

# ANIMAL GENETIC RESOURCES IN SOUTHERN BRAZIL

## RECURSOS GENÉTICOS ANIMALES DEL SUR DE BRASIL

Cardellino, R.A.

Departamento de Zootecnia. Universidade Federal de Pelotas. 96010-900 Pelotas RS. Brazil.  
E-mail: rcard@ufpel.tche.br

### ADDITIONAL KEYWORDS

Domestic animals. Conservation. Creole cattle. Creole sheep.

### PALABRAS CLAVE ADICIONALES

Animales domésticos. Conservación. Ganado criollo. Ovejas criollas.

### SUMMARY

An account of the domestic animal genetic resources of Southern Brazil is given. The main cattle breeds are imported British and Continental, zebu crosses and some zebu, with 50 p.100 of the population mixed of undefined breed. Unique breeds include creole, Crioulo Lageano and Caracú. Dairy cattle breeds are mainly Holstein and Jersey, and crosses with zebu. Older sheep have been absorbed by modern sheep breeds. There are small creole herds of two ecotypes. The predominant horse breed is the Crioulo horse, well adapted to the pampas. Poultry and swine production are based on modern industrial breeds. No specific conservation plans for any breed, with the exception of Crioulo Lageano cattle and Crioulo sheep are being followed in the region.

### RESUMEN

Se describen los recursos genéticos de los animales domésticos de la región sur del Brasil. Las razas de ganado más importantes son británicas y continentales, cruza cebú y algunas cebú, con 50 p.100 de la población constituida por mezclas sin raza definida. Algunas razas únicas son el ganado criollo, el Creoulo Lageano,

y el Caracú. Las razas de ganado lechero predominantes son Holstein y Jersey, y algunas cruza con cebú. Las ovejas antiguas han sido absorbidas por las razas modernas. Hay pequeños rebaños de criollas de dos ecotipos. La raza equina predominante es el Caballo Creoulo, muy bien adaptado a las pampas. La producción de aves y suinos está basada en razas modernas industriales. Con excepción del ganado Creoulo Lageano y de los ovinos criollos, no se siguen planes específicos de conservación en la región.

### INTRODUCTION

Brazil is a country of continental dimensions and a variety of climates and ecological regions. The present paper describes the domestic animal genetic resources of the Southern region, comprising the States of Rio Grande do Sul, Santa Catarina and Paraná, and located between latitudes 24 and 33 degrees S. The climate of this region varies from temperate to sub-tropical, with a gradient from S to N.

*Arch. Zootec. 49: 327-331. 2000.*

**Table I** shows the area of the Southern region of Brazil and its 3 states. By considering only this region, in relative terms more than 93 p.100 of Brazil is left out; however, other regions will be described in a companion paper to this series.

#### BEEF CATTLE

Brazil has a population of 150 million beef cattle, of which 30 million are in the Southern region. Production systems are extensive. Large farms (*fazendas*) are predominant in the border areas with Uruguay and Argentina (*Fronteira* and *Campanha*) where animals are kept on the fields all year round grazing native pastures. These have a yearly fluctuation with a peak in the Spring and little production

**Table I.** Total and relative area of Southern Brazil. (Area total y relativa del Sur de Brasil).

	km <sup>2</sup>	percent of Brazil S region	
Southern Brazil	577 214.0	6.76	100.00
Paraná	199 709.1	2.34	34.61
Santa Catarina	95 442.9	1.12	16.53
Rio Grande do Sul	282 062.0	3.30	48.86

in late Fall and Winter. Since making hay or silage is not a common practice, cattle have to adjust to these natural pasture cycles. In hilly or mountainous areas (*Serras*) farms are smaller but still extensive management is the rule. The use of AI is less than 2 p.100, and ET is a rare event. Average calving rate is 50 p.100, and average age at

**Table II.** Beef cattle breeds of Southern Brazil. (Razas bovinas en el Sur de Brasil).

	European	Crossbreeds	Zebu
Main breeds	Hereford, Angus, Charolais	Braford, Brangus, Canchim	Nelore
Older breeds	Shorthorn, Devon <sup>1</sup> , Red Poll, South Devon, Caracú <sup>2</sup> , Crioulo <sup>3</sup> , Crioulo Lageano <sup>2</sup>		Indubrasil, Gir, Guzerá
Newer breeds	Lincoln Red, Salers, Normanda, Gelbvieh, Salers, Brown Swiss, Chianina, Marchigiana, Piemontesa, Limousin, Red Angus	Santa Gertrudis	Tabapuã
Recent breeds	Blonde d'Aquitaine, Belted Galloway	Composites (Montana), Bravon, Branor	Brahman

<sup>1</sup>World source population; <sup>2</sup>Unique to Brazil; <sup>3</sup>Common to South America.

first calving 3.5 to 4 years. In better herds there is a bull market based on EPD's and a tendency to demand red and poll cattle.

Original cattle was a mix of creoles from the North and from the Rio de la Plata countries, plus some mixed zebu. From 1850 to 1910 British breeds were imported, followed by continental breeds. Later other European and zebu breeds were introduced. Today almost 50 p.100 of the beef cattle in the Southern region is a European-zebu mix of non-defined breed (SRD = sem raça definida). The rest are more or less defined European breeds, European x zebu crosses of defined breed composition, some pure zebu, and some composite breeds. **Table II** summarizes beef cattle breeds in Southern Brazil

None of the cattle breeds listed in **table II** are considered endangered (FAO, 1995). The Devon breed (Mason, 1988) has been brought from England more than 75 years ago, with continuous later importation, and has undergone a process of adaptation to the harsh conditions of the southernmost zones of the region, with poorer pastures and a cold winter. It is considered a world source population due to its numbers. The Caracú breed is a medium-sized cattle of variable yellowish coat and adult height of 1.30 to 1.40 m (Primo, 1992) and considered nearer to the Aquitanian than to the Iberian stem. Estimates of population size are close to 20.000. It shows rusticity and has double purpose, meat and milk. The Caracú herd book is located in the State of Paraná. There may exist some remnants of creole cattle originated from the conquest

period (Gonzales *et al.*, 1994) but no herds have been recognized as such. Creole cattle has been absorbed by British and Zebu breeds.

#### DAIRY CATTLE

As in most temperate regions of South America, Holstein (Holandês) is the predominant dairy breed in the Southern region of Brazil. Other breeds include Jersey, and some registered Brown Swiss (Pardo Suiço), Ayrshire and Flamengo. In the sub-tropical areas a cross of Holstein with Gir (Girolando) is common. A large proportion of the dairy herd, especially animals used for milk production in small holdings, are of mixed origin and no defined breed. Dairy production systems are extensive, with little stalling of animals and limited use of concentrates. About 30 p.100 of dairy cattle can be considered to be industry-oriented and 70 p.100 family holdings.

#### SHEEP

The total sheep population of Brazil is about 20 million, with 5 or 6 million in the Southern region, and some 4 to 5 in the State of Rio Grande do Sul. Sheep are mainly reared under extensive production systems, either in large farms or in small holdings. During the 20th Century breeds for wool and double purpose breeds such as Australian Merino, Ideal (Polwarth), Corriedale and Romney Marsh were imported steadily from their countries of origin and from Uruguay and Argentina, replacing by repeated back

crossing the original Creole sheep populations. The first meat breed to be imported was Hampshire Down, followed by Texel, Suffolk and Ile-de-France, and most recently limited numbers of Poll Dorset, Polypay and Laucane. Only 50 p.100 of the sheep are of defined breed, 20 p.100 are crosses of more or less defined breeds, and 30 p.100 are of no defined breed (SRD). A large proportion of sheep, maybe up to 70 p.100 are slaughtered at the farms (*estancias*) for home meat consumption. There are some flocks of the Creole sheep (*ovelha Crioula*) totaling between one and two thousand animals. Two ecotypes are distinguished, one predominant along the borders with Uruguay and Argentina, with coat colors ranging from white to black, and another in the Sierras and the Santa Catarina plateau, with dark wool (*ovelha Moura*). The origin of this sheep is most probably found in the Iberian sheep brought during colonial times from Portugal and Spain. Some animals have a phenotype similar to Churra. They are bred for wool to be used in handicrafts such as blankets, *ponchos*, rugs and *pelegos*, and are kept in small flocks mostly in family small holdings. There are conservation plans although the breed is not considered an endangered one. A variety of this sheep, the Black Creole (Crioula Preta) is considered nearly extinct (FAO, 1995).

#### HORSES

The main horse breed of the Southern region of Brazil is the Creole

horse (cavalo Crioulo). It is a thriving breed being highly appreciated for its resistance and adaptation to driving cattle in the extensive fields of the *pampas*, as well as working cattle in corrals. Its origin is Iberian and the population may be as high as 1 million or more. Around 1940 a large breed rescue operation was conducted in the State of Rio Grande do Sul to bring the breed back to its former level. Pedigree recording was started and a breed society was formed, selection being conducted for morphology and functionality. Other breeds of much less representation include Quartermile, Andaluz, Morgan, Mangalarga, Percheron, Breton, Haflinger and Pony.

#### OTHER SPECIES

Not much is known about local poultry breeds and industrial production predominates with more than 90 p.100, using mainly commercial hybrids. The non-commercial breeds include Plymouth (*barrada* and *branca*), Carijó, Rhode Island and New Hampshire. Some breeds are only taken to shows, like Orpington, Giant and Sussex. Small holder family production with mixed *caipira* birds is seasonal and with heterogeneous products. There may be some disease resistance in this strains, that may be interesting to conserve. Other birds include Bantam, Angola, a variety of duck (*pato Sinaleiro*) and geese. Swine production is almost exclusively commercial and based on the white breeds (Landrace, Large White), Duroc and some Pietrain. There are relicts of

## ANIMAL GENETIC RESOURCES IN SOUTHERN BRAZIL

older breeds but not easily found. Goats are in general of undefined breed (SRD). Wild species like capivara, tatu,

nutria, ema, deer, hare and javali, may be interesting genetic resources for the future.

### REFERENCES

- FAO. 1995. World Watch List for Domestic Animal Diversity. Scherf, B. ed. 2nd. ed. Food and Agriculture Organisation, Rome, Italy. pp. 769.
- Gonzales, J.C., H. Dewes and N.M.S. Freire. 1994. O gado crioulo ou chimarrão. I. Origem e difusão. *Arq. Fac. Vet. UFRGS*, Porto Alegre, 22:37-43.
- Mason, I.L. 1988. World Dictionary of Livestock Breeds. 3rd. ed. C.A.B. International, Oxford, UK. pp. 348.
- Primo, A.T. 1992. El ganado bovino Ibérico en las Américas: 500 años después. *Arch. Zootec.*, 41 (extra): 421-432.