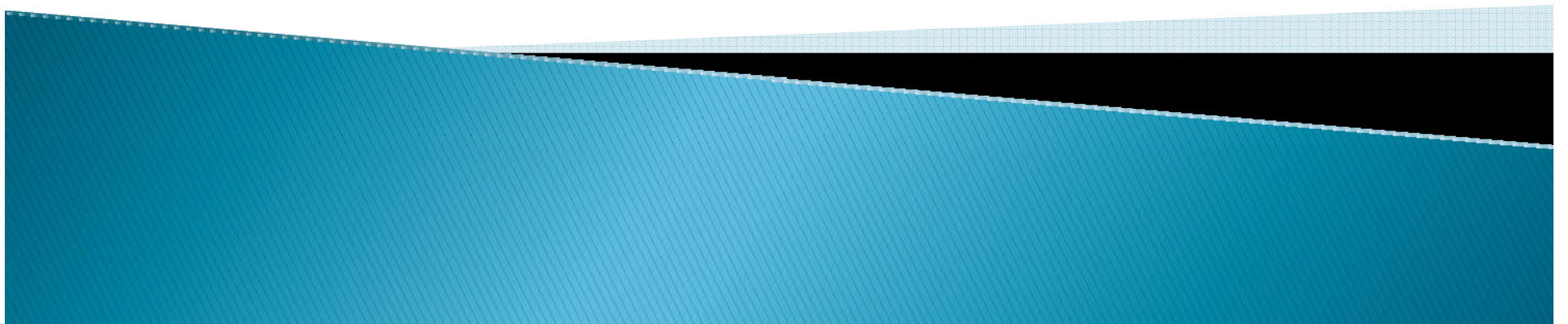


# CATTLE EXCHANGE BETWEEN INDIA AND BRAZIL

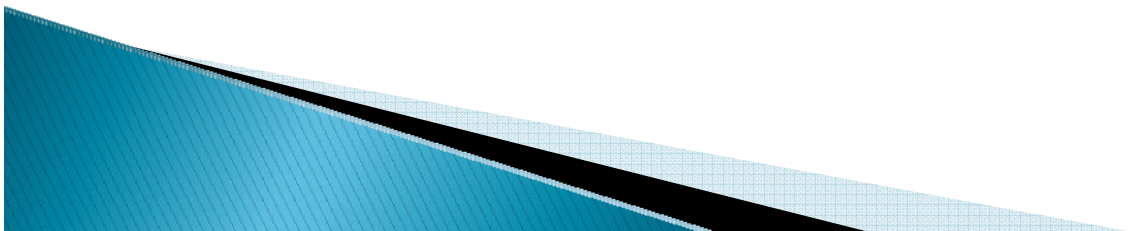


# INTRODUCTION

- ❑ When the Americas were conquered, there were a few domesticated animals in the continent;
- ❑ The natives exploited a number of those species, such as camelids and Guinea pigs;
- ❑ Most introductions occurred during the first years of colonization, by the Spanish and Portuguese settlers who brought animals of the main domesticated species from the Iberian Peninsula;
- ❑ Only in 1534, Portuguese settlers began bringing their own livestock to Brazil;
- ❑ So, in the early colonial era, all cattle found in the country were of European origin, specifically from Portugal and Spain.

# INTRODUCTION

- ❑ Zebu cattle were introduced only in the early 19th century;
- ❑ Probably the first pure herd was established in 1826 in Rio de Janeiro, consisting of animals from the region of the Nile River in Africa;
- ❑ Since the performance of these animals was not satisfactory, breeders started to take more interest in zebu cattle from India;
- ❑ Coffee producers in Brazil were the first supporters of these breeds;
- ❑ They were looking for cattle to transport their coffee production, and zebu cattle were tougher and faster than the European ones.



# INTRODUCTION

- ❑ There were different arrivals - bulls, couples or small lots, from 1850 to 1883;
- ❑ Most significant imports occurred early in the 20th century, reaching a peak in 1920, when a total of 2,075 animals were imported;
- ❑ In 1921, an outbreak of rinderpest, carried by animals that passed through Antwerp Zoo, led to a ban on further imports by the Brazilian Government.;
- ❑ From 1921 to 1962, there were periods when such imports were permitted and then banned;
- ❑ Several importations occurred during this time, but from 1962, they were prohibited, until very recently.

## ZEBU BREEDS RAISED IN BRAZIL

- The zebu breeds originally introduced in Brazil are: Gyr, Guzerat, Nellore and Sindhi;
- Tabapuã and Indubrazil were formed in Brazil, through crossbreeding.

Breed	Registered animals (2006)	
	Number	Percentage
Gyr	7,853	3.86
Guzerat	6,647	3.27
Nellore	171,813	84.53
Sindhi	669	0.33
Indubrazil	940	0.46
Tabapuã	7,571	3.74
Brahman*	7,751	3.81
<b>TOTAL</b>	<b>203,240</b>	<b>100.00</b>

\* Recent introduction

GYR





# GYR

- ❑ The Gyr breed arrived in Brazil in 1911;
- ❑ Only in the 40's the breed became more popular;
- ❑ New imports occurred in the 1960's with emphasis on milk production, originating a line called Dairy Gyr, whose numbers are increasing rapidly;
- ❑ Interest in animals or semen from this breed has been growing, not only in Brazil but also in other tropical countries;
- ❑ Around 500,000 Gyr semen doses are sold per year;
- ❑ Polled Gyr was formed using a local breed with Iberian origin, called National Polled.

# GUZERAT





# GUZERAT

- ❑ Guzerat or Kankrej as known in India, was the first zebu breed to arrive in Brazil in 1870;
- ❑ Until the 1920's Guzerat had the highest population;
- ❑ At that time, the Indubrazil breed was formed by crossing Gyr, Guzerat and Nellore animals;
- ❑ Some new imports of Guzerat occurred only in 1962 and 1963;
- ❑ Currently it is being used to form crossbred Guzerat x Nellore bulls to be used on cows of different European breeds.

# NELLORE



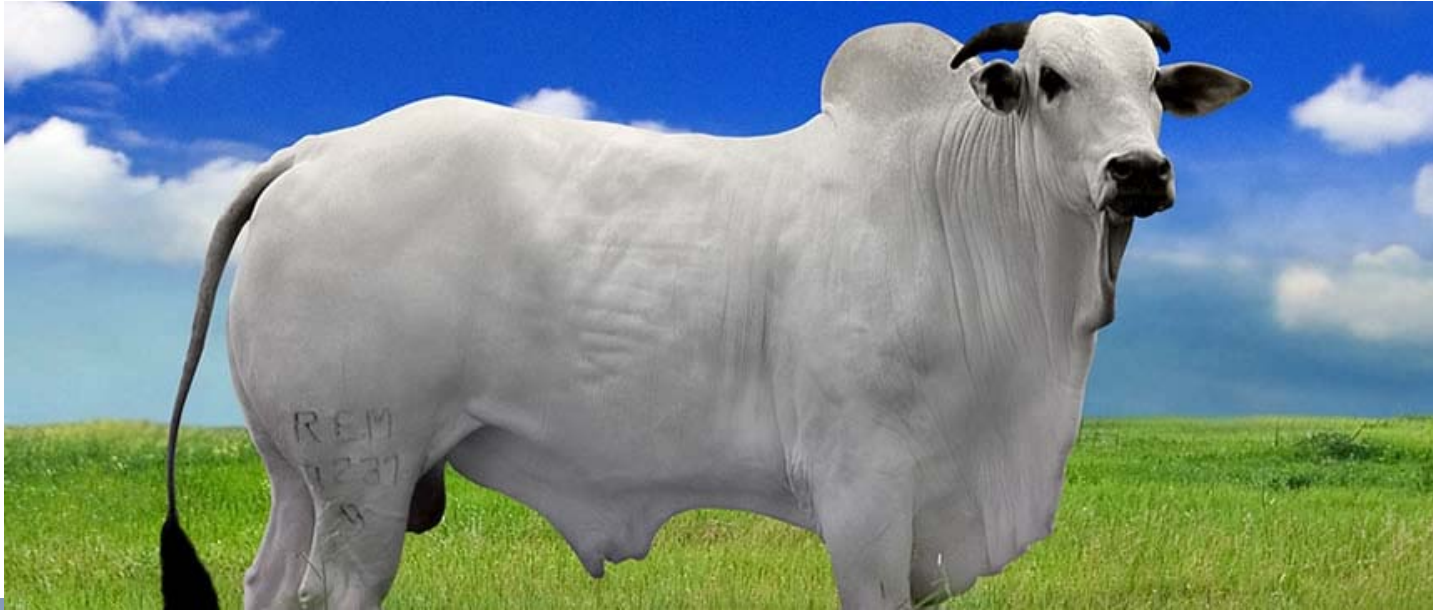


# NELLORE



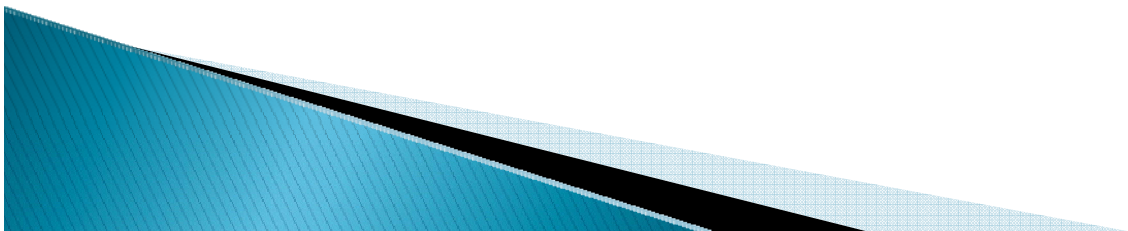


# NELLORE



# NELLORE

- ❑ Even though today the Nellore has, by far, the largest population of all cattle breeds raised in Brazil, it was one of the last Indian breeds to attract interest of Brazilian breeders;
- ❑ This lack of interest of the breeders was due, particularly, to the shape of the ears, which were not thought to be standard among zebu breeds at the time;
- ❑ Its high adaptability to the tropical climate, together with its strong defense instinct and excellent calf survival, led this breed to account for about 84.5% of the animals registered today, participating in approximately 80% of Brazil's beef production;
- ❑ In 2009, 2.6 million doses of Nellore semen have been sold in Brazil.





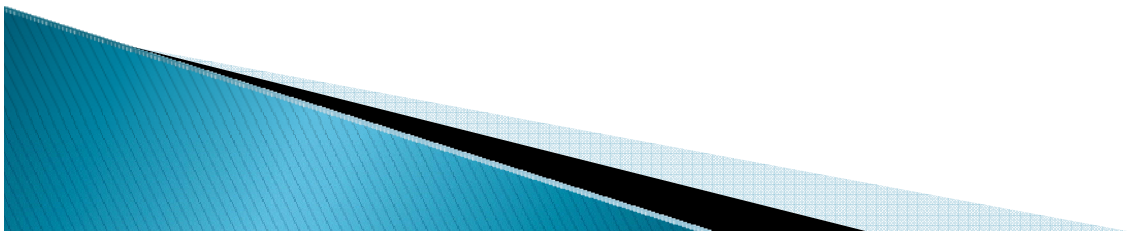
# SINDHI



# SINDHI

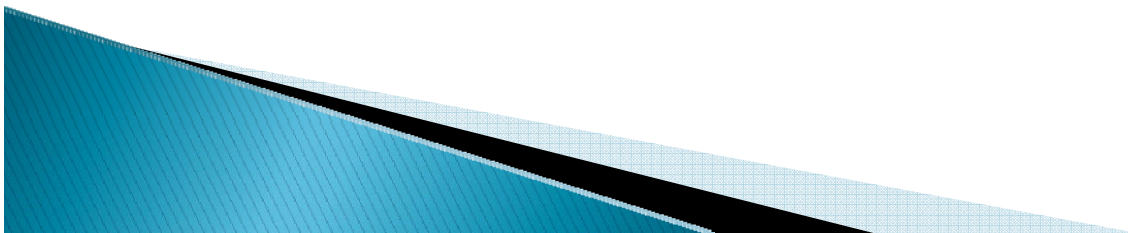
- ❑ Even though the Sindhi was imported from Pakistan, in Brazil it is considered as another Indian breed;
- ❑ The Sindhi was introduced in Brazil in the 30's of last century, but it was in 1952 that occurred the most significant introduction;
- ❑ The breed has as main characteristics the red coat color, ideal for the tropics and subtropics, the small size, good reproductive efficiency and especially good ability to produce milk;
- ❑ The Sindhi is very well adapted to the hot temperatures and reduced availability of forages of the semi-arid Northeastern region of Brazil.

# INDUBRAZIL



# INDUBRAZIL

- ❑ The Indubrazil is a double purpose zebu breed created in the early 20th century, by Brazilian breeders;
- ❑ It was formed by crossbreeding Nellore, Guzerat and Gyr, bringing together the characteristics of the three main Indian breeds;
- ❑ Indubrazil dominated the Brazilian beef industry between 1925 and 1945;
- ❑ After that, the numbers start decreasing, when the Nellore became dominant.





# TABAPUÃ





# TABAPUÃ

- ❑ The Tabapuã is a polled zebu breed, formed in Brazil;
- ❑ Originally, Nellore cattle were crossed with animals of the National Polled breed, which is a naturalized breed formed from animals of Iberian origin brought by the Portuguese settlers;
- ❑ Later, some Guzerat bulls were used on the crossbred Nellore x National Polled;
- ❑ In 1943, some three-cross animals were taken to a farm in the Tabapuã municipality where, after a 30-year selection program, the Tabapuã breed was created and recognized by the Ministry of Agriculture.

# RECENT EXCHANGE AGREEMENTS

- After the last ban that forbid the importation of zebu cattle from India in 1962, Brazil and India re-started the discussion about Animal Genetic Resource exchange in 1998.
- Recently, Brazil and India signed two Agreements:
  - ❖ Agreement to import embryos from India
  - ❖ Agreement to export semen from Brazil

## EMRYOS EXPORTED FROM INDIA

- ❑ After a visit to India by a Brazilian delegation 3 AI Centers have been approved in India;
- ❑ This first Agreement established that 5,000 embryos can be imported by Brazil, and will include: Ongole, Guzerat and Gyr;
- ❑ In the future, Red Sindhi and Sahiwal may be imported.
- ❑ The first lot of 350 embryos has been already transferred;
- ❑ Recipient cows arrived at the Quarantine Station, 30 days before ET, and will stay there for six months;
- ❑ A second lot with 400 embryos has already arrived in Brazil and is being tested for different diseases before transfer.
- ❑ Two other lots (400 and 1,000 embryos) have been collected and should soon be transported to Brazil.

# SEMEN EXPORTED FROM BRAZIL

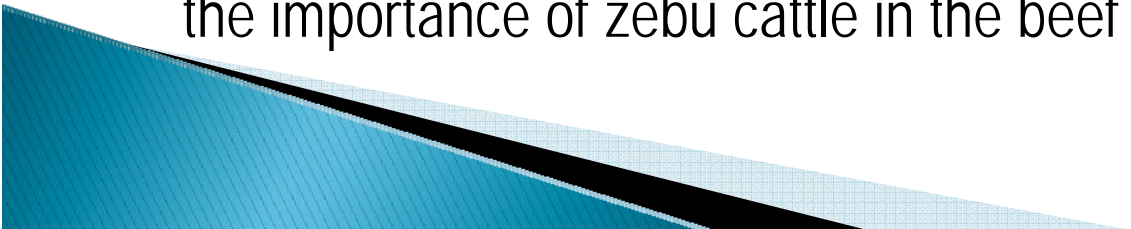
- ❑ Brazilian breeders decided to cross Gyr with Holstein, and formed a breed called Girolando, aiming at an increase in milk production in tropical regions of the country, where European breeds have to be kept in an artificial environment for production. In 1996, the Girolando was recognized as a breed by the Ministry of Agriculture;
- ❑ The high milk production of the Girolando, allied to its adaptation to the tropical climate, attracted the attention of Indian breeders, who will import its semen;
- ❑ Semen of Dairy Gyr, will also be imported by the Indian Government.

Note: In Brazil, Holstein cattle are called "Holandes", so Girolando is = Gir + Holando, without the H.



Girolando cow

# DOMINANCE OF ZEBU BREEDS IN BRAZIL

- ❑ The present population of the zebu breeds in Brazil is even more impressive when comparing the volume of imports of European and Indian genetic material;
  - ❑ Approximately 800,000 animals were imported from Europe, including Iberian, British and continental breeds;
  - ❑ While approximately only 6,300 animals were imported from India;
  - ❑ Nowadays, the number of registered animals with European origin is much smaller than that found for zebu breeds.
  - ❑ In general terms, in a population of  $\approx$  200 million heads of cattle, at least  $\approx$  160 millions have at least some *Bos indicus* blood, showing the importance of zebu cattle in the beef industry in Brazil.
- 





***Thank you***