

BLACK MAURE

Synonyms. Arab; Mauritania; Moor; Moorish [none of these are recommended alternatives]. Mouton maure à poil long.

Origins. Part of the West African Sahel or long-legged group. Possibly descended from the Rio de Oro sheep of northern Mauritania, which in turn descended from the Maghreb type of Morocco.

Sub-types and races. The Zaghawa (or Arid Upland) of north-western Darfur and of eastern Chad appears to be the same sheep as the Black Maure.

Distribution. Owned by a number of Moor tribes in southern Mauritania (Hodh region), in northern Mali in the Nara, Nioro and Niono areas and eastwards to the western border of the Niger inundation zone, and in northern Senegal. Zaghawa are distributed in eastern Chad and north-western Darfur.

Ecological zones. Arid areas with low and highly seasonal rainfall. Northern Sahel and Saharo-Sahelian zones mainly of annual [*Aristida*, *Cenchrus*) grasses with some perennials and scattered acacia scrub.

Management systems. Principally pastoral. Many owners are "black" Moors (i.e. low cast former slave or 'haratin' groups) who practice some opportunistic agriculture. Owners transhumate southwards in the dry season after sedentary farmers' crops are harvested (Dec-Jan) and set up temporary camps on stubbles: herds and flocks manure these fields in exchange for access to water from shallow hand-dug wells. The return north is during the early rains (Jun-Jul). The Zaghawa system is similar. Flock sizes are medium to large. Flock structure is related to production of hair and includes mature male castrates: females 77.2 per cent (breeding 66.0 per cent); males 22.9 per cent (castrates 6.2 per cent).

Physical characteristics. Large size 75-90 cm (male 80 cm; female 74 cm). Weight: male 45 kg; female 32 kg.

Strong head with flat forehead, profile convex in males but less so in females, narrow between eyes, narrow muzzle, well developed tear glands. Horns: well developed in males, triangular shaped, flat spiral directly outwards from head Figure 63, up to 30 cm in length, said to have multiple horns occasionally; females usually hornless. In the Zhagawa the horns have less pronounced ribs. Ears long (20 cm) in Maure, medium (12 cm) in Zhagawa, rather broad, pendulous. Toggles in a small percentage of both sexes, usually long.



Figure 63 A Black Maure ram on stubble grazing in central Mali

Neck long and thin. Chest narrow and shallow. Withers lower than tail head. Back long and dipped. Croup short. Legs long and lightly fleshed. Tail long (36 cm) and thin, falling below hocks.

Colour generally black with white tip to tail. In Chad about 68 per cent of animals black with another 15 per cent being predominantly black. Coat of long, coarse stiff black hair in loose ripples over a softer undercoat.

Products. Hair; meat; milk; (skins and pelts).

Productivity.

REPRODUCTION. *First lambing:* 12-18 months. *Lambing interval:* 8-10 months, generally aseasonal but some control of breeding practised by use of 'kunan'. *Multiple births:* 2-4 per cent. *Litter size:* 1.03. *Annual reproductive rate:* 1.4. *Gestation period:* 153 days in Sudanese Zaghawa.

GROWTH. *Birth weight:* 3 kg. *Weight for age:* 5 months-16.0, 12-24.0, 18-28.2, 24-31.5, 36-32.4 kg.

MILK. No firm information but based on lamb growth rates the lactation yield is probably 40 to 45 kg.

HAIR. *Yield:* multiple clips yield about 200 g per year. *Fibre length:* 3.3 cm (reported to be up to 10.0 cm). *Fibre diameter:* 26.6 µm with CV 67.4 per cent. Very little grease. Used mainly in tent manufacture Figure 64 and for blankets.

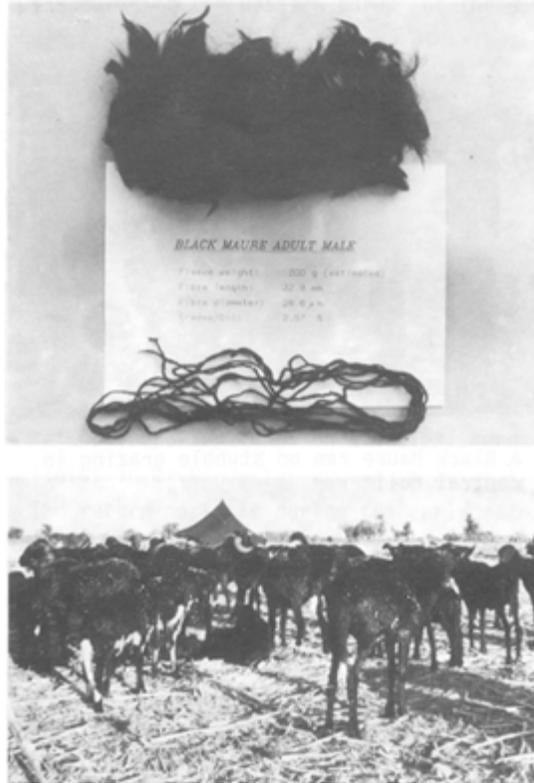


Figure 64 Raw and spun hair (top) and hair tent with Black Maure flock (bottom) on dry season pasture in an agro-pastoral system in central Mali

MEAT. *Dressing percentage*: 35-40 in West Africa, 39-42 in Chad. Very little fat.

Research. None current. Used in 1930-1950 in cross-breeding programme with Karakul to produce Astrakhan-type pelts but acceptable pelts could only be obtained from animals with 87.5 per cent Karakul blood and practice was not taken up by traditional owners. Half-bred females from these experiments produced 1.2 kg coarse wool per year. Incomplete rapid surveys in Mali.

References. Curasson, 1934; Vallée, 1938; Chatel, 1939; McLeroy, 1961; Dumas, 1980; Wilson, 1981.

TOUABIRE

Synonyms. White Maure; White Arab.

Origins. Part of the West African Sahel or long-legged group. Sub-types and races. Warale is a Touabire/Peul-Peul crossbred.

Distribution. Owned by the same tribes as the Black Maure, in southern Mauritania, in northern Mali and in northern Senegal, generally north of 15°N.

Ecological zones. Arid areas with low and seasonal monomodal rainfall.

Management systems. As for Black Maure but also in smallholder fattening ("Mouton de Case"). Flock sizes medium to large, up to 130 head. Flock structures are related to meat production: females 74 per cent (breeding 60 per cent); males 26 per cent (breeding 4 per cent). Daily herding and management is done by women and children.

Physical characteristics. Large size 65-90 cm (male 75-90 cm; female 65-80 cm). Weight: 45-50 kg.

Strong head with flat forehead. Profile markedly convex in males and usually so in females (Figure 65). Lower face thin with narrow muzzle. Large eye with prominent supraorbital process.



Figure 65 Profile of a female Touabire sheep in a village flock in northern Senegal

Horns: usually present in males, triangular in cross-section, often only as scurs, otherwise typically curved backwards and then forwards; usually absent in females. Ears long to medium, rather broad and pendulous. Toggles in a small percentage of both sexes, usually long and thin.

Neck long and thin but with a fold of fat at nape on animals in very good condition. Chest narrow and shallow. Withers prominent.

Back long and dipped. Croup short and sloping. Legs long, very lightly fleshed. Tail long, very thin and falling to or below hocks (Figure 66).

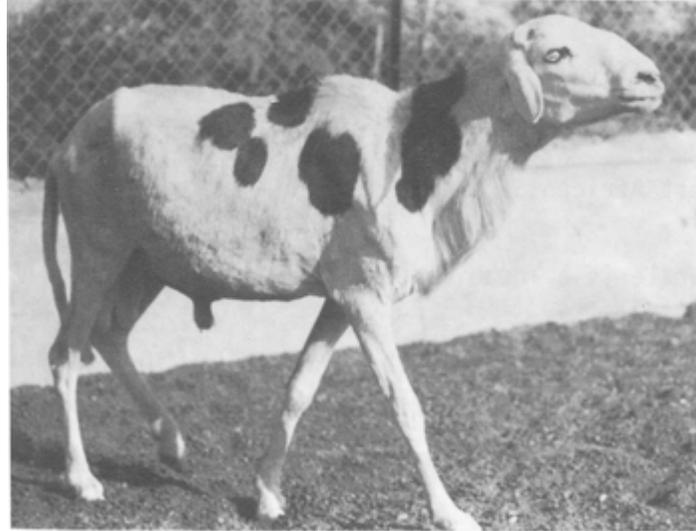


Figure 66 A Touabire ram at Dahra station in northern Senegal (note the wall eye)

Colour usually white but with variable amounts of black spotting. Coat short and stiff. Males often have longer hair on brisket.

Products. Meat; milk; (skins).

Productivity.

REPRODUCTION. *First lambing:* 739 ± 50.5 (s.d.) days (n=85) at Dahra; capable of lambing much earlier as when put to ram at 5 months first lambing averaged 374.8 days. *Lambing interval:* 342 days (n=76) at Dahra. *Multiple births:* very few. *Litter size:* 1.02 at Dahra.

GROWTH. *Birth weight:* 3.7 kg at Dahra. *Weight for age:* 30 days-9.8, 60-15.0, 90-77.2 kg at Dahra. *Average daily gain:* birth-30 days - 176, 30-60 - 115, 60-90 - 73 g. *Mature weights:* males 46.4 ± 4.4 (s.d.) kg (n=5); females 34.5 ± 4.4 kg (n=65).

MILK. *Lactation length:* 5-6 months. *Yield:* 200-400 g/d. **MEAT.** *Dressing percentage:* 40-45.

Research. Laboratoire national de l'élevage et des recherches vétérinaires, Dahra, Sénégal.

References. Bradford, 1983; Sow, Thiongane & Tchamitchian, 1987.

PEUL-PEUL

Synonyms. Fulani (English); Foulbé.

Origins. Part of the West African Sahel or long-legged group.

Sub-types and races. Waralé is a Touabire/Peul-Peul crossbred.

Distribution. Central Senegal.

Ecological zones. Semi-arid to sub-humid in Sahel and Sudano-Sahel zones.

Management systems. Pastoral and agro-pastoral.

Physical characteristics. Medium size 65-75 cm. Weight: 30-50 kg.

Horns: present in males, loosely spiralled.

Colour variable but usually white with black or red spots or whole red. Coat short and stiff.

Products. Meat.

Productivity.

REPRODUCTION. *First lambing:* > 24 months. *Lambing interval:* 12 months in Senegal traditional system; 7.3 months (n=35) on station (40, 36, 16 and 8 per cent with intervals of < 7, 7-8, 8-9 and > 9 months).

GROWTH. *Birth weight:* male 3.1 kg, female 2.9 kg from dams provided with some supplementary feed. *Average daily gain:* 0-40 days - 124.4, 40-180 - 110.6 g.

MEAT. *Dressing percentage:* 50

Research. Laboratoire national de l'élevage et des recherches vétérinaires, Dahra, Sénégal.

References. Tchakerian, 1979; Bradford, 1983.

TORONKE

Origins. Part of the West African Sahel or long-legged group.

Sub-types and races. Several are recognized, usually based on colour and markings (Futanké, Figure 67), locality (Banamba, Figure 67), or ethnic group (Fulani). The Peul Voltaïque of Burkina Faso is similar.



Figure 67 Toronke sheep of the Futanké (left) and Banamba (right) sub-types at Bamako market in Mali

Distribution. West-central Mali and south into Burkina Faso.

Ecological zones. Semi-arid to arid.

Management systems. Agro-pastoral and pastoral.

MALI. Sheep are owned in two major types of sedentary livestock systems -- rainfed millet and irrigated rice -- and in a number of transhumant systems. In both the rainfed millet and irrigated rice systems about 56 per cent of households own sheep (compared to 100 per cent owning goats). Flock sizes average about 13 head in the rain-fed and about 12 in the irrigated systems for those families owning sheep, and about 25 head in the transhumant system. Sheep are outnumbered by goats in the ratio of about 5.4:1.0 in the millet system, by about 1.4:1.0 in the rice system and by about 2.6:1.0 in the transhumant system. Unlike goats, which are often tethered at night in the sedentary system, sheep are penned communally in a thorn enclosure. Flock structures are related primarily to meat production: females 76.7 per cent (54.3 per cent breeding), males 23.3 per cent (2.4 per cent > 15 months) in sedentary systems; females 70.3 per cent (53.5 per cent breeding, males 29.8 per cent (7.5 per cent > 15 months of which 3.2 per cent castrates) in transhumant systems.

BURKINA FASO. "Sahel" sheep are owned by about 80 per cent of Fulani agro-pastoral families in Yatenga, with an average flock size of 23 head: 87 per cent of families own goats, average flock size about 54 head. Both sheep and goats are loosely herded except during the short crop growth period. Flock structures are related mainly to meat production: females 76.2 per cent (59.6 per cent breeding), males 23.8 per cent (5.7 per cent > 15 months of which 2.0 per cent castrates).

Physical characteristics. Large size 70-80 cm. Weight: male 40 kg; female 30-35 kg.

Head strong and elongated. Convex profile in males, straight in females.

Horns: almost universal in males, slightly flattened in cross-section and deeply ribbed, spiral in classic "ram's horn" shape and up to 65 cm long; about 32 per cent of females carry horns, usually light and rudimentary, and up to 15 cm long. Ears are semi-pendulous and of medium length (11-14 cm). About 25 per cent of males and females have toggles, variable in position and length.

Neck rather long and thick, clean in that there is neither mane nor longer hairs on the throat. Withers prominent, average height 74.1 ± 4.1 (s.d.) cm (n=48) in females. Chest fairly well developed, about 8 per cent greater in circumference than withers height. Back medium length, slightly dipped and fairly wide over kidneys. Croup more or less well developed. Legs long but well boned and fleshed. Tail long, to below hocks, and thin.

Colour very variable: 49 per cent red pied, 28 per cent black pied, 19 per cent white, 9 per cent red and 3 per cent black (n=367) at Kayes research station in west Mali. Futanké is usually sparsely spotted black. Banamba is red. Burkina type is mainly white with various degrees of spotting.

Products. Meat; (milk).

Productivity.

REPRODUCTION. *First lambing*: 23.4 months at Kayes; 480 ± 115.3 (s.d.) days (n=210) in central Mali traditional system over 6 year period 1978-1983; 13.9 months in 1979-1980 in northern Burkina Faso but much later (22-24 months) in 1983. *Lambing interval*: 261 ± 76.3 (s.d.) days (n=984) in central Mali traditional system, most being in range of 6-8 months, longer in millet than in rice system, reducing with increasing parity, longer after a twin birth and longer after a previous birth in post-rains or cold dry (Oct-Feb) seasons; $290 + 69.9$

Table 35 Lambing data for 24 flocks of sedentary sheep in central Mali

Parameter	Physiological age of goat					Overall
	Pairs permanent incisors				Temporary incisors	
	4	3	2	1		
Number in sample	37	21	22	42	16	138
Type of birth						
single	124	52	43	41	0	267
twin	9	2	2	1	0	14
triplet	1	0	0	0	0	1
Total births	134	54	45	42	7	282
Total lambs born	145	56	47	43	7	298
Litter size	1.08	1.04	1.04	1.02	1.00	1.06
Births per ewe						
mean	3.62	2.57	2.05	1.00	0.43	1.84
mode	3	2+3	1	1	0	1
range	2-8	0-5	1-4	0-3	0-1	0-1

(s.d.) days (n=44) in Burkina Faso in 1983-1985. *Multiple births*: rare; 94.7 per cent single, 5.0 per cent twin and 0.3 per cent triplet in 282 parturitions in central Mali according to owner recall in 1978 (Table 35); 95.7, 4.2 and 0.1 per cent respectively for 1650 parturitions in 1978-1983 in central Mali. *Litter size*: 1.01 on station at Kayes; 1.06 by owner recall in Mali traditional system; 1.04 ± 0.21 (s.d.) (n=1650) in Mali long term study, larger for births in cold and hot dry seasons related to conceptions during and just after rains; 1.05 ± 0.22 (s.d.) (n=258) in Burkina Faso. *Annual reproductive rate*: 1.45 in long term Mali study; 1.33 in Burkina faso. *Lifetime production*: 1.84 parturitions per ewe in central Mali, full mouth ewes averaging 3.62 parturitions (Table 35); 0.13, 0.52, 1.40, 2.20 and 3.43 parturitions per ewe with temporary, 1, 2, 3, and 4 pairs of permanent incisors in the Gourma in Mali.

GROWTH. *Birth weight*: 2.9 ± 0.88 (s.d.) kg (n=613) in central Mali traditional system in 1978-1984, heavier in rice (3.0) than in millet (2.6) system, males (2.9) heavier than females (2.6), singles (3.1) heavier than twins (2.4), heavier in lambs from older females and heavier in lambs born in rainy season. *Weight for age*: 30 days-6.0, 90-11.8, 150-16.1, 240-21.5, 365-27.2, 550-32.0, 730-35.1, 1095-39.2, 1460-37.9 kg in Mali; 30 days-5.9, 90-10.3, 150-14.9, 240-18.6, 365- 24.9 kg in Burkina Faso; 27.4, 28.9, 30.1 and 32.0 kg per females with 1, 2, 3 and 4 pairs of permanent incisors in Burkina Faso, and 28.1, 29.4, 32.8 and 37.2 kg for males at same stages. *Average daily gain*: 0-150 days - 88.7, 0-365 - 66.9, 0-1095 - 33.3 g in Mali; 0-150 days - 83.3, 150-365 - 45.4 g in Burkina Faso. *Post-partum weights*: 30.0 ± 5.33 (s.d.) kg (n=1536) in central Mali, varying by system, type of parturition and parity (first parity 27.7 kg, fourth parity and above 33.9 kg). Weight variations due to season are slightly more marked than for goats in the same systems Table 27.

MEAT. *Dressing percentage*: castrates 48.6 at 31.8 kg live weight, entire males 44.5 at 33.4 kg and females 45.5 at 28.6 kg at central Mali abattoir. *Carcass composition*: butcher's carcass 45.7 per cent at 31.2 kg in central Mali, stomachs and intestines 5.1, kidneys 0.5, liver 1.9, lungs and heart 2.9, mesenteric fat 4.1, spleen 0.1, head 6.9, feet 2.8, skin 7.1, udder 0.9, gut fill 15.4, blood and body fluids 6.2. Average carcass weights 14.2 kg for all ages and sexes combined in central Mali, dressing percentage being lower than goats mainly due to greater gut fill. Sheep contributed 4.4 per cent to total meat available from Niono slaughterhouse in central Mali in 1979/1980. Most sheep are slaughtered at home for household consumption, however, many being reared specifically in a "Mouton de Case" (smallholder fattening) system.



Figure 68: Moutons de Case in the irrigated rice system in central Mali
 In the Mouton de Case system, 1 or a small number of sheep are specifically fattened for slaughter at the main muslim festivals, in a totally confined system Figure 68. More than 25 per cent of total sheep slaughter occurs in connection with 'tabaski', the Feast of the Sacrifice. In central Mali 39 per cent of households in the rice and 24 per cent in the millet systems practised this fattening system. Average numbers fattened were 1.98 in the rice system (52, 24, 13, 4 and 7 per cent of owners fattening 1, 2, 3, 4 and > 4 animals) and 2.19 in the millet system (41, 39, 8, 0 and 12 per cent fattening 1, 2, 3, 4, and > 4 animals). About 77, 3 and 20 per cent of sheep were males, castrates and females with 62 and 28 per cent of males being < 15 and 15-21 months old. Mouton de Case were significantly heavier at all ages than their extensively reared contemporaries Table 36. There was a significant price premium per unit weight for heavier animals. Most animals were in the weight range of 40-50 kg (32.4 per cent) and of 30-40 kg (31.9 per cent) at slaughter or sale in 1980 and 1983, with 15.3 per cent weighing more than 50 kg.

Table 36: Comparative weights of Moutons de Case and extensively reared sheep in central Mali

Age	Weight (kg)	
	Mouton de Case	Extensively reared

< 15months ¹⁾	32.4	18.3
15-21 months	38.0	27.3
22-27 months	40.02	31.5
28-33 months	53.5	34.8
>33 months	52.9	44.8

Note: 1) average 8 months

Research. Mainly *systems* studies carried out by ILCA, EEC and national organizations, the two first now stopped. Institut national des recherches zootechniques, hydrobiologiques et forestières, Station de Toronké, Kayes, Mali.

References. Bourzat, 1980; Peacock, 1983; Wilson, 1983b; Wilson & Durkin, 1983; Wilson, 1984a; 1984b; Kolff & Wilson, 1985; Wilson, 1986; Wilson & Light, 1986; Wilson, 1987; Wilson & Sayers, 1987; Wilson, 1988; Wilson & Durkin, 1988; Bourzat & Wilson, 1989.