GANADO POLLED CRIOLLO PEREIRA CAMARGO

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RESUMEN

En este artículo se describe el probable origen del ganado Polled Criollo Pereira Camargo, y el hábitat donde este ganado ha vivido y todavía vive hasta el día de hoy Se describe también sus características zootécnicas, aptitudes y cualidades.

SUMMARY

The probable origin of the Polled Criollo Pereira Camargo cattle is described in this paper, together with the habitat where this cattle has lived and is still living today. Its zootechnical characteristics, aptitudes and qualities are also described.

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1.0 INTRODUCCIÓN

E1 ganado criollo viene siendo estudiado en Brasil, por razón de presentar grandes aptitudes productivas y riqueza genética. Se considera que el criollo es el *Bos taurus* con mejor adaptación a climas tropicales y subtropicales; por tal motivo se constituye en valioso recurso genético como raza pura o para eruza (GARRIZ et al.,1982; CAMARGO,1990).

La experiencia indica que bajo las condiciones de producción del Brasil, el ganado criollo presenta un grado significativo de eficiencia. Sin embargo, es muy triste y desanimador observar que tantos tipos de ganado criollo del Brasil han sido objeto de extinción en los últimos años y tantos otros están amenazados de desaparecer para siempre, en cuestión de poco tiempo. Esto fue lo que ocurrió con el ganado Junqueira, Franqueiro y otros. Lo mismo viene ocurriendo con otras especies de animales nativos (ovinos, suinos, caprinos). Jamás ha habido en la Historia de Brasil, desde que el hombre existe como especie "civilizada", una influencia tan dañosa y brutal contra las especies nativas como en la época actual.

Tenemos actualmente en Brasil cuatro planteles de ganado Polled Criollo Pereira Camargo, o sea, un lote en Ponte Alta - SC, un lote en Santa Cecilia - SC, otro en Campos Novos - SC (en formación) y otro en Uberaba - MG, con un total general aproximado a 300 cabezas. Los planteles citados son todos de propiedad particular.

2.0 ORIGEN Y HABITAT

El ganado Polled Criollo Pereira Camargo es originario del ganado Polled Criollo, que apareció espontáneamente en los rebaños de ganado criollo de origen portugués, español y asiático, que poblaron los campos de la Región Sur de Brasil. Para ATHANASSOF (1941) el ganado Polled Criollo del Brasil resulta de una mutación, pues según el autor, este ganado se asemeja mucho al Criollo astado. Por su vez, NEVES (1918) relata que el ganado Polled Criollo brasileño es filiado del *Bos taurus scythicus,* raza original de Asia, introducida acá por colonos lusitanos.

El clima de la región del Planalto del Estado de Santa Catarina, donde el Polled Criollo Pereira Camargo se formó y adaptó tras una selección natural, es clasifcado como subtemperado. Con respecto a los datos medios de temperatura, pluviosidad, insolación, pueden ser visualizados en la Tabla 1. Cuanto a suelo, son encontrados en el Planalto Catarinense una gran variedad de tipos, especialmente en el límite entre el litoral y el planalto, bien como en los valles de los ríos. Los tipos principales fueron elasificados como suelos "Vacaria" y "Durox", de origen basáltico, representando 49% y 11%, respectivamente. Ambos suelos son clasificados como "Humic Ferralsol" por la clasificación de suelos de la FAO.

La mata de araucaria fue la vegetación predominante en el Planalto de Santa Catarina. *La Araucaria angustifolia* ocupaba la eamada superior. Las lauráceas son las espécies más importantes del segundo estrato arbóreo. Los géneros de gramíneas más frecuentes que componen los pastizales naturales del Planalto Catarinense son: *Agrostis, Andropogon, Aristida,* Briza, *Bromus, Calamagrostis, Chloris, Danthonia, Digitarza, Eragrostis, Melica, Panicum, Paspadum, Piptochaetium, Rottboellia, Schyzacchirium, Setaria, Sporobolus y Stipa.* Son encontradas además de las gramíneas, gran número de especies rastreras y erectas de las familias *Cyperaceae, Compositae, verbenaceae y Leguminosae* (RITTER y SORRENSON,1985).

3.0 CARACTERÍSTICAS ZOOTÉCNICAS

E1 ganado Polled Criollo Pereira Camargo es un ganado rústico, de buena conformación, bien adaptado a las condiciones de campo pobre tras la selección natural, prometiendo ventajas sobre varias razas dichas "nobles", en lo que concierne a producción de carne y leche.

Como el propio nombre indica, el ganado Polled Criollo Pereira Camargo es un ganado sin cuernos. La cabeza es pequeña, perfil recto o con pequeña depresión entre los ojos, morro a veces arredondado en las hembras y generalmente arredondado en los machos, orejas pequeñas y horizontales. El cuello es corto, medianamente desarrollado en las hembras, fuerte y robusto en los machos, papada poco desanollada.

Cuerpo bien conformado. Línea dorso-lombar recta. Grupa proporcional, con buen diámetro transversal. La cola tiene inserción alta, descarnada, con los pelos de la punta de tamaño reducido. Pecho poco desarrollado, vientre proporcional. Extremidades de mediana altura, aplomos conectos.

Ubre de buen tamaño, proporcional entre las cuatro partes, con pezones de buen tamaño. Tiene la piel fina y elástica, donde se ve la abundante red venosa subcutánea. La piel es de mediano grosor, suelta, suave y recubierta de pelos finos y cortos, siendo encontrados animales con todos los pelajes posibles, pues este ganado hasta hoy no ha sufrido selección para esta característica. Las mucosas son pigmentadas.

Los datos referentes al peso de los bovinos del tipo Polled Criollo Pereira Camargo pueden ser observados en las Tablas 2 y 3. Resultados semejantes a los presentados en la Tabla 2, referentes a peso de vacas, son presentados por BELDA (1986), para la raza española Menorquina, pesando las hembras 450 - 500 kg y los machos entre 800 y 900 kg. CAMARGO (1988), observando el peso al nacer de hembras Polled Criollo Pereira Camargo, encontró resultados semejantes a los que son vistos en la Tabla 3, en que el peso medio encontrado fue de 26,1 kg.

4.0 APTITUDES Y CUALIDADES

Es un ganado de aptitud múltiple carne-leche. Las principales cualidades del ganado Polled Criollo Pereira Camargo son su fertilidad, largo tiempo de vida y mansitud. Las vacas tienen destacada aptitud materna, rústicas, prolíficas y buenas lecheras. Es normal encontrarse vacas con producción entre 8 -12 litros de leche por día durante los primeros meses de lactación, bajo sistema extensivo. Ganado de temperamento dócil, fácil manejo, con la ventaja de no tener cuernos, una característica deseable por varios criadores (CAMARGO;1987). Se obtiene un óptimo vigor híbrido en la cruza de Polled Criollo Pereira Camaz'go con ganado cebú, lo que se atribuye a dos causas: en primer término por la divergencia genética entre un animal *Bos taurus* y otro *Bos indicus y en* seguida debido a la homocigosis (consanguinidad) del ganado Polled Criollo Pereira Camargo.

5.0 CONCLUSIONES

El ganado Polled Criollo Pereira Camargo debe ser objeto de preservación por ser una fuente de recurso genético nativo, casi en extinción; por su rusticidad y adaptación al medio ambiente donde fue formado; por su capacidad en aprovechar forrajes de bajo valor nutritivo; por su prolificidad y mansitud.

EI Polled Criollo Pereira Camargo representa un potencial genético de indudable valor para la región del Planalto de Santa Catarina y para el país; por esas razones debe ser conservado, multiplicado y seleccionado para no permitir su desaparecimiento.

Toro Polled Criollo Pereira Camargo

Novilla con 3 años de edad

6.0 REFERENCIAS BIBLIOGRAFICAS

Athanassof, N. (1941): Manual do Criador do Bovinos. Ed. Melhoramentos; 2ª ed.; 764 pp.

Belda, A.S. (1986): Catálogo de razas autóctonas españolas. II. Especie Bovina. MinisteriodeAgricultura, Pesca y Alimentación. Dirección General de la Producción Agraria. 219 pp.

Camargo, A.H.A. (1987): Raças e/ou tipos de ganado Crioulo do Brasil. (Em preparaçao). Camargo, A.H.A. (1988): (Dados nao publicados).

Camargo, A.H.A. (1990): Ganado Criollo del Brasil: Origen y características zootécnicas. Animal Genetic Resources Information. FAO, Roma; 7:11-19.

Garriz, C.A., Parodi, J., Garcia, P, Tardioli, M.G. de, Gambaruto, M., Artuso, C. y Sal Paz, A.R. de (1982): Evaluación de la aptitud carnicera en reses de novillos de raza criolla: rendimientos en cortes comerciales, calidad de la carne y composición química del músculo y de la grasa. Rev Técnica, INTA, 2:(2):37-78.

Neves, A. da S. (1918): Primeira Conferencia Nacional de Pecuária. Secretaria de Agricultura, Comércio e Obras Publicas do Estado de Sao Paulo - SP 149 pp.

Ritter, W y Sorrenson, W.J. (1985): Produçao de bovinos no Planalto de Santa CatarinaBrasil. Situaçao atual e perspectivas. GTZ - EMPASC - Eschborn.172 pp.

TABLA 1. PARÁMETROS CLIMATOLÓGICOS DEL PLANALTO DE SANTA CATARINA. (DATOS OBTENIDOS EN LAGES - SC).

Especificación	Meses del Año											
	Ene.	Feb.	Mar.	Abr.	Mayo	Jun.	Jul.	Ago.	Sep.	Oct.	Nov.	Dic.
Temperaturas Máxima ºC Mínima ºC	 26,6 15,8	 26,3 15,8	 24,8 14,7	 21,6 11,7	 19,0 8.8	 17,2 7,1	 17,1 6,6	 18,5 7,8	 19,3 9,6	 21,1 11,3	 23,4 12,7	 25,6 14,4
Días con heladas (-1ºC al nivel del suelo)	--	--	--	1,0	4,7	5,8	6,5	6,8	4,0	0,8	0,2	--
Pluviosidad media (mm)	145	140	114	93	95	110	107	129	144	156	114	132
Insolación (horas de sol - media)	212	178	186	163	164	147	161	167	136	164	198	221

TABLA 2.
PESO VIVO (KG) DE VACAS Y TOROS* POLLED CRIOLLO PEREIRA CAMARGO EN DISTINTAS ÉPOCAS DEL AÑO. DATOS COLECTADOS EN LA PROPIEDAD TRES BARRAS - UBERABA - MG.*

Sexo	Fecha de pesajes 02/04/91	Fecha de pesajes 02/11/91
Machos	719,5	650,8
Hembras	463,3	416,8

** Se consideraron vaca y toro los animales con cuatro años de edad o más.*

TABLA 3.
PESO (KG) DE ANIMALES POLLED CRIOLLO PEREIRA CAMARGO, SEGÚN EL AÑO DE NACIMIENTO Y EN DISTINTAS ÉPOCAS DEL AÑO. DATOS COLECTADOS EN LA PROPIEDAD TRES BARRAS - UBERABA-MG.

Año del nacimiento	Sexo y fecha de pesajes					
	Machos			Hembras		
	Al nacer	02-04-91	02-11-91	Al nacer	02-04-91	02-11-91
1989	—	—	—	—	272,5	282,0
1990	—	135	206	—	166,2	208,7
1991	28,7	—	—	24,9	—	—

WENLING HUMPED AND GRASSLAND RED CATTLE OF CHINA

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SUMMARY

The Wenling Humped Cattle (WH) are a local breed of the Zhejiang Province, where they originated; the mild climatic conditions (temperature and rainfall) and the availability of food in the region helped the development of this population. The average body weight of adult males is 430 kg, and that of females 290 kg.

The Grassland Red Cattle (GR) are a double purpose (milk and meat) population well adapted to the pastureland conditions of northern China, where they graze during all seasons. The average body weight is 760 kg for adult males and 450 kg for females. The average lactation yield is estimated at 1800 kg with a 4% fat content.

RESUME

La race á bosse de Wenling (WH) est une population locale de la province de Zhejiang dont elle est originaire. Les conditions climatiques peu rigoureuses (température et pluviosité) et la disponibilité de nourriture dans la région a favorisé le développement de cette population. Le poids moyen corporel des máles adultes est de 430 kg et celui des femelles de 290 kg.

La Rouge des Steppes (GR) est une race á deux fins (lait et viande), bien adaptée aux conditions de la prairie du nord de la Chine. Le poids moyen corporel des máles adultes est de 760 kg et celui des femelles est de 460 kg. On estime la lactation moyenne á 1800 kg avec une teneur en matiére grasse de 4%.

1.0 THE WENLING HUMPED CATTLE (WH)

1.1 Geographic distribution and origins

The Wenling Humped Cattle originated in the Wenling county of the province of Zhejiang and are also found in the counties of Huangyan, Yuhuan and Lequing. Their total number is estimated at 10000 animals.

It is a well-adapted local breed; its origins go back in history, probably 1000 years ago. A description of the breed can be found in a book published in Hongwu in the year 4 of the Ming Dynasty (1371 A.D.).

The mild climate and food availability of this region contributed greatly to the development of the breed. A selection programme to improve and preserve the breed started in 1955. After more than 20 years of selection, the bulls' phenotype seems unchanged but an improvement of the productivity characteristics is evident. There is a planned distribution of selected animals to the peasants.

1.2 Breed characteristics

The breed's main characteristic trait is a hump of 10-18 cm. The chest is broad, deep and muscular; the colouring is yellow to brown. Gray piebald colouring appears around the eyes, the mouth, the belly and the legs, while some individuals show a dark line colouring on the back. The horns are short and strong. Recent measurements of 13 bulls and 142 cows were as follows:

	Body weight	(kg) Height(cm)	Body length (cm)	Heart girth(cm)
Bulls	435	128	145	176
Cows	290	114	128	157

1.3 Productivity

These animals are traditionally mainly used for draught purposes; adults can plough 4-6 mu (0.17 ha) in a six-hour work day The average dressing percentage of adult carcasses is 52.9% with *a 44.5%* meat percentage. The three best cuts (leg, loin and rib) represent 36% of the total. The ratio of bone to lean is 1:6 and the eye muscle is 69.3 cm^2. The meat is of good quality and very juicy.

The breed is early maturing. Bulls can be considered mature at the age of 6-8 months and heifers come on heat at the age of 7-9 months; breeding takes place at 1.5-2 years of age. The average oestrus cycle is 18-22 days and the gestation period 280-290 days.

2.0 THE GRASSLAND RED CATTLE (GR)

2.1 Geographic distribution and origin

The Grassland Red Cattle developed in the northern part of the country and they are mainly found today in Chifeng (Inner Mongolia), Wight City (Jilin) and Zhangjiakon (Hebei). The breed totals a number estimated at 3,000,000.

These double-purpose animals (milk and meat) are the result of crossing the local Mongolian type of cóws with Shorthorn sires introduced in the 1920s and 1930s from North America. In the early 50s all upgrading was stopped and a selection programme was introduced to help uninform the population, which grazed on state owned pasturelands. This 30-year long selection programme helped form the actual population characteristics (standardized body form, phenotype and colouring) and led to the creation of what is called the Grassland Red breed. The milk and meat yields were very much improved.

2.2 Breed characteristics

The head is fine with a straight face; the horns are curved and yellowish. The neck is short and strong and the chest broad. The udder is well-formed and the colouring mostly reddish. Recent body measurements show that the population attained good uniformity The following are indicative values obtained from 21 adult bulls and 379 cows:

	Body weight (kg)	Height (cm)	Body length (cm)	Heart girth (cm)
Bulls	760	138	178	215
Cows	453	125	148	180

2.3 Productivity

Adult cows yield an average of 1800 kg milk with a 4% fat content, under extensive grazing conditions in summer and fall with some feed supplementation in winter and spring. The calves can be fattened easily and quickly and the average dressing percentage of the carcasses is 53.8% with a 45.2% meat percentage and an eye muscle of 67 cm^2. Heifers come ñrst on heat at an approximative age of 18 months. The average oestrus cycle is 21 days and the gestation period 283 days.

3.0 CONCLUSIONS

The Wenling Humped local cattle are typical early maturing animals traditionally used for draught purposes, with good meat qualities. Selection should further increase the average adult weights and help obtain even better slaughter results.

The Grassland Red cattle are well adapted to the extensive grazing conditions under which they produce a good milk yield and where the calves can be easily fattened. An improvement of the feeding conditions will allow for even better productivity and the selection programme applied will assure phenotypic uniformity

ACHIEVEMENTS OF CHINESE SHEEP AND GOAT RAISING INDUSTRIES OVER THE LAST FORTY YEARS

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SUMMARY

The people's Republic of China has been established for forty years. The sheep raising industries, the same as other industries has made tremendous developments and achievements since the Liberation in 1949. The population of sheep and goat has increased four times from 42.35 million in 1949 to 211.64 million heads in 1989. The breed characteristics have also changed greatly in appearance on the basis of large scale crossbreeding programmes. Grease wool yield has increased in China from 33,500 tons in 1950 to 254,000 tons in 1989 and other sheep and goat products have gained to a substantial extent. Meantime, the sheep and goat scientific and technological work and services have developed quickly over the same period.

RÉSUMÉ

La République Populaire de Chine existe depuis quarante ans. Le secteur de 1'élevage ovin, de méme que d'autres secteurs, a connu un développement et des réalisations remarquables depuis la Libération, en 1949. La population ovine et caprine a quadruplé, passant de 42.35 millions de tétes en 1949 á 211.64 millions en 1989. Les caractéristiques raciales phénotypiques ont également beaucoup changé á la suite de programmes de croisement á grande échelle. La production de laine en suint a augmenté en Chine de 35.000 tonnes en 1950 á 254.000 tonnes en 1989 et les autres produits dérivés, ovins et caprins, ont progressé de façon substantielle. Durant cette méme période, les travaux scientifiques et technológiques sur la brebis et la chévre, ainsi que les services, se sont développés rapidement.

1.0 THE RESOURCES AND FOUNDATION FOR DEVELOPING SHEEP AND GOAT RAISING INDUSTRIES IN CHINA

China has enormous rangelands of nearly 424 million ha, of which the pastoral and mixed agro-pastoral rangelands occupy an area of 314 million ha (74.1%); hillock rangelands, especially in agricultural areas of South China, possess nearly 100 million ha, and all provide a large amount of forage crops and other feeds for the sheep and goat industries. We have also produced 700 million ton of straw feedstuffs among which rice straw, husks, chaffings, etc. amount to about 230 million ton; the same feeding materials from wheat are estimated at 110 million ton, those of corn remains are inventoried at 220 million ton. Farming crop straw, even potato leaves, stems and stalks total about 220 million ton. In addition to those autumn crops harvested, all kinds of straw plus sweet potato vine, groundnuts ratans, sugarbeet leaves and bagasse, fruit peels as well as a large quantity of roughage sources are very rich for feeding purposes in rural areas all over China.

Since the early eighties, all forage plants including grasses and legumes, are developing all the way by leaps and bounds, though not very abundant in quantity and quality as compared to those used in developed countries of the world. Up to the end of 1989, it was noted that accumulative pasture areas have been raised to 2.71 million ha and the improved pasture areas have also been increased altogether totalling 9.10 million ha among which the latter areas are calculated to a percentage of 32.0% approximately, that means, an area of 2.907 million ha is then in record. What is more, the spread of scientific information, the Journal of 'Pratacultural Science of China' started publication in 1987, thus indicating that the grassland farming industry has been becoming a new modern enterprise in the realm of Big Agriculture, for which we have a new term, that is, prataculture. All these new developments, of course, will place the Chinese sheep and goat raising enterprises now under way on a rich and solid basis. That is one of the reasons for rapid development of production now in China.

2.0 THE QUANTITATIVE DEVELOPMENT OF SHEEP AND GOAT PRODUCTION IN CHINA

At the end of 1949, China had only a low population of sheep and goats totalling 42.35 million head, among which sheep occupied 26.22 million and goats,16.13 million head. But at the end of 1989 the population of the both species was recorded to 211.462 million head, showing an increase of nearly four times. The sheep population consisted of 133.508 million head with a net gain of 3.33 times and goat 98.134 million head with a little higher net gain of 5.1 times the number of 1949. The increase of the sheep population was so rapid that it was surely seldom seen in other countries. The population figures of Chinese sheep for the last forty years are as follows (1989; in 10,000 head):

Year	Total	Sheep	Goals	Variation	Numbers %
1949	4235	2622	1613	-	-
1954	8130	4815	3315	3905	92.2
1959	11165	6188	4987	3025	37.2
1964	13669	7445	6224	2504	22.4
1969	14021	n/a	n/a	352	2.6
1974	16087	9470	6617	2057	14.7
1979	18314	10257	8057	2236	13.9
1984	11722	5419	6303	-2474	-13.5
1989	21164	11351	9813	5324	33.6

3.0 THE CHANGING SITUATION OF CHINESE SHEEP AND GOAT QUALITIES AND THEIR BREEDS.

Within the last forty years, the population of Chinese sheep and goat, not only was increasing rapidly (with a net gain of four times), but also undergoing quite a major transition in breed composition. Local breeds with lower productivity have been reduced in effect by the introduction of stock from abroad. The degree of improvement in sheep (not prominent in goats) has developed particularly rapidly since 1950. At the end of 1989, the total of foreign fine-quality sheep introduced was about 39.093 thousand head, among which, FIne wool sheep breeds from the Soviet Union were introduced, i.e: about 18.883 thousand head during the fifties (1950-1960); from the sixties to the mid-seventies (19611975), we have not introduced any foreign bloodlines with the exception of 10.286 thousand head in 1966. Now in China, scientists and breeders have bred successfully lots of fine wool sheep breeds from 1949 to 1975. After 1975, having started to introduce sheep and goat breeds from many western countries, almost every year we made similar introductions on average bringing in a total of about 2,000 head a year from New Zealand, Australia, UK and so on. It had a tremendous influence over the improvement of Chinese sheep. By the end of 1989, there were 33.562 million head of semi-fine wool and improved sheep breeds. The population of these two types of sheep total 47.684 million, that means, about 30% for the latter and 70% for the former The amount of production in fine and semi-fine wool was 120 and 43 thousand tons respectively to providing a total of 163 thousand ton and being about 70% of the total 237 thousand tons of wool produced in China. In about one decade, the introduction of Australian Merino stock rams to China has by crossbreeding with the original fine wool sheep breed, made a successful breed of a so-called Chinese new Merino sheep breed. Its wool staple length, density, clean fleece weight, intensity, strength and even individual average output of wool has been improved significantly

During these past ten years the price of Cashmere wool in the international market has increased from year to year stimulating the improvement of Chinese local goat wool. Therefore, the annual Cashmere wool production has increased from 3000 tons in 1972 to -605000 ton in 1989. Since the beginning of the eighties, we have introduced several hundred head of fine milk goat breeds, namely Saanen and Toggenburg, from the British Isles, Switzerland, etc. in order to crossbreed them with more than one hundred head of local lower producing milk goat breeds in 1983. In the meanwhile, we have also been promoting the lower producing milk goats work, aiming at their improvement by means of hybridization on the one hand and on the other hand partly eliminating through selection to a target of 5.94 million head by the end of 1989. The yearly output of goat milk for people's consumption was then increased from 370 thousand in 1983 to 545 thousand ton in 1989. During the last forty years or so, in China we have bred a number of twenty new breeds of sheep and goats of which nine are of fine-wool sheep; three semi-fine wool sheep; five milk goats and three Cashmere goats.

4.0 GENERAL DESCRIPTION FOR SHEEP AND GOAT BREEDS IN CHINA

Improved breeds, in general, are an important productive source in China's sheep and goat raising industries. During these forty years since 1949, not only have we improved, say, the lower productive local breeds and raised their breeding qualities somewhat, but also further multiplied the breeds of higher grades for extension of the industry For the same objective all sorts of standardization by the State, ministerial, specialized enterprises and local districts have been formulated and promulgated for these improved local breeds of sheep and goat and finally released for public use at the end of 1989. The respective descriptions for them are as follows:

(1) Local Fur Sheep Breeds (inclusive of goat breeds naturally)

Tan Sheep Breed (famous for producing secondary fur lining, distributed over the Ningxia Hui Autonomous Region and Gansu Province), Huyang Sheep Breed (owes it reputation to the production of white-coloured lambskin, distributed mainly over Jiangsu and Zhejiang Provinces of East China, shed feeding in the main) and Sanbei Goat Breed (derived from the so-called Persian kidskin of China or from Karakul kidskin. The major distributing places are Xinjiang and Neimenggu Autonomous Regions as well as Gansu Province).

(2) Carpet Wool Sheep Breeds

Ganqin and Xizang (Tibet) sheep breeds (reputed by the name of Xining wool produce, the distributing places are Gansu Province, Qinghai Province and Xizang Tibetan Autonomous Region on the so-called Qinzang Plateau Areas geographically), Ganjia Sheep Breed (this is bred from a local strain which originated in Tibet, known to be distributed over the Country of Xiahe just neighbouring the westernmost boundary of Qinzang Plateau Areas to the south of Lanzhou; Gansu), Wuzhumuqin Sheep Breed from Neimenggu, Yiecheng and Hetian Sheep Breeds from Southern Xinjiang as well as Fuhai Big-tail and Hasake Sheep Breeds from Nothern Xinjiang are thus hitherto exemplified.

(3) Fur Goat Breeds

Zhongwei Lambskin White Goat Breed is distributed mainly over various countries of Zhongwei (the first county being named after), Tongxin, Haiyuan of Ningxia Region as well as over Huanxian, Jingyuan, Jingtai, Gaolan, etc., of Gansu Province. The fur quality compares favourably with that of the Angora Goat Breed introduced from Turkey

(4) Cashmere Goat Breeds

Names here are the Liaoning Cashmere Goat breed (mainly distributed over those mountainous districts to the southeast of Liaoning Province), the Neimenggu Cashmere Goat Breed (known to be distributed from each and every Meng (Prefecture in Han mandarin) and Qi (county in Han mandarin) of Neimenggu Region and the Hexi Cashmere Goat Breed (of which the main distributing site is in Gansu Province from Hexi Corridor or futher westermost drought and semi-desert places west of the Huanghe River Valley) and so on. Among those mentioned, the first, Liaoning Cashmere Goat Breed is the best in production, its first grade adult goat produces about 900 g of Cashmere fur and the doe has nearly 600 g on average.

(5) Pelt Goat Breeds

All pelt goats are primitive breeds known to be distributed all over the country, among which we now describe some of the best Qinshan Goat Breed (Shandong of East China is the main distributing province), Daiyunshan and Fugin Goat Breeds (both originated mainly in Fujian Province of Southeast China) and Beishan Goat Breed (one of the fine quality pelt goat breeds originated in Guizhou Province of Southwest China) and so on.

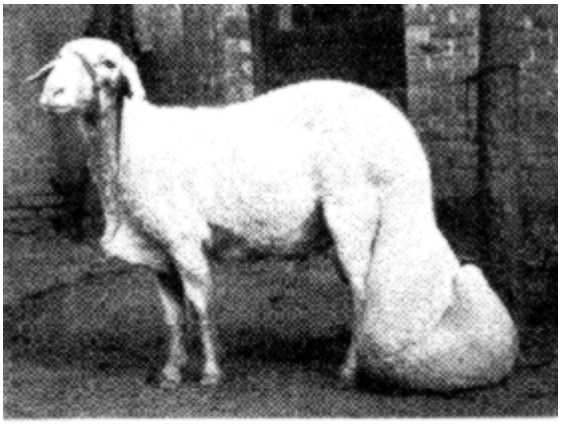
The major sheep and goat breeds introduced in China from foreign bloodline origin, which were crossbred and improved awaiting release for use in extension are hereby described as follows:

(6) Fine Wool Sheep Breeds

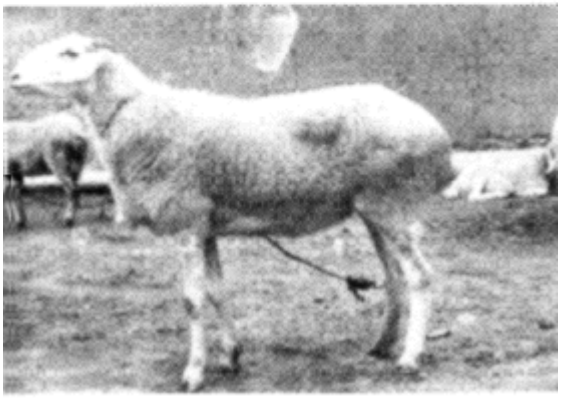
In this category, the major best fine wool sheep breeds are those from Neimenggu, Xinjiang, Northeast China, Gansu Alpine, Aohan, Erduos, Kerqin, Shaanbei, Qinghai and Chinese Merino. Among them, the individual yearly wool output for adult ranges from 8 to 10 kg, and that of ewe, from 4 to 5 kg. The Chinese Merino Sheep Breed stands in the first place with best wool quality, longest wool fbre-length, highest rate of pure wool as well as highest mean individual yearly output of pure wool too.

(7) Semi fine Wool Sheep Breeds

There are different descriptions for breeds - the Chinese Fine Sheep are the same as “Semi-fine Wool Sheep” in the UK and USA. The major new Semi-fine Woold Sheep Breeds are released from Northeast China, Neimenggu and Qinghai. Besides the Sichuan and Yungui Semi-fine Wool Sheep Breeds are now under breeding work for the final release. For the breeding and



Large-tailed Hanyang



Small-tailed Hanyang

improvement of these new semi-fine wool sheep breeds, we have ever introduced many mutton and wool dual-purpose breeds from Europe, America, Australia and New Zealand - for example, Romney Maxsh, Border Leicester, Lincoln, Corriedale, Charollais and so on as well as Tsigai from the USSR.

(8) Milk Goat Breeds

Formerly we introduced the British Saanen and Toggenburg Milk Goat Breeds from the British Isles and Switzerland to be used in crossbreeding with out local breeds for several successive years. The selection and improvement work were quite successful, during which the most famous breed we developed is the Guanzhong Milk Goat Breed (the individual milk output yearly recorded was in the first born litter from the special and first grade of these breeds. The output was between 600 and 700 kg and that of the second grade ewe was approaching 500 kg or more). Those ranking in the second place are Tangshan, Laoshan, Hongtong goat breeds for example.

5.0 THE PRODUCE, YEARLY OUTPUT AND COMMODITY CIRCULATION OF SHEEP AND GOAT RAISING INDUSTRIES IN CHINA.

The major purpose of the sheep and goat industry established in China is for the production of such merchandise as wool, hair, mutton, pelt, etc. Within four decades since the Liberation, especially in the ten most recent years, the general output in both our two industries or enterprises, state-owned and private, as well as in the sphere of individual economical productivity affairs, all in all, have had a large increase. The changing condition regarding all kinds of sheep and goat products, its yearly output and relative productivity is shown briefly in the following Tables (1, 2 and 3).

TABLE 1:

PRODUCTION OF MUTTON IN CHINA FROM 1979 TO 1989

Year	Number of Sale (in 10000 heads)	Rate of Sale (in %)	Average weight of Carcass (in kg)	Total Mutton (in 10000)	kg per capita
1979	3543.7	19.3	10.7	38.0	0.4
1980	4241.9	23.2	10.5	44.5	0.5
1981	4481.4	23.9	10.6	47.6	0.5
1982	4874.2	26.0	10.8	52.4	0.5
1983	4924.0	27.1	11.1	54.5	0.5
1984	5080.5	30.4	11.5	58.6	0.6
1985	5081.0	32.1	11.7	59.3	0.6
1986	5227.0	33.5	11.9	62.2	0.6
1987	6052.9	36.4	11.9	71.9	0.7
1988	6827.2	33.9	11.7	80.2	0.7
1989	6122.9	40.3	11.8	96.2	0.9

It may be seen from Table 1 that the production of mutton had a net increase of 1.53 times within 10 year and thay consumption per capita run ahead of the world average by 38%; but the average carcass weight showed only limited increase in comparing with the world average level of 14 kg per capita, still being lower.

TABLE 2

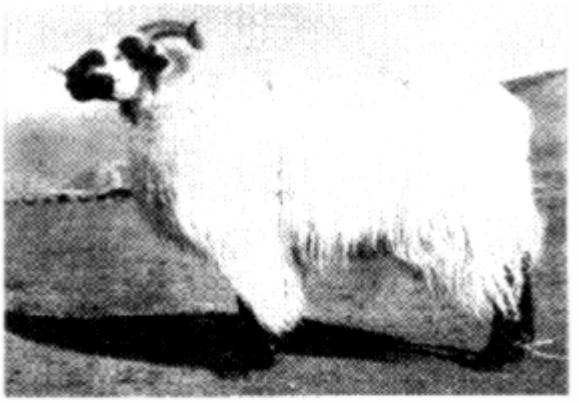
PRODUCTION AND YFARLY OUTPUT OF SHEEP AND GOAT PRODUCE AND ITS RELATIVE RATE OF GROWTH AND DECLINE IN CHINA FROM 1979 TO 1989 (UNIT IN OOOS TON)

Year	Total Milk Output	Total Cashmere	Total Wool Output	Among which: Goat Wool	Sheep Wool	Fine Wool	Semi fine
1979	23.7	0.4	16.5	1.2	15.3	5.9	3.0
1980	22.6	0.4	18.8	1.2	18.8	6.9	3.5
1981	25.8	0.4	20.2	1.3	18.9	7.5	4.0
1982	34.1	0.4	21.5	1.3	20.2	8.9	4.2
1983	37.4	0.4	20.5	1.1	19.4	8.6	3.8
1984	41.0	0.3	19.4	1.1	18.3	8.6	3.5
1985	39.5	0.3	18.9	1.1	17.8	8.6	3.2
1986	43.0	0.3	19.7	1.2	18.5	9.0	3.2
1987	48.1	0.4	22.2	1.3	20.9	10.0	3.7
1988	52.9	0.5	23.6	1.4	22.2	11.1	4.1
1989	54.5	0.5	25.4	1.6	23.8	12.0	4.3
(I)	**130.0**	**25.0**	**54.0**	**33.3**	**54.9**	**103.**	**443.0**

(I) 1989/1979 growth in %

Secondly, in Table 2, it is noted that total milk production has increased quickly, Cashmere fine hair, however, at quite a slow rate, but the situation of total wool output is somewhat different, in which, Sheep wool runs well ahead of goat wool; fine wool had higher increase than semi-fine. If the data is considered from the view point of commodity circulation, the situation was quite varied as shown in Table 3.

As seen in Table 3, prior to 1982, the quantity purchased by the State in major sheep and goat produce was increasing from year to year, and since then, the trends are generally lower being due to the effect that after 1982, the private and collective owned processing enterprises have been launched very quickly. This is partly due to the lack in related statistics concerning those animal raw products.



White Tibetan sheep

Tan sheep

TABLE 3 THE COMMODITY CIRCULATION OF SHEEP & GOAT PRODUCE IN RATE OF DECLINE AS PURCHASED BY THE STATE WITHIN RECENT 40 YEARS UP TO 1989.

Year	Mutton Sheep & Goat (1000 head)	Sheep wool (10000 ton)		Goat Fine (ton)	Skin (10 000 sheets)			Casings* (10000 in number)
		Total output	Fine and semi-fine wool		Sheep	Goat	Lamb**	
1950	150.0	3.35		760	56.5	226.0	95.0	252.0
1955	320.0	4.04		2110	813.5	483.9	546.8	421.5
1960	937.9	6.24		3201	1041.0	1084.3	669.2	504.2
1965	1267.5	7.49		4161	1296.3	2086.1	695.3	816.4
1970	1127.6	9.01		3434	1351.0	1572.9	595.5	985.7
1975	1057.9	12.89	6.70	3140	1505.6	2067.7	906.6	1195.9
1980	1151.8	15.92	7.56	3372	1328.1	3901.0	1515.4	1676.7
1982	1301.4	17.60	10.33	3136	1885.4	4270.5	1434.7	1137.7
1984	1104.9	14.08	9.07	2976	1431.5	3254.9	597.3	952.5
1986	626.5	13.62	8.45	4336	1307.5	2431.2	539.4	1095.4
1989	785.6	11.36	7.19	3734	732.0	1717.0	213.0	1877.4

Note: * Casing: including sheep and goat casing mainly for export
** Lambskin: including sheep lambskin, goat kidskin, Huyan: kidskin, etc.

Altai fat-rumped

Laoshan milk goat

6.0 THE IMPORTANT AND SIGNIFICANT MEASURES TO BE TAKEN FOR DEVELOPING SHEEP AND GOAT RAISING INDUSTRIES IN CHINA

6.1 Regulating Production Relations at the Right Moment

In the middle of the early fifties, the China Continent had carried out a reform system of 'I,and to the Tiller' as well as setting up an institution 'Rural Cooperative Society'. These had been enormously effective bringing both farmers' and herdsmen's activities into play to a great extent so as to liberate the productive powers in agricultural production. The total head of sheep a d goat had been increased sharply from 42.35 million in 1949 to 81.40 million in 1954 with a net gain doubling within only five years. During the same time period, the amount of mutton sheep purchased by the State had been increased by more than 100%, and that of Cashmere wool had been increased nearly twofold. By the end of the fifties, the democratic reform had been further perfected in pastoral areas, thus creating a good condition for the improvement work of the sheep raising industry. From the later seventies to the early eighties, when the institution of 'People's Commune' had been negated, then the farmer and herdmen's households jointly contracted with specialized enterprises were responsible for further sound development in the sheep and goat raising affairs. Up to the end of 1989, the specialized sheep or goat raising households arrive at a new record high of 290,000 in total, this is 26.32% of the total amount of commodity wool then purchased by the State, 113.6 thousand ton in all in the whole China Continent where the total head of sheep and goat raised in the same time period were 19,517. About 9.2% of these two kinds of livestock raised altogether. At the same time, the total number of mutton sheep and goat supplied in commodity circulation was about five million head or more, equivalent to approximately 63.6% of the total amount purchased.

6.2 Set-up of All Levels of State-owned Sheep & Goat Ranches

For forty years passed by, China has set up a large number of state-owned, provincial, prefectural and county managed sheep and goat ranches which are subordinated to the Central Government, laying sound foundations for the promotion of fine breed multiplication. At the end of 1989, in all the China Continent, there were 153 stock sheep and goat breeds totalling 1.146 million head, subdividing into more than one million of sheep and 145 thousand of goats. Among fine sheep breeds, there were 587.7 thousand fine wool sheep plus 186.3 thousand semi-fine wool animals; in addition, from among, in goat breeds there were 31.3 thousand head of milk and 70 thousand head of Cashmere wool goats. Taking for example 1989, all these state-owned ranches were able to provide 35.3 thousand head of fine stock sheep and goat breeds.

6.3 Vigorously Promote the Base Construction of various County Sheep Raising Enterprises

Of the late eighties, in aiming at promoting sheep and goat raising industrial and commodity circulation affairs, our country has set-up lots of selected base counties for the running and management of projects, and has invested some 42.25 million yuan (RMB) to set up a total of 217 selected base counties all over the country From among 75 were for raising fine wool sheep of which the investment capital has been offered to a total of 14.79 million yuan (RMB); for raising semi-fine wool sheep, we have selected 16 such base counties with an investment of 4.85 yuan (RMB); for bringing up Cashmere goat enterprises, 16 base counties have been selected thus offering an investment of 5.50 million yuan (RMB); the mutton sheep ra.ising base counties selected were only 4 and 0.8 million yuan (RMB) was invested; for milk goat raising the base counties were 18 and an investment of 1.31 million yuan (RMB) and finally, 67 commodity base counties have been chosen with an investment capital of 10 million yuan (RMB) offered for raising pelt goats. The remaining 11 base counties were chosen and of course 5 million (RMB) investment capital was used comprehensively.

6.4 Energeticadly Developing Scientific Research Work

For the least forty years China has achieved tremendous successes in sheep and goat raising industries. The Northwest Chinese Institute of Animal and Veterinary Sciences, Chinese Academy of Agricultural Sciences (i.e., the present Lanzhou Institute of Animal Science, Lanzhou Institute of Veterinary Science and Institute of Traditional chinese Veterinary Science, were set up under the same CAAS). The first Institute, CAAS was established in 1979 simultaneously with the other two, then under sponsorship, the department of sheep and goat sciences was set up at the same time. Many Soviet Russian experts were invited for promoting the breed improvement work, thus conducting a lot of scientific researches in this way for mutual cooperation. From then on, after the sixties, those provinces of autonomous regions in Northwest China has also established respective institutes of the same special line one after another till the mid-eighties. Xinjiang, Qianghai and Neimenggu have further established academies of animal science at high level. Particularly in Xinjiang, the Institute of Wool Science has been set up too, where the research work was intimately connected solely with sheep improvement and by now they have bred successfully 11 fine wool and semi-fine wool sheep breeds in all. In addition, 5 milk goat and 4 fur sheep breeds have further been selected out together with 3 Cashmere goat local breeds. They carry out comprehensive studies and have developed artificial insemination techniques for sheep and goat multiplication and more recently an in vitro fertilization experiment for goats has been launched successfully

A book by the topic of ‘Fauna of Chinese Sheep and Goat Breeds’ was published for the animal scientific expert line in this country; standardization articles on legal basis for the benefit of sheep and goat breeds have been formulated and promulgated and those for raising wool sheep and lambskin were also published simultaneously. In the middle of the eighties, in Xinjiang, Gansu, Neimenggu and many other provinces or regions, many scientists and herdsmen of sheep and goat associations have been cooperating with Australian experts in the sphere of science and technology and meanwhile introducing Australian Merino and Polwarth breeds from abroad to launch the work of breeding the Chinese Merino sheep breed by crossbreeding with local sheep breeds in such sites as in Northeast, Northwest and North China etc. To our advantage this research work and the collaboration with foreign experts has meant that in many local fine woolsheep breeds wool density, stáple length, weight of clean fleece and those related qualities of wool as well as wool output in individual private enterprises, were and are all improved to a higher degree.

Moreover, in China, the Society of Chinese Semi Wool Sheep Breeding Science has been recently founded in association with the Chinese Society of Sheep and Goat Science simultaneously, and those societies have in collaboration also started the publication of a special magazine by the name of ‘Chinese Sheep and Goat Science’.

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LE MOUTON BRETON

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RÉSUMÉ

Le mouton d'Ouessant est bien connu, en raison notamment de sa petite taille. Son nom est d'apparition récente (moins de 50 ans) : auparavant, on connaissait le "Mouton breton", qui comprenait trois variétés et de nombreux types intermédiaires. Le plus commun était le "Mouton des Landes de Bretagne", qui semble avoir présenté des similitudes avec les moutons autochtones ayant peuplé toute la moitié nord de la France. La "Race de deux" doit son nom à sa prolificité, obtenue par croisement du Mouton des Landes de Bretagne avec la Flamande à la fin du l8ème siècle. Les plus petits animaux ont été regroupés beaucoup plus tard sous l'appellation "Ouessant". Contrairement à l'opinion courante, le "Mouton des Landes de Bretagne" et la "Race de deux" n'ont pas disparu mais subsistent avec des effectifs très faibles. Les principales caractéristiques des trois variétés sont sommairement présentées et leur intérêt, souligné.

SUMMARY

The sheep of Ouessant are well-known for their small size. The name is recent (less than 50 years); previously these sheep were known as the "Mouton breton" (sheep of Britanny) that had three distinct varieties and several intermediate types. The most common was known as the "Mouton des Landes de Bretagne" and it seems that this variety had similar characteristics with many of the various sheep types that populated northern France. The "Race de deux" (the breed of twins) whose name refers to the breed's prolificacy, is the result of the crossing in the l8th century of the "Mouton des Landes de Bretagne" and the breed of Flanders. The breed's smallest animals were little by little assimilated to the breed of Ouessant. Contrary to general belief, the "Mouton des Landes de Bretagne" and the "Race de deux" still exist as separate entities in very small numbers. The main characteristics of these three populations are presented and discussed.

1.0 INTRODUCTION

Régulièrement mentionnée dans les anciens traités de Zootechnie, la race ovine bretonne peuplait autrefois le Finistère, les Côtes d'Armor, le Morbihan, l'Ille et Villaine et une partie de la Manche et de la Loire-Atlantique. Elle n'a jamais fa.it, dans le passé, l'objet du fonctionnement d'un livre généalogiqûe. Elle est considérée comme disparue, sauf pour sa variété d'Ouessant, qui illustre bien ce qu'étaient autrefois les plus petits moutons de Bretagne.

Comme toute race traditionnelle d'un peuplement géographique étendu, la Bretonne était sans doute plus polymorphe que ne le laisse supposer le format de l'Ouessantin. La découverte de deux populations aux effectifs très réduits, l'une en Brière, l'autre à Belle-Ile (MAI.HER et DENIS,1986 ; DENIS et MALHER,1988), dont on ne voit pas à quoi d'autre on pourrait les apparenter qu'à la race Bretonne, le confirme.

Dans cette étude, nous situerons d'abord, dans ses grandes lignes, ce que pouvait être l'ancien peuplement ovin de la moitié nord de la France, puis nous rapporterons quelques éléments historiques relatifs à l'ancienne race bretonne. Nous présenterons enfin une courte monographie de ce que nous croyons être les trois variétés de cette dernière.

2.0 L'ANCIEN PEUPLEMENT OVIN DE LA MOITIÉ NORD DE LA FRANCE

La parenté et les filiations qui existent entre les diverses races ovines françaises ne sont pas faciles à établir. Contrairement aux bovins (DENIS,1983), peu d'auteurs se sont risqués à émettre des hypothèses, ce qui ajoute à l'intérêt du remarquable travail de SANSON (1886), repris fidèlement par DIFFLOTH (1923). On trouve également des éléments intéressants chez MAGNE (1857).

Il semblerait qu'antérieurement au développement des Mérinos, la population ovine de la moitié nord de la France ait procédé de deux origines différentes :

- d'abord une pôpulation autochtone, que SANSON baptise "race du Bassin de la Loire", ventilée en une multitude de variétés (Berrichonne, Solognote, Comtoise, Ardennaise, Percheronne, Bretonne), qui se serait également répandue à l'étranger (Uariétés Suisse et du Pays de Galles). Compte tenu de l'importance de l'aire de répartition géographique, il n'est pas étonnant que la taille (0,40 m à 0,70 m), la qualité de la toison et la coloration de la robe aient varié, d'une région à l'autre et au sein de la même région. Les variétés les plus primitives paraissent être celles de Bretagne d'une part, du nord est et de l'est de la France d'autre part ;
- ensuite, secondairement, une migration d'animaux connus le plus souvent sous le nom de Flamands ou Flandrins, dont il est bien diffcile de dire si leur origine est batave (apparentés à l'ancienne race de Texel) ou danoise. Il est probable qu'il y ait eu une différenciation autochtone ancienne de ce groupe dans le nord de la France, puis une migration, jointe à l'introduction d'animaux hollandais, le long du littoral de la Manche. Sa pénétration dans l'ancienne province du Poitou, lors de l'assèchement des marais vendéens par les Hollandais, est par ailleurs couramment admise. Les anciennes variétés Flamande, Artésienne, Picarde, Boulonnaise, Cauchoise et Poitevine appartiennent à ce groupe. Les animaux sont de grande taille, de conformation discutable, parfois peu aptes à l'engraissement, toujours prolifiques (deux agneaux et plus par brebis).

Le développement du Mérinos, puis les croisements avec les races anglaises devaient considérablement bouleverser ce paysage ethnique et enclencher le processus d'évolution ayant conduit aux races actuelles.

3.0 L'ANCIENNE POPULATION OVINE DE BRETAGNE

Lexistence d'une population ovine originale, propre à la Bretagne, est régulièrement mentionnée dans les ouvrages anciens.

MAGNE (1857) signale que les troupeaux sont très négligés et ont peu de valeur mais “fournissent cependant le seul moyen de retirer quelque produit des landes encore si étendues dans toute la province”. Il distingue deux sortes de moutons : les uns sont “petits, à tête fine, sans cornes ou avec de grosses cornes formant des spires allongées”, à laine grossière (“dans beaucoup de béliers, le cou, le garrot et les cuisses portent une laine comparable au poil le plus grossier des chèvres”) ; les autres, “plus forts de taille... se rencontre... plus dans les contrées fertiles des bords de mer que dans les localités où se trouvent surtout les premiers”.

SANSON (1886) mentionne que les landes de Bretagne “ont nourri de temps immémorial une population ovine misérable, de très petite taille (0,4 à 0,5 m)... qui ressemble à s’y méprendre à celles de la Franche-Comté et de la Suisse... Elle n’a attiré l’attention d’aucun auteur. Sa valeur générale est en effet nulle”. II mentionne que la toison, de piètre qualité, est noire, brune ou grise. Notons que, dans les “Caractères zootechniques généraux” de sa “Race du Bassin de la Loire”, il signale “tête tantôt entièrement blanche, tantôt parsemée de petites taches brunes ou rousses”.

DIFFLOTH (1923), parlant pratiquement de la variété bretonne au passé, nuance un peu les appréciations fort péjoratives de SANSON, parle d’une toison “blanche, brune ou noire” et, surtout, ajoute : “Les brebis bretonnes donnent rarement deux agneaux ; ces gestations gémellaires se rencontrent seulement parmi la variété ovine des environs de Vannes, dénommée pour ce motif Race de deux”.

C’est surtout la lecture de HEUZE (1843) et de KUNTZ (1937) qui laisse supposer l’existence de trois variétés dans l’ancienne race bretonne :

- le “mouton des Landes”, le plus répandu et sans doute le plus variable morphologiquement en fonetion des conditions d’élevage, qui ne subsistait plus en 1929 que dans les régions les plus pauvres. I1 était petit, mal conformé, léger (30 à 35 kg, parfois moins) à toison grossière ;
- la “Race de deux”, ainsi dénommée parce que les brebis donnaient couramment plusieurs agneaux, propre au Morbihan est, de plus grande taille. HEUZE (1843) la fait dériver de croisements avec des moutons des Flandres introduits en 1760. KUNTZ (1937)
- 74estime qu’en 1929 il existe encore des représentants mais que le croisement avec diverses races en a beaucoup réduit le nombre.

On trouve encore mention de la race bretonne dans l’ouvrage de GARCIN (vers 1940) : “Mouton de petite taille. Toison de couleur blanche ou marron. Exploitée en petits troupeaux. Race très rustique en raison de la nature du sol et du climat”.

Il semble que ce soient PORTAL et QUITTET {1950) qui aient remplacé le qualificatif de “Race bretonne” par celui de “Race d’Ouessant”, laissant supposer qu’il n’y avait plus de population ovine autochtone sur le continent. Le mouton d’Ouessant fut alors considéré comme le seul témoin survivant de l’ancienne race du continent.

4.0 LES TROIS VARIÉTÉS DE LA RACE BRETONNE

Les trois variétés de la race bretonne paraissent assez bien individualisées aujourd’hui, pour la simple raison que, deux d’entre elles ne subsistant plus qu’à l’état de

“reliques”, la probabilité de retrouver des types intermédiaires est nulle. Ces types intermédiaires étaient pourtant, fort probablement, nombreux autrefois, une variation continue s’observant alors entre les plus petits moutons et les plus grands : les limites entres les variétés étaient fatalement des plus arbitraires.

4.1 Le mouton d'Ouessant

Le qualificatif s'appliquait aux animaux entretenus sur cette île, noirs et particulièrement petits au début du siècle, mais ayant subi une retrempe avec des moutons des Landes de Bretagne blancs, vers les années 1904-1910. La race a fini par disparaître complètement de l'île à la suite de croisements divers, ne subsistant plus alors que chez quelques amateurs du continent. Ces derniers ont pu se grouper, redéfinir un standard et promouvoir de nouveau la race.

Les animaux sont de petit format : les mâles ne doivent pas dépasser 49 cm, les femelles 46. Quant au poids, selon ABBE (1978), il doit être entre 11 et 20 kg. Ces caractéristiques font de l'Ouessant l'un des plus petits moutons au monde.

La tête est fine, au profil bien droit, les oreilles courtes et petites. Les mâles sont armés. Le développement musculaire est médiocre. La queue est assez courte. La toison, qui garnit habituellement le front et une partie des joues, demeure hétérogène d'un animal à· l'autre mais les types les plus grossiers sont éliminés.

La couleur la plus fréquemment rencontrée est le noir, le blanc paraissant toutefois plus recherché maintenant que dans le passé. Les sujets qualifiés de "blancs" possèdent parfois des taches rousses sur la tête et les membres.

Le créneau principalement exploité est celui d'un mouton familier "entretenu en petites unités, tondeur de pelouses mais susceptible de fournir une viande appréciée pour l'auto-consommation". En quelques années, ses effectifs ont presque triplé, dépassant maintenant les 2 000 brebis. La race est principalement répandue dans l'Ouest (surtout un Bretagne-Vendée) mais également éparpillée un peu partout en France et présente à l'étranger (Pays-Bas notamment). Son avenir parâlt bien assuré.

4.2 Le mouton des Landes de Bretagne

Le mouton des Landes de Bretagne a été retrouvé en Brière (région de SaintNazaire) : tous les efforts faits par diverses personnes pour le découvrir ailleurs (notamment dans les monts dÂrrée) se sont soldés par un échec.

Il ne subsistait que moins de 100 têtes en 1985, chez trois particuliers qui l'entretenaient parce que c'était "le mouton du pays" et pour l'auto-consommation. Des risques sérieux de croisement planaient alors. Depuis cette date, une implantation a été réalisée dans une réserve ornithologique de la SEPNB (Société d'Etude et de Protection de la Nature en Bretagne) dans le Cap Sizun et une autre en Charente Maritime. Il existe par ailleurs plusieurs autres projets. Les effectifs totaux n'excèdent pas 150 têtes actuellement.

Les animaux ressemblent incontestablement au mouton d'Ouessant, mais en plus grand et plus lourd : 57 cm et 32 kg pour les femelles, 60 cm et 45 kg pour les mâles (moyennes des mesures réalisées sur un échantillon). Le profil céphalique est rectiligne, la tête étant allongée et fne. Les mâles ont toutefois le chanfrein légèrement busqué et sont le plus souvent désarmés. La conformation bouchère est médiocre. Si l'oreille paraît plutôt courte et de longueur très peu variable, la queue varie de manière importante dans son développement.

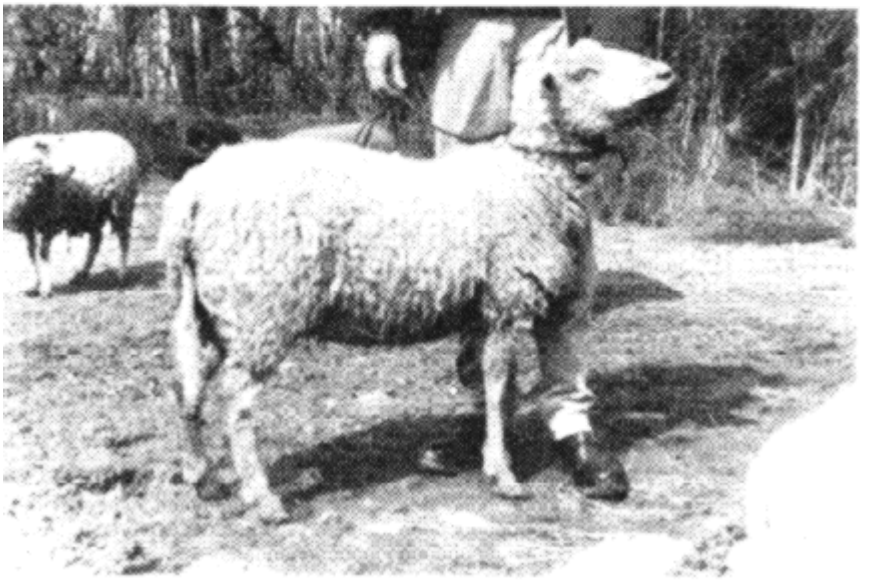
La toison est hétérogène d'un animal à l'autre, le plus souvent grossière. Elle n'est pas envahissante (tête totalement dégarnie).

Les robes que nous avons observées sont :

- le blanc, moucheté de marron aux extrémités (tête et membres). C'est le patron coloré qui, de loin, est le plus répandu ;
- le blanc, très rarement pur : on trouve souvent, à l'examen attentif des animaux, un peu de couleur aux extrémités des membres ou aux paupières ;
- le noir, paraissant légèrement grisonner sur la cuisse, rare actuellement, sans doute très fréquent autrefois.

Le mouton des Landes de Bretagne n'est pas sans évoquer le Welsh Mountain et le Black Welsh Mountain, avec toutefois un moindre développement et une moins bonne conformation.

Race d'Ouessant



Race de deux

4.3 La "Race de *deux*"

Retrouvée à Belle-Ile en mer, se maintenant dans quelques petits troupeaux, ses effectifs étaient alors inférieurs à 50 têtes. Des implantations ont été réalisées pour le moment en Vendée, à l'Ecomusée de La Barre de Monts et au Puy du Forc (il est probable que ce mouton sud-morbihanais est très proche de l'ancienne population ovine vendéenne, antérieure au Southdown). Un noyau important est actuellement, pour étude, présent à l'Ecole Vétérinaire de Nantes mais, s'étant réduits à Belle-Ile ces dernières années, les effectifs totaux demeurent inférieurs à 100 têtes.

La hauteur et le poids sont ceux d'un mouton de format moyen (65 cm au garrot chez les femelles) mais la conformation bouchère reste médiocre. Une ressemblance avec le Briéron et, par voie de conséquences, avec l'Ouessantin, est nette chez certains animaux (nous possédons, à l'ENV Nantes, une brebis noire qui est typiquement une Ouessantine considérablement agrandie) moins chez d'autres. Le profil céphalique est en effet, parfois, très légèrement convexe, même chez les femelles. La queue est longue, normalement enlainée, sauf chez certains animaux où elle se rapproche, par un raccourcissement des fibres, de ce qu'on appelle la "queue de rat". Ce caractère provient, très vraisemblablement, des anciens croisements réalisés avec la race Flandrine. La robe est absolument identique à celle du Briéron, avec les trois mêmes possibilités.

La "Race de deux", dans ce qui subsiste à Belle-Ile est incontestablement prolifique (215 % en moyenne, chiffre â considérer comme remarquable en raison des médiocres conditions d'élevage : pâturages non améliorés, conduite au piquet, sécheresse estivale) et en comparaison des résultats (160 à 170%) observés chez les éleveurs "rationnels" utilisant des races améliorées prolidques (type Vendéen ou Rouge de l'Ouest). Le maintien d'une prolificité importante est par ailleurs étonnant si l'on prend en compte le choix des béliers: le plus souvent, l'éleveur fait lutter à l'automne un agneau mâle né en janvier février et le vend en boucherie aussitôt après. Une telle pratique suppose une certaine consanguinité.

La structure familiale des élevages est tout à fait propice à une sélection sur la prolificité, comme ee fut le eas par exemple pour les races Romanov (Russie) et D'Man (Maroc). L'hypothèse de l'existence d'un gène majeur n'est toutefois pas à exclure, comptetenu de 1'observation des carrières et de généalogies caractérisées par la survenue de portées de triplés particulièrement régulières. Une étude est en cours à l'ENV Nantes.

5.0 CONCLUSION

Les trois variétés de l'ancienne race ovine bretonne paraissent bien subsister de nos jours. Leur intérêt dépasse le cadre de la Bretagne :

- le mouton d'Ouessant est l'un des plus petits moutons vivant actuellement dans le monde ;
- si l'on considère les conceptions de SANSON relatives à l'ancien peuplement ovin de toute la moitié nord de la France (antérieurement au l8ème siècle), il se pourrait que le mouton des Landes de Bretagne soit l'archétype des ovins de toute cette partie du territoire ;
- la "Race de deux" illustre peut être l'état de la population ovine du littoral de la Manche et de certaines contrées du Maine et du Poitou, après l'introduction de sang Flamand (qui a apporté format et prolificité) mais avant les croisements avec les races britanniques.

Si l'avenir du mouton d'Ouessant est assuré grâce à un groupement d'éleveurs dynamiques, il n'en est pas de même des deux autres variétés. L'intérêt témoigné par des éco-fermes, réserves naturelles et parcs régionaux est certes de nature à générer l'optimisme, surtout lorsque la race échappe à toute possibilité de rentabilité (Mouton des Landes) mais il n'empêche que des mesures conservatoires officielles seraient Ies bienvenues.

6.0 BIBLIOGRAPHIE

Abbe P. - Conservation de la race ovine d Ouessant ; Ethnozootechnie,1978, n 22, 21-22. Denis (B.). - Parenté et filiation des races bovines françaises vues par les anciens auteurs ;
Ethnozootechnie,1983, n 32,140-158.

Denis (B.) et Malher (X.). - Les vieilles races ovines de l'Ouest de la France : aspects historiques, situation actuelle ; Bulletin de la Société des Sciences Naturelles de),1 Ouest de la France, Nouvelle série,1988,10 4 177-197.

Diffloth (P). - Zootechnie : moutons ; Encyclopédie agricole, J.B. Baillière et fils, Paris, 4ème édition,1923.

Garcin (E.). - Moutons, brebis, agneaux ; Rustica, Paris, vers 1940.

Heuzé (G.). - Des bêtes à laine dans la région de l'Ouest ; Agriculture de la France, revue trimestrielle, Tome premier,1840, 411-426.

Kuntz (J.). - Monographie agricole du département du Morbihan ; Statistique agricole de la France, Annexe à l'enquête de 1929. Publié par le Ministère de l'Agriculture, A. Chaumeron Imp., Vannes,1937.

Magne (J.M.). - Étude de nos races d'animaux domestiques et des moyens de les améliorer ; Labé, Paris,1857.

Malher (X.) et Denis (B.). - Deux variétés probables de l'ancienne race ovine bretonne, en Brière et à Belle-Île ; Colloque "Populations traditionnelles et premières races fixées d'Ovicaprinés dans le Bassin méditerranéen", Gontard, Manosque,1986, Coll. Les colloques de l'INRA n^{o} 47.

Portal (M.) et Quittet (E.). - Les races ovines França.ises ; Fédération nationale ovine, Paris, 1950.

Sanson (A.). - Traité de Zootechnie. 5) Ovidés ariétins et caprins, et suidés porcins ; Librairie agricole de la Ma.ison Rustique, Paris, 3ème édition,1886.

THE SKOPELOS GOAT BREED OF GREECE

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SUMMARY

In the Northern Sporades islands of the Aegean Sea a goat population isolate exists with an exceptional milk yield potential (225 kg marketed milk from average lactations of 174 days). The prolificacy is 135% and the average adult live weight of the females 56 kg.

While the actual purebred “Skopelos” population is estimated at only 8000 goats, the development of recording and a breed selection programme, combined with a necessary conservation policy, should help preserve the breed and assure its development possibilities.

RESUME

Dans les îles Sporades du Nord, en Mer Égée, il existe une race de chèvres qui forme un isolat et, qui présente un rendement laitier potentiel exceptionnel (225 kg de lait commercia isé pour une lactation moyenne de 174 jours). I.a prolificité est de 135% et le poids vif des femelles atteint 56 kg.

Bien qu’en fait la population de “Skopelos” de race pure soit estimè à 8000 chèvres le développement du contrôle laitier et un programme de sélection de la race, alliés à une politique nécessaire de protection, devrait aider à préserver la race et à assurer ses possibilités de développement.

1.0 INTRODUCTION

With not far from 6,000,000 animals Greece is the first goat producing country in the EC; this population is equal to the total number of goats raised in the other 11 EC member countries. This animal production is of major socio-economic importance to the country's rural sector

The local goat population, in conjunction with the sheep, play a major role in the optimal use of the extensive and marginal grazelands and bushlands of the mostly hilly and mountainous environment. They contribute, since the dawn of times, decisively to the complicated relationship between agricultural production, consumption, and rural development (BOYAZOGLU and ZERVAS,1977). In a nutshell they ensure the existence of rural activity, safeguarding the sustainability of many local home industries which are mainly oriented towards the production of easily marketable high added value regional quality products (BOYAZOGLU and FLAMANT,1990).

While the productivity of the exotic breeds kept under real intensive conditions (e.g. Saanen and Alpine) has been studied since their introduction in Greece, little was known until very recently about the systems of production and the genetic potential and Husbandry characteristics of the various local populations. The average production of the local goats raised under totally extensive management conditions is estimated at about 110 kg milked yield oer lactation and the prolificacy, measured by the number of kids raised per goat, is just over 100%. The variability between and within populations is great.

2.0 ORIGINS AND PRESENT SITUATION

In the group of Aegean islands called the Northern Sporades, east of the Magnisia continental region of Greece, the presence of higly fertile and milk producing small ruminant populations has been known since the dawn of times (ZERVAS and BOYAZOGLU,1977). Next to the "Skopelos" and "Kymi" types of sheep, a goat population called the "Skopelos breed" (deriving its name from the island of Skopelos), has been known to have excellent productivity potential.

The husbandry conditions in the region do not differ signihcantly from the average in the rest of the country: extensive hilly and mountain grazings with some insignificant additional by-products consumption and very little complementary nutrition (PAPPAS, 1991). The total number of goats of this breed in its area of origin is estimated at about 8000.

3.0 THE BREED CHARACTERISTICS

The animals are small bodied (67.9 cm height at withers), but exceptionally heavy (55.9 kg for the adult females). Of good character, even when kept under extensive flock conditions, they browse easily whatever feed is available and adapt well to environmental and husbandry changes. The animals transferred to the continent (Magnisia province), many generations ago, did well in their new environment and flock husbandry management situations (C.A.G.I.K.,1991).

The breed is characterized by sharp and bright colours very pleasant to the eye: red brownish or black and fawn, with or without white spots and smooth glossy hair coat. Both males and females are horned.

4.0 MILK YIELD AND PROLIFICACY

Milk recording (marketed yield only) was introduced 10 years ago: from about 100 goats recorded in 1982 in a couple of flocks on the island of Skopelos, to nearly 2000 in 24 flocks distributed in three localities in 1991 (Skopelos, Skiathos and Alonisos). By 1995 it is hoped to record some 25000 goats in at least 25 flocks; these numbers should represent by them a quarter of the total female population in the northern Sporades. This is the only way to develop a well-managed breed selection programme within the area of the breed's traditional presence.

The results collected in 14 flocks, recorded since 1987 showed a 41.2% growth in the average number of goats controlled per flock:

Year	Milked yield (litres)	Number of kids weaned per gost	Average number of goats recorded per flock
1987	218	1.23	55
1988	205	1.30	59
1989	219	1.35	71
1990	260	1.33	80
1991	258	1.40	79

While the average marketed milk production of the recorded flocks (Table 2) is 227 kg in 174 day lactation length, individual goats gave yelds of 700 kg and more, which shows the breed's variability and selection possibilities. The average number of kids weaned was 1.35 per recorded goat in 1991. The average daily yield varied from 0.8 kg in one of the larger newly recorded flocks to 2.4 kg in a small well-managed family unit.

In 1987, the fat content was measured in five recorded flocks (260 goats). An average of 6.08% was calculated with the average flock lactation measurements being 4.08%, 4.15%, 5.78%, 6.08%, 6.0% and 6.77%. The measurements were double-checked by one of the authors to assure their reliability

5.0 EXTENSION OF THE BREED

In recent years, a number of Skopelos goats were transferred to the nearby Magnisia region to create a purebred nucleus on the continent; there are today 350 to 400 breeding females, all in milk recording.

Several cases of crossbreeding and upgrading the local goat populations using Skopelos males, exist in Central Greece. The best known is the upgrading of 500 goats in the Trikala district, started in 1990; the project will be extended to another 500 females in 1992. The goal is to breed this population to purebred Skopelos males for a number of generations. Globa.lly in 1991,170 selected Skopelos males were transferred to local breed flocks in Central Greece, for crossbreeding and eventual upgrading purposes. In 1992, the plan is to transfer over 200 young Skopelos males to Central Greece for this purpose, and continue the implantation of the breed in Magnisia.

6.0 CONCLUSION

The high average milk yield and good prolificacy of this island isolate population, combined with an exceptionally heavy live-weight and a compact body, could be of great value in the development of trully double purpose (milk and meat) goat populations in the mediterranean basin.

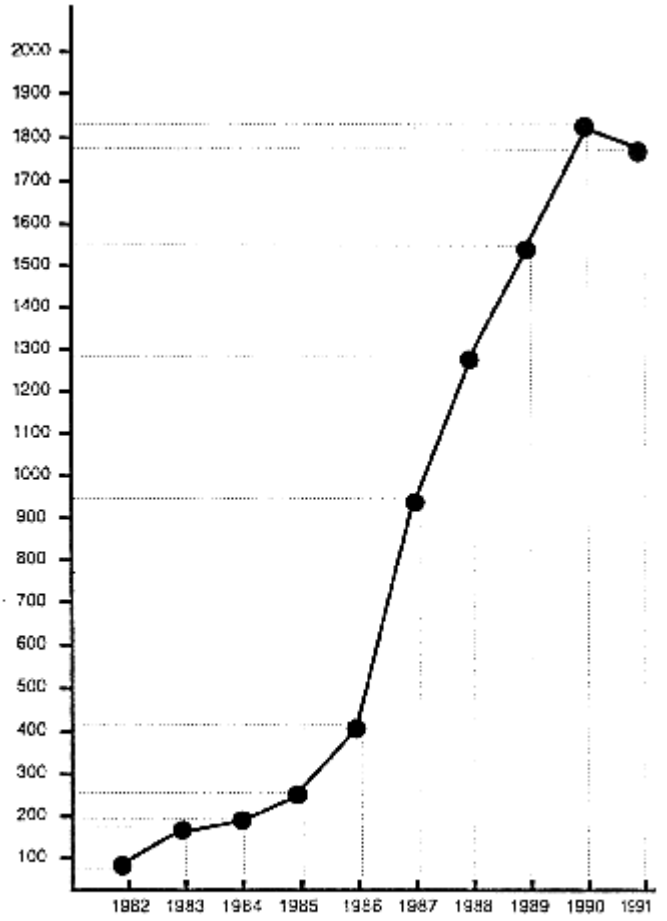
The breed's evident adaptability under changing management, feeding and new environmental conditions (both in an island and continental context), is whileworthy

The milk and prolificacy recording of the breed since 1982, the application of a selection programme linked to oestrus synchronization and a form of contemporary comparison progeny testing, the at-random collection of milk quality data and an attempt to ameliorate the nutritional conditions of the breed in the zone of its origin, must be continued and generalised. To develop a successful breed selection scheme, the adult female populations must grow to at least 10000 animals of which 25% should be fully recorded.

Skopelos ram

Skopelos flock

Skopelos goats



Milk-recorded goats in the Northern Sporades

TABLE 1: Prolificacy (number of kids born per goat) and total milked yield (litres); goats controlled in three of the Northern Sporades islands (1991)

Island	Flock No	n	Prolificacy	Milked yield		
				Days	Litres	Average daily yield (litres)
Skopelos	1	17	1.42	186	449	2.4
	2	119	1.67	185	386	2.1
	3	28	2.11	179	370	2.1
	4	111	1.55	193	363	1.9
	5	78	1.38	213	300	1.4
	6	44	1.61	187	295	1.6
	7	30	1.27	150	275	1.8
	8	39	1.36	193	272	1.4
	9	83	1.52	178	260	1.5
	10	47	1.12	192	249	1.3
	11	35	1.23	200	243	1.2
	12	75	1.32	174	231	1.3
	13	52	1.67	205	228	1.1
	14	74	1.10	207	216	1.1
	15	160	1.35	197	199	1.0
	16	33	1.31	178	197	1.1
	17	67	1.13	207	188	0.9
	18	57	1.08	195	180	0.9
	19	14	1.00	140	173	1.3
Skiathos	1	31	1.45	184	268	1.5
Alonisos	1	65	1.60	180	225	1.3
	2	211	1.25	161	185	1.2
	3	124	1.06	134	106	0.8
	4	177	1.13	109	101	0.9
All flocks	24	1771	1.35	174	227	1.3

7.0 REFERENCES

Boyazoglu, J.G. and Flamant, J.C.I.,1990. Mediterranean Systems of Animal Production. In J. Galaty and D.W Johnson, The World of Pastoralism, Guilford Press, N. York, 353-393.

Boyazoglu, J.G. and Zervas, N.,1977. La chevre en pays Mediterraneens: Une grande ressource de la Grece. LElevage, No 67, 66-75.

CENTRE FOR ANIMAL GENETIC IMPROVEMENT OF KARDITSA (C.A.G.I.K.),1991. MILK RECORDING RESULTS OF THE SKOPELOS GOAT BREED. NO 10,15 PPP.

Pappas, B.G.,1991. Ameliorating the characteristics of the Skopelos goats (in Greek). In C.A.G.I.K., The main means of upgrading the small ruminant population of Central Greece. Special Brochure, 35 pp.

Zervas, N. and Boyazoglu, J.G.,1977. Lelevage en Grece. Ethnozootechnie, No 18, 73 pp.

EL CERDO ZUNGO

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RESUMEN

El cerdo Zungo, constituye una fuente importante de ingreso para muchos campesinos colombianos a nivel de pequeás explotaciones de subsistencia.

Este cerdo es un animal de piel negra, pelo escaso, anca caída y poco jamón. Des cerdo Zungo existen tres tipos: el mediano, el choncho y el chuzo.

La monta de las hembras Zungo se debe realizar aproximadamente a los siete meses de edad, con un peso de 70-75 kg. y los verracos deben entrar en servicio después de los ocho meses de edad, con un peso aproximado de 80 kg.

Con un manejo mejorado los cerdos híbridos producto del cruce de cerdos Zungo puro con hembras Duroc puro, se comportan de forma intermedia en comparaión a los lechones puros Zungo y Duroc desde el nacimiento hasta el destete.

Desde el destete (56 días) hasta los 90 kg de peso promedio, los cerdos Zungo presentaron un aumento diario de peso y una conversión alimenticia inferiores a los Duroc que no difirieron significativamente de los cruces Zungo x Duroc y Duroc x Zungo.

SUMMARY

The Zungo pig is an important source of income for many Colombian farmers who practice small scale subsistence agriculture.

This pig is an animal with black colored skin, scarse bristles, slopping hind quarter and small hind legs. There are three types of Zungo pigs: “mediano”, “choncho” and “chuzo”.

Mating of Zungo females must take place approximately when seven months old, with a wight of 70-75 kg. and boars should be used at eight months, at an approximate weight of 80 kg.

With improved management, crossbred pigs of purebred Zungo males with purebred Duroc females have an intermediate behaviour compared with purline Zungo and Duroc piglets from birth to weaning.

From weaning (56 days) to 90 kg average weight, Zungo pigs have a daily weight gain and feed conversion efficency lower than Duroc but that did not significantly differ from Zungo x Duroc and Duroc x Zungo.

1.0 INTRODUCCIÓN

La Costa Norte de Colombia, área que abarca siete departamentos, posee una población porcina calculada en 677.400 animales (MINISTERIO DE AGRICULTURA, 1985), cuya explotación es en su mayor parte del tipo extensivo. EI animal que predomina en esta zona es el cerdo "criollo" denominado Zungo y cruces inespecíficos de éste con otras razas mejoradas (Duroc, Poland China, Hampshire, Landrace y Yorkshire). Se estima que cerdos Zungos o cruces de éste componen por lo menos el 80% del total de cerdos de esta región, lo cual representa el 23,8% de la población total porcina nacional.

Dentro del área mencionada, la principal zona de producción es el Valle del Río Sinú, en el Departamento de Córdoba. E1 Valle del Río Sinú tiene una altura aproximada de 20 metros sobre el nivel del mar, una temperatura promedia de 27,5 grados centígrados, una humedad relativa del 83% y una precipitación pluvial anual de 1.200 milímetros aproximadamente.

El cerdo Zungo, constituye una fuente importante de ingreso para muchos campesinos a nivel de pequeñas explotaciones de subsistencia. Debido a la falta de investigación de las cualidades potenciales de estos cerdos criollos, no se ha podido implementar un programa efectivo de fomento de la porcicultura para los campesinos y peqaeños porcicultores.

2.0 RESEÑA HISTÓRICA

A la Española (Isla de Santo Domingo) llegaron, en el segundo viaje de Cristóbal Colón en 1493, los primeros cerdos a América (PINHEIRO,1976).

Años más tarde, por exigencia de Carlos V la expedición de Rodrigo de Bastidas que partió de la Española y fundó Santa Marta en 1525, trajo 300 cerdos (PEÑA y MORA, 1977). Es muy posible que los cerdos traídos por Bastidas fueran los primeros que llegaron a Colombia. Parece que los primeros cerdos fueron introducidos en el Departamento de Córdoba alrededor de los años 1500-1550, durante la época de la conquista, y procedían de la raza española conocida como Lampiña o Pelada (CABEZA,1976).

El cerdo Zungo, presenta unas características similares a la raza Extremeña Negra Lampiña. Esta raza de tipo Ibérico, que se cría en las regiones españolas de Extremadura y Andalucía, es de color negro, escasa cantidad de pelos, hocico de longitud media, orejas amplias y caídas, buena papada, cuerpo cilíndrico, grupa algo inclinada, extremidades mas y cortas. Además, es precoz y especializada para la producción de grasa (DIAZ,1965).

3.0 DESCRIPCIÓN DE LA RAZA

3.1 Tipos y morfologia

Los autores consideran que hay tres tipos de cerdo Zungo:

- El cerdo Zungo tipo "Choncho", es un animal de cuerpo en forma redondeada o esférica y de tamaño pequeño, longitud corta, piel negra, pelo escaso, trompa corta, orejas medianas y caídas, papada desarrollada, cola mediana y delgada, patas cortas de cuartillas largas y oblicuas, que obligan al animal a utilizar la sobreuña como punto de apoyo, anca caída, poco jamón y muy graso.
- El cerdo Zungo tipo "Mediano", es un animal de cuerpo rectangular y de tama o mediano, longitud mediana, piel negra, pelo exiguo, trompa mediana, hocico semiagudo, orejas grandes, anchas y pendulosas, papada algo desarrollada, rabo escaso y delgado, patas delgadas y falanges largas, anca caída, jamón escaso y regularmente graso. Es el tipo de animal que predomina en la zona.
- EI cerdo Zungo tipo "Chuzo", es un animal de cuerpo rectangular menos profundo que el tipo mediano y de tamaño medio, longitud mediana, piel negra, pelo reducido, hocico largo, recto y en forma de chuzo, orejas medianas, caídas o semierectas, papada poco desarrollada, cola mediana y delgada, patas largas y delgadas, anca caída, jamón pequeño regularmente graso y en general es más esbelto que el tipo mediano.

Dentro de estos tipos, existe una serie de matices provenientes de cruces entre los mismos o de éstos con razas mejoradas. Una particularidad, aunque no constante, de los tres tipos de esta raza, son los panículos adiposos colgantes, localizados a cada lado de la región postero-ventral mandibular Dichos panículos son conocidos comúnmente con el nombre de "higas". Otra característica común en los machos sin castrar, a partir aproximadamente de los dos años de edad, es el endurecimiento progresivo de la piel correspondiente a la región de la espalda, formando una especie de coraza, la cual desaparece gradualmente después de la castración.

En el Centro Nacional de Investigaciones Agropecuarias Turipaná del ICA, solamente se ha estudiado el cerdo Zungo tipo mediano y los datos reportados en el presente trabajo, corresponden a este tipo de cerdo.

3.2 Reproducción

Las hembras Zungo presentan el primer celo entre los cinco y los siete meses de edad con un peso de 53,0 a 68,0 kg. Su duración es de tres días, con un intervalo de 18 a 23 días entre el primero y el segundo celo. Los autores consideran que en buenas condiciones de manejo y alimentación, la monta de las hembras Zungo se debe realizar aproximadamente a los siete meses de edad, con un peso de 70-75 kg (la cerda estaría mostrando su segundo calor) y los verracos deben entrar en servicio después de los ocho meses de edad, con un peso aproximado de 80 kg.

La duración media de la gestación es de 112,9 días. La gran mayoria de las hembras *(77,1%)* entra en celo 3 a 7 días después del destete de sus crías y el 22,9% restante lo hace entre 8 y 12 días.

4.0 CARACTERÍSTICAS ZOOTÉCNICAS

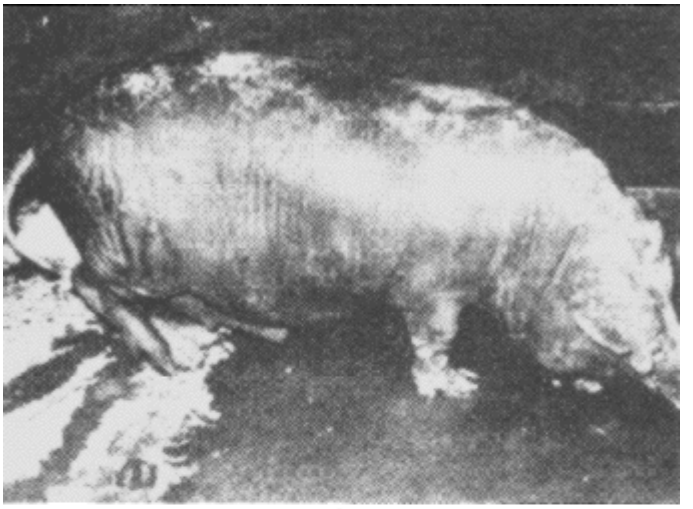
A continuacións exponen los resultados obtenidos por KLEEMANN (1977) comparando las razas Zungo y Duroc y sus cruces recíprocos desde el nacimiento hasta el sacrifcio.

4.1 Comportamiento de las cerdas Zungo, Duroc y el de su progenie pura e híbrida

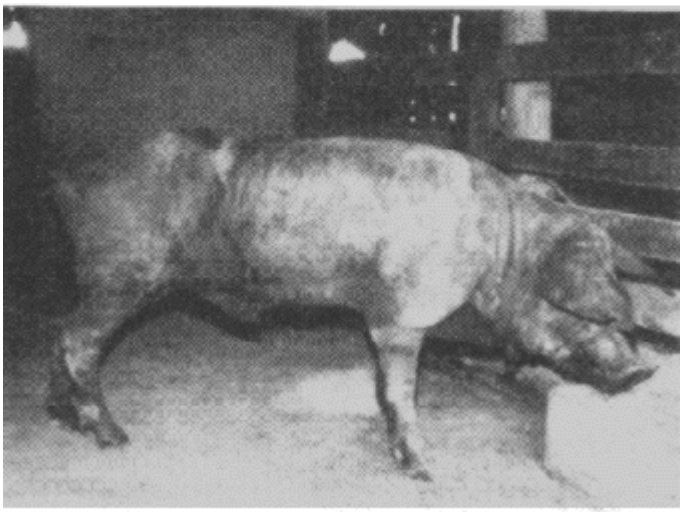
En la Tabla 1, se observa que con manejo mejorado los cerdos híbridos producto del cruce de cerdos Zungo puro con hembras Duroc puro, se comportan al nacimiento en forma intermedia en comparación a la conducta de lechones puros Zungo y Duroc, apreciándose que las camadas Duroc puro, Zungo x Duroc (ZD) y Duroc x Zungo (DZ) fueron más numerosas y más pesadas al nacimiento que las camadas Zungo puras, lo cua.l indica que la raza Duroc es superior en este aspecto a la Zungo, haciéndose notorio el efecto mejorante de la raza Duroc cuando es utilizada en cruces con la raza Zungo en las condiciones mencionadas.

Al destete se puede observar una respuesta similar, excepto en el peso al destete de los lechones híbridos, que fue superior al de los puros, destacando el del h1'brido ZD, con un peso promedio de 13,2 kg. Tanto el número de lechones como el peso promedio de la camada fueron sensiblemente superiores para las camadas Duroc puro y sus cruces, en relación con las camadas de Zungo puro.

El híbrido ZD superó consistemente al híbrido DZ en todos los parámetros estudiados hasta el destete. Esto conñrma el efecto materno positivo del "vientre Duroc" en las condiciones del ensayo.



Tipo "Choncho"



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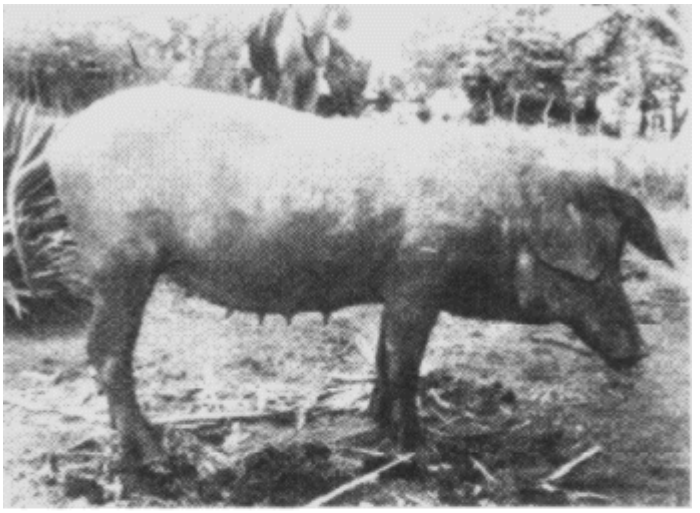

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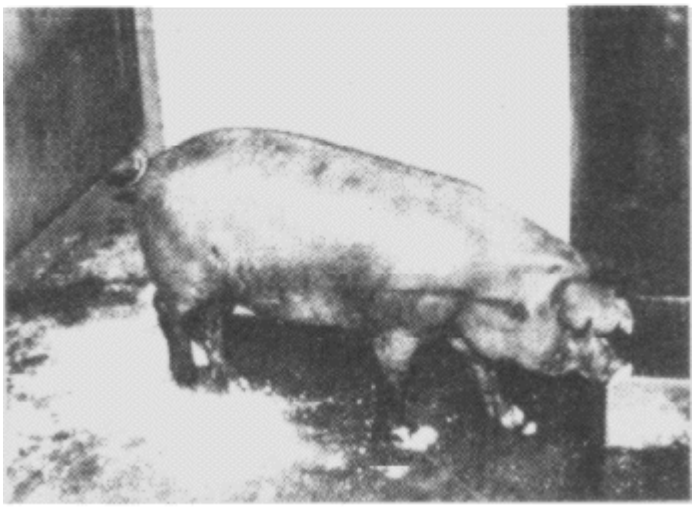

Macho castrado hibrido, Duroc x Zungo

TABLA L.
COMPORTAMIENTO DE CERDAS ZUNGO, DUROC Y EL DE SU PROGENIE PURA E HIBRIDA (KLEEMAN,1977)

Apareamientos [1]	**ZZ x ZZ**	**ZZ x DD**	**DD x ZZ**	**DD x DD**
Raza de la progenie	**ZZ**	**ZD**	**DZ**	**DD**
N° de camadas	19	8	8	8
Nacimiento				
N° lechones vivos/camada	7,8	9,1	8,3	10,4
Peso promedio del lechón, kg	0,98	1,20	1,10	1,30
Peso promedio camada, kg	8,0	10,90	8,9	13,10
Destete				
N° lechones por camada	6,4	7,1	6,4	7,8
Peso promedio lechón, kg	10,9	13,20	11,50	11,10
Peso promedio camada, kg	65,90	93,5	74,2	86,30
Mortalidad, %	17,8	21,0	21,2	27,1

[1] ZZ = Zungo puro, DD = Duroc puro. La raza del padre primero.

Respecto al porcentaje de mortalidad, se puede apreciar que los lechones híbridos se encuentran en un punto aproximadamente intermedio respecto a la de los lechones puros. Los lechones Zungo puros presentan el mejor resultado para este criterio.

Apesar de que la raza Duroc, no estaba en sus condiciones climáticas habituales sí estaba en un ambiente de manejo adecuado. Lo contrario se puede decir del Zungo. Por esta razón para sacar conclusiones más sólidas sobre la conveniencia del uso del Duroc como raza mejorante en las condiciones regionales, sería necesario repetir el ensayo con el manejo extensivo (semiconfinamiento) generalmente empleado con el cerdo Zungo en la región.

4.2 Rendimiento de cerdos Zungo, Duroc y sus cruces reciprocos

En la Tabla 2, aparecen los datos desde el destete (56 días) hasta los 90 kg de peso promedio. Los animales consumieron una dieta a base de maíz y torta de soya. Los cerdos Zungo tuvieron el menor crecimiento, alcanzaron los 90 kg de peso a los siete meses de edad y tuvieron menor consumo diario de alimento que los tipos Duroc y los cruces Zungo x Duroc y Duroc x Zungo, debido posiblemente a un menor tamaño de su aparato digestivo. Los cruzados no se diferenciaron significativamente de los Duroc en el crecimiento diario ni en el índice de conversión.

TABLA 2.
RENDIMIENTO DE CERDOS ZUNGO, DUROC Y DE SUS CRUCES RECIPROCOS DURANTE EL PERIODO DE CRECIMIENTO Y ACABADO (hasts los 90 kg de peso vivo, KLEEMAN 1977).

Apareamientos	**ZZ x ZZ**	**ZZ x DD**	**DD x ZZ**	**DD x DD**
Raza de la progenie	**ZZ**	**ZD**	**DZ**	**DD**
Días de observación	169	124	129	123,5
N° de animales	17	16	19	15
Peso inicial, kg	10,2		12,90	11,311,90
Aumento peso diario, kg	0,474	0,625	0,611	0,634
Consumo alimento diario, kg	1,90	2,20	2,30	2,20
Conversión alimenticia	4,1	3,60	3,80	3,50

En la Tabla 3, se muestran las características de la canal de cerdos Zungo, Duroc y sus cruces recíprocos, apreciados por KLEEMANN (1977). E1 autor reportó una superioridad marcada en los criterios de valor comercial de la canal, especialmente en cuanto a los cortes valiosos, en los cerdos Duroc puro con respecto a los otros tipos. E1 espesor de la grasa dorsal, como se aprecia en la Tabla 3, y el contenido de grasa intramuscular, intermuscular y de los órganos, fue mayor en los cerdos Zungo puro.

TABLA 3.
CARACTERISTICAS DE LA CANAL DE CERDOS ZUNGO, DUROC Y DE SUS CRUCES RECIPROCOS (KLEEMAN,1977).

Apareamientos	**ZZ x ZZ**	**ZZ x DD**	**DD x ZZ**	**DD x DD**
Raza de la progenie	**ZZ**	**ZD**	**DZ**	**DD**
Número de animales	17	14,5	18,5	15,5
Peso al sacrificio, kg	92,2	89,7	93,5	94,1
Rendimiento, %	83,1	83,5	82,3	82,4
Pérdida por re&igeración, %	2,2	2,5		2,2 2,5
Longitud cm	90,1	92,5	91,9	92,7
Espesor grasa dorsal, cm				
Nivel 4°vértebra lumbar	5,0	4,2	4,3	3,5
Nivel 13°vértebra torácica	4,1	3,6	3,6	3,0
Nivel 3°vértebra torácica	6,0	5,1	5,3	4,8
Promedio de las 3 medidas	5,1	4,3	4,4	3,8
Area músculo Longissimus dorsi cm^2	19,3	22,4	21,8	29,1

5.0 REFERENCIAS BIBLIOGRÁFICAS

Cabeza, M.A. (1976): Estudio comparativo de la raza nativa de cerdos Zungo con razas mejoradas. Tesis Mag. Sci. Bogotá, UN-ICA. pp. 30-125.

MINISTERIO DE AGRICULTURA (1985): Diagnóstico de la actividad porcícola en Colombia. Bogotá,100 p.

Diaz, R (1965): Ganado porcino. Barcelona, Salvat. pp.107-109.

Hernandez, G., Botero, M., Gonzalez, F. y Rubio, R. (1976): Razas criollas colombianas. Manual de Asistencia Técnica. ICA. Boletín N° 21. p. 2.

Kleemann, G. (1977): Beitrag zur Kenntnis von Leistungseigenschaften und physiologischen Parametern von Zungo- und Duroc-Schweinen und ihren Kreuzungen unter tropischen Umweltbedingungen (Kolumbien), Berlin, Institut für Tierproduktion der Technischen Universität Berlin. pp. 35-66. (D 83 N^{Z} 78).

Peña, M. y Mora, C. (1977): Historia de Colombia. Bogotá. Norma. pp. 81-88.

Pinheiro, M. (1976): Los cerdos. Buenos Aires. Hemisferio Sur p.18.

THE EQUINE BREEDS OF THE MURGE REGION OF ITALY

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SUMMARY

Two interesting equine populations have been traditionally raised in the Apullian highlands of the Murge. The Murge horse can be traced back to the spanish occupation of this region and is today known for its potential as a pleasure and riding horse. The donkey of Martina Franca, well-known for its crossbreeding potential to produce hardy mules, is actually an endangered population saved only by the intervention of the Italian Ministry of Agriculture and Forestry

RESUME

Traditionnellement, deux races equines interessantes ont ete elevees sur les hautsplateaux des Pouilles et de Murge. On retrouve des signes d'existence du cheval de Murge lorsque 1'on remonte a 1'epoque de 1'occupation espagnole de cette region. De nos jours, ce cheval est connu pour ses qualites en tant que cheval d'agrement et de selle. Lane de Martina Franca, bien connu pour la capacite qu'il a de produire par croisement des mulets resistants, est en fait une race menacee, protegee seulement grace a 1'intervention du Ministere Italien de 1'Agriculture et des Forets.

1.0 INTRODUCTION

Two valuable equine breeds, the Murge Horse and the Martina Franca Donkey are bred under extensive husbandry conditions in the Apullian Murge woodlands. This is a hilly, dry and rocky region located in Southern Italy, in the provinces of Taranto, Bari and Brindisi.

2.0 THE MURGE HORSE

The origin of this breed dates back to the Spanish rule. It is recognised today that oriental north-african horses and in particular Arab stallions were imported during those early times by the Counts of Conversano and raised in their estates in the Murge. These horses contributed certainly to the creation of the breed. In the development of the breed, as we know it today, played evidently a major role the tough and hardy environment of the Murge which represented also an immutable guarantee to the conservation of such a breed through the centuries.

The breeding of these horses is carried out today in small stud farms. The animals are reared together with cattle and form integral part of the farms' economy In 1774, the Emperor of Austria bought two Murge stallions from the Count of Conversano; these are at the origins of one of the well-known families of the Lippizaner, the so-called "Conversano" family, that still exists.

The Murgese is a lively, well-behaved horse with a good longevity; it has good legs and solid hooves, toughened on the rocks of the Murge hills, and a spotless, glossy raven-black coat. A small number of iron-grey dark coated horses also exists.

Today, the Murgese, which is considered to be Italy's best horse for agro-tourism purposes, is expanding in numbers. It is mostly used for leisure and country riding, but can also be used as a harness horse. The breeders themselves are not always aware of its ability to be trained for dressage and steeplechase. It is a docile and easily trainable horse that can be kept for riding purposes without any need for castration. In December 1988, it was presented with success at the International Horse Show of Paris and in April 1991 in Essen. Since 1926, the Ministry of Agriculture and Forestry, recognizing the value of this breed, helped its conservation and development by setting-up a breeding station service and the Herd Book through the then "Foggia Stallion Unit", which is now known as the "Regional Horse Breeding Institute." Since 1948, this effort was backed-up by the creation of the Horse Breeders Association of Martina Franca. As a result of this, there is a notable amelioration of the quality of the breed and an important increase of its numbers, not only in the Murge region but all over Italy Since 1956, a regional show and market of young stallions and mares is organised every year in December at Martina Franca.

3.0 THE DONKEY OF MARTINA FRANCA

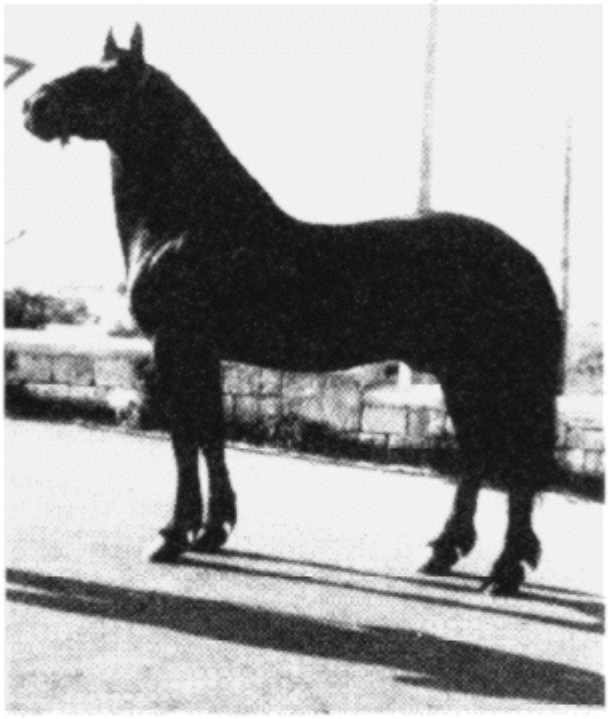
In the last fifty years, the donkey breed of this region came to the attention of European and extra European interested people because of its qualities, but particularly due to the type of mule it can produce when bred to mares of various horse breeds.

The Martina Franca donkeys are traditionally bred and reared together with the Murge horse in the extensive grazelands of the Martina Franca forests, in the province of Taranto. The breeding area is restricted and the breed is very much linked to the specific environment where it develops best its qualities of hardiness. The breed has been exported in the past with success to a number of european countries such as France, Jugoslavia, Greece, Hungary, Bulgaria, Chechoslovakia, and Poland, but also India, South America, Kenya and as far as the Cape of Good Hope.

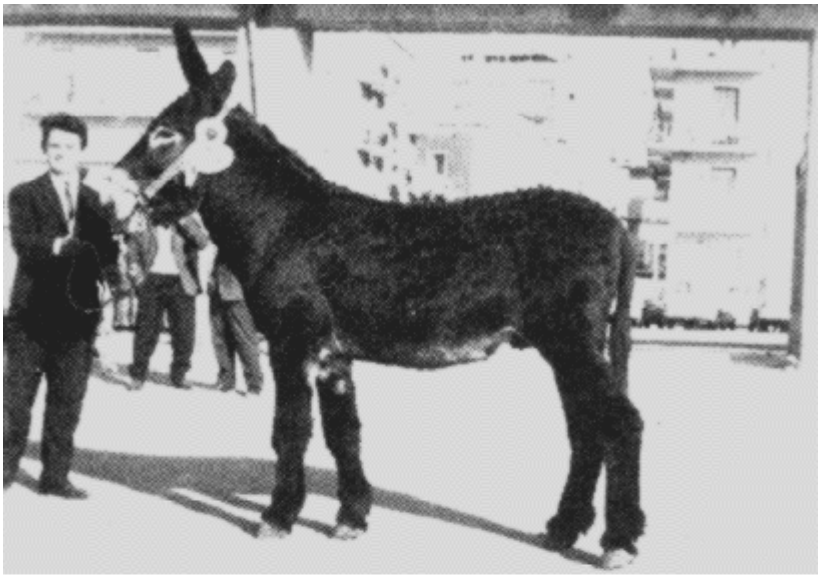
The animals have a dark coat colour, grey abdomen, inner part of the legs and nose with marks on the nose and the eye sockets; the nasal and lingeral mucoses are pink and the anus and vulva black coloured. At the age of three years the males are 1.40-1.50 meters high at the withers and the females 1.35-1.40.

The breed numbers have never been very large, but the generalisation of mechanisation practices in agriculture and the diminishing of the importance of mules for tranport in the armed forces pose a serious danger to the preservation of the breed. The Apulian Region intervented recently in collaboration with the Breeders Association, to protect the breed by the creation of a special conservation centre, in a farm at Martina Franca. The conservation of this breed nucleus was only made possible with the technical collaboration of the Regional Horse Breeding Institute of Foggia.

Wintertime



Murge stallion and horses



Young Martina Franca donkeys