiaguas and Caiapos (Rolim de Moura, 1982). These were responsible for introducing cattle and horses into the region. Several bandeiras, inland explorers from the coastal regions, in the Matogrossense lands during the 17th century, found cattle on the Paraguay river Plains (Taunay, 1930). In 1648 Antonio Raposo Tavares face to face with the

Guaicurus found that they were already owners of large herds of cattle, horses and sheep (Bertelli, 1984). Besides the indians, it is believed that the spanish jesuits who founded twice (in 1579 and in 1593) the mission Santiago de Xerez on the borders of the Miranda or Aquidauana rivers should have raised cattle to serve as food.

In 1555, an expedition left the São Vicente captaincy along the Brazilian coast bound for Assumption, Paraguay, taking some heads of cattle belonging to the Goes brothers (Araújo, 1990). In the Plata basin this seems to have been the unique introduction of

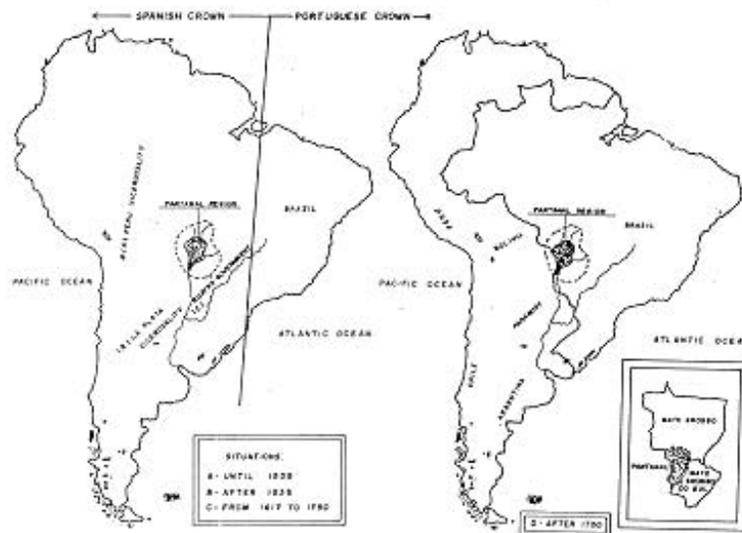


Figure 1. *The territorial issue of the Pantanal region (from the 16th to 20th centuries).* (La situación territorial de la región del Pantanal del siglo XVI al XX).

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cattle proceeding from portuguese colonized lands during the 16th century as reported.

Since 1719, the discovery of gold in the Mato Grosso captaincy provoked a migratory flux consolidating

the Vila Maria (now Cáceres, Vila de Cuiabá and Vila Bela settlements, on the borders of the Paraguay, Cuiabá and Guaporé rivers, respectively (**figure 2**). After the opening of the terrestrial route from Goiás to Cuiabá in

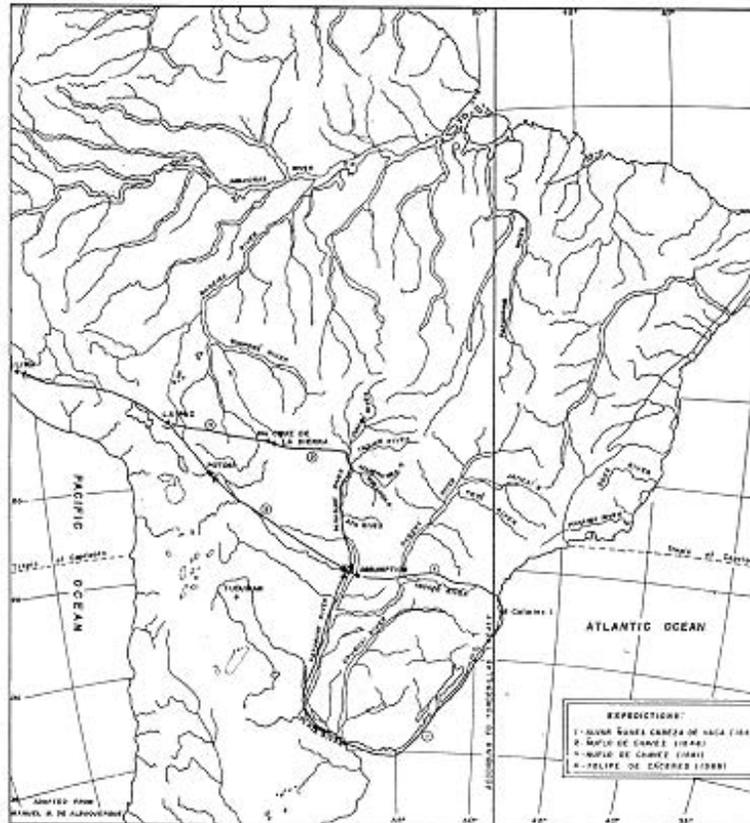


Figure 2. Cattle introduction routes into the Pantanal region from the 16th to 17th centuries. (Rutas de introducción del ganado bovino en la región del Pantanal del siglo XVI al XVII).

1730 the migratory flux increased in the region. According to Barbosa de Sá (Lenharo, 1982), a year following the opening of the terrestrial route and in 1735, 1742 and 1760 expeditions bringing cattle and horses arrived from Goiás. These facts were confirmed by a spanish officer, who saws in 1750, several centers of cattle breeding near Vila Bela belonging to portuguese established in Mato Grosso (Lenharo, 1982).

Two processes influenced the emergence of farms in the Captaincy of Mato Grosso: the integration of indians and the mining crisis. Lenharo, (1982) retracts the idea of D. Luis de Cáceres (fourth governor of Mato Grosso captaincy), that it would be necessary to populate the route to settle farms whose residents would be useful to keep the indians away and would also give support to people travelling these routes, furnishing provisions and lodging. The mining crisis besides reinforcing the importance of the routes, helped to settle people in the region, fiat happened at that time, was a slow reordination movement of the productive forces and the miner, already desperate, became either a farmer or a cattle breeder (Holanda, 1976 and Lenharo, 1982).

Until the first half of the 18th century, the Pantanal constituted an extensive region dominated by Guaiurus and Paiaguas indians and remained totally uninhabited by white people. The portuguese had established themselves in the north, in the neighbourhood of Cuiabá. In the south, spanish villages prevailed the surroundings of the Apa river basin. The indians robbed cattle from spanish

farms in the Apa region and introduced them into the Pantanal (Lisboa, 1909 and Mello, 1968). According to Mello (1968), it was evident that on the southern front the spanish possibilities surpassed those of the portuguese. The basis of the former was much stronger and accessible to the Pantanal than the latter. In order to strengthen the western frontiers, Luis de Cáceres unleashed a series of actions the resulted (**figure 3**) in the foundation of the villages of Vila María (São Luis de Cáceres) and São Pedro del Rei (Pocóné) both in the north and the south, in the establishment of the village of Albuquerque (Corumbá) in 1778, in the foundation of the Coimbra fortress, in 1792 and also the Miranda jail, in 1797 (Bruno, 1959). Trying to avoid indians stratagems, extensive regions for farming initiatives were permitted in areas closer to small villages. From there they expanded throughout the Pantanal (Correa Filho, 1955).

Mainly towards the end of the 18th century, after making peace with the indians (Volpato, 1987), the natural pastures of the Pantanal began to be occupied by cattle farmers, through expansion mostly in two directions (**figure 4**): to the north, coming from the northeast backlands penetrating into the lands of Goiás, reaching Cuiabá and Vila Bela and to the South, originating in Minas Gerais and São Paulo, attending the primitive mining route (Bruno, 1959), seeking originally the fields of Vacaria, the name given to a region extending from the Pararí river, the upper Pardo river, the Maracajú and Amambai sierras reaching the Verde, the Jauru and the Coxim rivers (Sodré, 1941).

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From Cuiabá to Vila Bela the population wave irradiated towards the Pantanal along the rivers in direction of the São Lourenço and its tributaries (Correa Filho, 1955). From these Pantanal regions (**figure 4**), the herds of cattle advanced south in direction of Miranda, where they set farms in the Taboco valley, the Negro river, and further on, until they met the migratory wave that expanded from Santa Anna do Paranayba, along the Sucuruí, Pardo, Brilhante and Vacaria rivers and the upper basin of the Nioac (Sodré, 1941).

By the end of the 18th century, the fields of Vacaria, so travelled by the *bandeirantes*, western inlanders, in previous periods were turned into a distribution region of the herds coming from the center-south and from Minas Gerais, where they had already penetrated through the São Francisco valley (**figure 4**) after the northeast had been conquered. For Sodré (1941), on the Vacaria plateau the first farms, the first resting places, the initial focus of the pastoral expansion of Mato Grosso, appeared. Supposing that of these herds that initially went to the west, or those that came later, when penetration was initiated, was deflected to the North, arriving at the Sucuriú and the Verde, entering, between the Jauru and the Coxim arriving at the large tablelands of the central region of the Mato Grosso province (**figure 4**) and making Coxim a great obligatory resting place before the new distribution thrust. From here to lowlands of the Pantanal was little more than a step. All the tracks led in that direction. The Coxim river must have been the origin of the first marches in direction

to the alluvial plains of the Paraguay river before moving towards the Vacaria fields, through the Amambaí sierra, along the course of the low zone of the same river, already the south of the Anhanduí-Pardo system heading for the Guaicurás terrain. At the same time, the herds came from Coxim or from the territorial corridors of Goiás and Cuiabá and spread out towards the north and northeast, reaching the Center South regions and also the Bolivian borders of the Guaporé river (**figure 4**).

3. VARIETIES CONTRIBUTING TO THE PANTANEIRO CATTLE TYPE.

The folklore affirms that the Paraguayan or the Plata river region cattle proceed from *las siete vacas de Gaete* more precise from seven cows and a bull, brought by a spaniard named Gaete (Proença, 1958). According to Araújo (1990), the legend adapts itself both the Cabeza de Vaca's expedition and that of the Goes brothers. Nevertheless, the last one has been the more acceptable by historians in general. Such things evidence the controversy about the origin of the domestic animals, whether portuguese or spanish breeds, later prevail in the central-south part of South America, where the Pantanal is located. Some publications (Ayala and Simon, 1914 and Silva, 1982) report that the first cattle arrived in Mato Grosso only after 1730 with the opening of the terrestrial route from Goiás to Cuiabá.

The results of this study showed that the introduction of cattle into the Pantanal can be grouped into two main periods: the beginning of the

16th until the 18th century with the predominance of the spanish breeds and from the 18th century on with influence of the Portuguese breeds

over the first cattle populations developed in the Pantanal during the previous period.

The first breeds introduced into

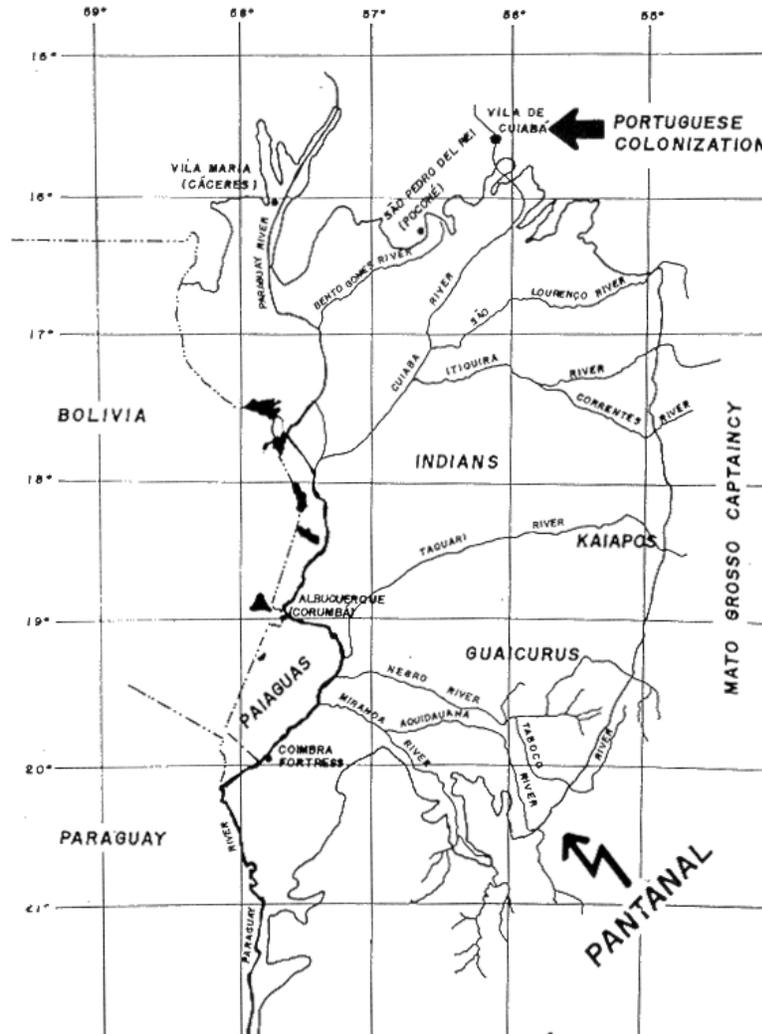


Figure 3. Colonization situation of the Pantanal region and surroundings in the 18th century. (Colonización de la región del Pantanal en el siglo XVIII).

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America came from the southwest of Spain, according to Rouse (1977) who describes the similarity of some Criollos with the modern breeds from that region such as, the Retinta Andaluza and the Berrenda. These animals must

probably were shipped from the Canary Islands. Nowadays there can still be found some Criollos quite similar to the Gallega and the Asturiana breeds from the North of Spain (Wilkins *et al.*, 1982).



Figure 4. Routes of cattle introduction into Pantanal region during the 18th century. (Rutas de la introducción del bovino en la región del Pantanal durante el siglo XVIII).

The existent breeds in Portugal brought to Brazil during the colonization period belonged to three different groups: Aquitanic, Batavic and Iberic. In the first group the Arouquesa and Minhota breeds in the second the Barrosa and the Alentejana and in the third group, the Mirandesa (Athanasof, 1910). These breeds expanded themselves from the captaincies on the Atlantic coast towards the West. When introduced into the Pantanal, they had already adapted to several environments within the Brazilian territory mainly in the states of Minas Gerais and Goiás.

Thus, differently from the coastal captaincies, the Mato Grosso coloni-

zation history and consequently, the introduction of cattle in the Brazilian central western areas where the Pantanal is located, is closely related to the process of spanish colonization in the Plata river basin, from the 16th to the 18th centuries.

Consequently, the cattle of spanish origin and later the descendants of portuguese breeds multiplied under the action of natural selection for more than four centuries and also adapted themselves in evolution processes to the ecological conditions of the Pantanal. Thus, a local characteristic ecotype called Pantaneiro Tucura or Cuiabano arose in the region.

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