

## TOUAREG

**Synonyms.** Targui (=singular of Touareg).

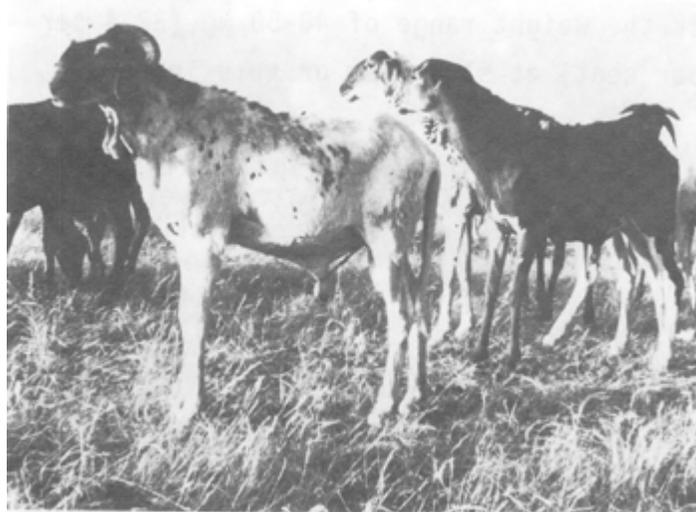
**Origins.** Part of the West African Sahel or long-legged group.

**Sub-types and races.** A smaller "Touareg" sheep is sometimes distinguished in the Gourma in Mali.

**Distribution.** North-east Mali from the top of the Niger bend and Timbuctoo, north to the Adrar n'lforas at about 19°N and eastwards to Niger from Niamey and Dosso in the south to the Air region in the north.

**Ecological zones.** Semi-arid and arid to extreme arid.

**Management systems.** Pastoral, transhumant and nomadic, and to a lesser extent agropastoral. Flock fairly large, 50 head or greater in Mali, and 100 head in Niger flock structures are related to meat production in Mali and milk production in Niger: females 73 per cent (48 per cent > 15 months, 62 per cent breeding), males 27 per cent (9 per cent > 15 months, 8 per cent castrates) in the Gourma in Mali; females 82 per cent (64 per cent breeding), males 18 per cent (6.1 per cent > 15 months of which 4.0 per cent castrates) in Niger.



**Figure 69: A ram of Touareg type (note 'kunan' to control breeding) in the Air region in north Niger**

**Physical characteristics.** Large size 75-80 cm. Weight: 40-60 kg. Head fairly strong. Forehead prominent with strongly convex profile. Muzzle narrow. Eyes not very prominent.

**Horns:** usually present in male, strongly ribbed, spiralling backwards; usually absent in female. Ears medium length, 15 cm. Toggles occur in both sexes. Some males in some areas may have a mane and a slight throat ruff.

Neck long with fat fold at nape in males in good condition. Withers prominent. Chest shallow and narrow, girth circumference barely exceeding withers height. Back straight and fairly long. Croup sloping but less than in neighbouring Maure and Toronké types. Legs long with flat thighs and lightly fleshed. Tail medium length, reaching to hocks. Udders well shaped with long, well-spaced teats.

Colour white, usually more or less heavily spotted Figure 69. Other colours, notably red, occur. Coat of short stiff hair.

**Products.** Meat; milk.

**Productivity.**

REPRODUCTION. *First lambing*: apparently delayed, many ewes not lambing until 2 years Table 37. *Lambing interval*: about or longer than 365 days. *Multiple births*: uncommon. *Litter size*: ?1.03. *Annual reproductive rate*: 0.59 in the Mali an Gourma in 1983. *Lifetime production*: only 4 per cent of ewes produce more than 4 lambs.

MILK. *Yield*: 200-400 g/d in dry season; 400-600 g/d in wet season.

Milk is converted to a very hard cheese which is stored as small, flat, round cakes.

**Table 37 Reproductive careers based on owner recall in Touareg sheep in the Gourma of Mali**

Age class (months)	Number of parturitions									Mean parturitions per female
	0	1	2	3	4	5	6	7	8	
10-15	91	1								0.10
15-21	86	17	3							0.21
21-27	35	20	23	3						0.92
27-35	4	15	24	13						1.82
>35	3	10	88	68	38	10	8	3	1	2.29

MEAT. *Dressing percentage*: 46.

Said to fatten easily and to produce nicely marbled meat. A preferred type for "Mouton de Case" (see Toronké).

**References.** Wilson & Wagenaar, 1983; Peacock, 1983.

## ARA ARA

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

**Distribution.** South-central and central Niger.

**Ecological zones.** Semi-arid.

**Management systems.** Agro-pastoral and pastoral.

**Physical characteristics.** Similar to Uda.

**Products.** Meat.

**Productivity.**

REPRODUCTION. *Multiple births*: relatively many for arid zone sheep; 84.6 per cent single, 13.0 per cent twin, 2.4 per cent triplet in 1985 and 1986 on station at Maradi. *Litter size*: 1.18 (n=208).

GROWTH. *Birth weight*: 2.7 kg; single males 3.0, twin males 2.4, single females 2.7, twin females 2.3 on Maradi station. *Weight for age*: single males 1 month-8.0, 2-10.6 kg; single females 1 month-7.3, 2-13.9 kg.

**Research.** Centre d'élevage caprin du Maradi, BP 379, Maradi, Niger.

**References.** CECM, 1985; 1986.

## UDA

**Synonyms.** Oudah; Peul; Bali-bali; Bororo (western Sudan); Fellata. (western Sudan).

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

**Sub-types and races.** There is considerable confusion of terminology in this type. In Niger the pied (Oudah bicolore) and white (Bouli) varieties are considered to be colour variants. In Nigeria the white type is called the Balami and generally accorded full breed status. In Chad and northern Cameroon the pied type is known as Foulbé and the white type as Waïla. The Bali-bali is sometimes considered a separate type and not just a synonym in Niger.

**Distribution.** Southern Niger, northern Nigeria, central Chad to western Sudan and Cameroon.

**Ecological zones.** Semi-arid monomodal rainfall lowlands to arid.

**Management systems.** Agro-pastoral and pastoral transhumant.

**Physical characteristics.** Large size up to 85 cm (male 75-85 cm; female 65-75 cm). Weight: male 65 kg; female 45 kg.

Head long and heavy with flat forehead, often with a central depression, and slightly convex profile.

Horns: almost universally present in males, long and spirally twisted growing horizontally out from head Figure 70; when present in females short and fine. Ears pendent, thin; long to very long (22 cm). Both sexes occasionally have toggles. Males may have a mane. Neck long, occasionally with dewlap. Withers prominent and higher than sacrum. Chest shallow and narrow, girth measuring about the same or slightly more than withers height. Back long and dipped. Croup short and sharply sloping. Legs long and lightly fleshed. Tail long and thin.



**Figure 70 Ram of Uda type at the Niamey research station of the Institut national de la recherche agronomique nigérienne**

Colour black and white pied, black on fore and white on hind quarters with clean dividing line in classic Uda type: all white in Bali-bali. Forehand is dark chocolate to reddish in some animals. Coat of short coarse hair.

When crossed with forest type sheep in the south of its range the animal becomes smaller, has shorter ears and may carry a mane, a throat ruff and also some hair on the chest and rib cage Figure 71.



**Figure 71: A "Sahel crossbred" showing Uda and forest type characters at Maruma Cameroon**

**Products. Meat**

**Productivity.**

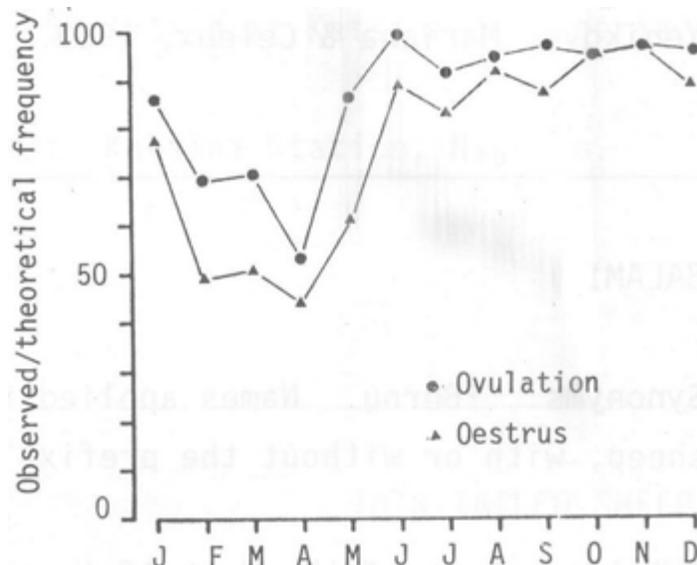
**REPRODUCTION:** *First oestrus:*  $351 \pm 37.8$  (s.d.) days (n=12) on station in Niger. *First lambing:* 15-17 months on station in Niger; 448 days (314-662) (n=28) at Yagoua station in Cameroon, 11 per cent lambing at < 365 days.

*Lambing interval:* 270 days at Shika in Nigeria.

*Multiple births:* uncommon, 1 triplet in 404 births over a 7 year period in Niger; 10 twin and 61 single at Shika in Nigeria. *Litter size:* always less than 1.1 on station in Niger with pied types having larger (1.10) litters than white ones (1.04); 1.14 at Shika in Nigeria. *Fecundity* (=lambs/100 ewes/year): 151 per cent at Yagoua station in north Cameroon.

*Oestrus cycle:*  $16.8 \pm 0.06$  (s.e.) days (n=109) in Niger but with much longer intervals in Jan-Apr leading to a reduced frequency of oestrus Figure 72; heat lasts  $33.2 \pm 3.1$  hours (n=28).

*Gestation period:*  $154.8 \pm 1.0$  (s.d.) days (n=28) in Niger. *Ovulation rate:*  $1.3 \pm 0.04$  (s.e.) with no seasonal variation in Niger.



**Figure 72: Seasonal variations in expression of oestrus in Uda ewes in Niger**

**GROWTH.** *Birth weight:* 3.5 kg on station in Niger; males 3.9, females 3.5 kg at Shika. *Weight for age:* on station in Niger weights at 30, 90 and 180 days increased from 7.3, 13.6 and 20.4 kg in 1981 to 11.0, 18.9 and 27.0 kg in 1987, probably as a result of better management; 3 months-males 16.2 and females 15.3, 12-32.6 and 27.1, 18-36.1 and 24.3 kg at Shika. *Average daily gain:* birth-18 kg - single males 150 (114-192), twin males 110 (75-174), single females 140 (79-170), twin females 113 (101-142) g at Katsina in Nigeria; 0-3 months - 156 singles and 111 twins, 0-6 - 109 and 95, 0-12 - 98 and 91 g in Nigeria.

**MILK.** *Yield:* estimated at 60 litres in 150 days on station in Niger.

**MEAT.** *Dressing percentage:* 48-50 on station in Niger; 38-41 at Shika at 13-14 months with carcass weight of 11.5 kg.

**Research.** Ecole supérieure d'agronomie, Université de Niamey, BP 10960, Niamey, Niger. Federal Livestock Department, Katsina Station, Kano Region, Nigeria.

**References.** Ferguson, 1964; Ibrahim, 1975; Gaillard, 1979; Ngere, Adu & Mani, 1979; Yenikoye et al, 1982; Yenikoye, 1984; Deciry, 1987; Yenikoye, Mariana & Celeux, 1989.

## BALAMI

**Synonyms.** ?Bornu. Names applied to the Uda are also used for this sheep, with or without the prefix "white".

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

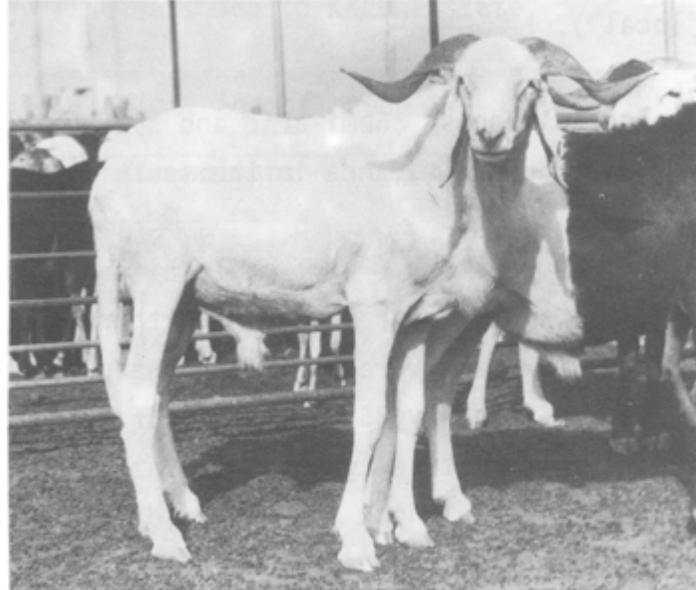
**Sub-types and races.** The Balami is probably the same sheep as the "Bouli" or white Uda variety of Niger.

**Distribution.** Northern Nigeria.

**Ecological zones.** Semiarid and drier sub-humid.

**Management systems.** Agro-pastoral.

**Physical characteristics.** Large size. Weight: heavier than Uda. Similar to Uda except colour is wholly white Figure 73



**Figure 73: Balami ram at Katsina station, northern Nigeria**

**Products.** Meat.

**Productivity.**

**GROWTH.** *Birth weight:* 3.5 kg singles, 3.1 kg twins. *Average daily gain:* birth-18 kg - males single 142 (101-190) twin 108 (67-167), females single 137 (76-198) twin 103 (69-133) g at Katsina in Nigeria.

**Research.** Federal Livestock Department, Katsina Station, Nigeria.

**References.** Ngere Adu & Mani. 1979.

## YANKASA

**Origins.** Part of the West African Sahel or long-legged group although there has probably been some admixture of blood from sheep from farther south

**Distribution.** Northern and north-central Nigeria ("Yankasa" = Hausa "local").

**Ecological zones.** Semi-arid and sub-humid, extending into the northern Guinea savanna in the south.

**Management systems.** Agropastoral and pastoral. In a Fulani agropastoral system near Zaria in northern Nigeria 70.0 per cent of families own an average of 12.5 sheep in the range 2-50: goats and/or sheep are owned by 85.3 per cent of families. Unlike goats, sheep are managed with cattle, go out to graze with them, and at night are tied by an individual neck loop to a 'dangwali', a long, common rope attached to a picket at each end. Sheep are outnumbered by goats in the ratio 1.0:1.4 in Zaria. In the Kaduna area in sub-humid north-central Nigeria, sheep are more important than goats. Generalized flock structure: females 76.1 per cent (47.1 per cent with 1 or more pairs permanent incisors); males 23.9 per cent (3.6 per cent with 1 or more pairs permanent incisors) with a ratio of breeding males to breeding females of 1.0:12.9.

**Physical characteristics.** Large size. Weight: male 40 kg.

Horns, when present, are small and variable in shape. Ears relatively short and semi-pendent. Many males have a mane.

Colour white with black ears and around eyes, muzzle and on top of tail.

**Products. Meat**

**Productivity.**

REPRODUCTION. *First oestrus*: 238 ± 23.4 (s.d.) days (n=10). *Weight at first oestrus*: 18.4 + 0.4 kg. *First lambing*: rather delayed in northern Nigeria traditional system with only 1.5 per cent of ewes with temporary incisors and only 57.9 per cent of those with one pair of permanent incisors having lambed Table 38 . *Multiple births*:

**Table 38: Reproductive data established from owner recall in 106 flocks of sedentary Yankasa sheep in Kaduna state, northern Nigeria**

Parameter	Physiological age of sheep					Overall
	Pairs permanent incisors				Temporary incisors	
	4	3	2	1		
Number in sample	179	173	155	164	412	1083
Type of birth						
single	566	362	198	92	6	1224
twin	50	20	10	3	0	83
Total births	616	382	208	95	6	1307
Total young born	616	402	218	98	6	1390
Litter size	1.08	1.05	1.05	1.03	1.03	1.06
Births per ewe	3.44	2.21	1.34	0.58	0.01	1.21

uncommon to fairly common; 93.6 per cent single, 6.4 per cent twin in northern Nigeria traditional system; 74.5 per cent single, 25.5 per cent twin at Shika station, Nigeria. *Litter size*: 1.06 (n=1307) in northern Nigeria traditional system, rising from 1.0 for ewes with milk teeth to 1.08 for ewes having 4 pairs permanent incisors; 1.25 at Shika. *Lifetime production*: ewes in a northern Nigeria Fulani traditional system averaged 1.21 parturitions. *Oestrus cycle*: 18.1 ± 1.7 days; heat 25 ± 2.2 hours. *Ovulation rate*: 1.36 ± 0.34 (s.d.) in 454 slaughtered females at Zaria, Nigeria, with 67.8, 28.9, 2.9 and 0.4 per cent single, twin, triple and quadruple ovulations; in comparison to observed litter sizes probably indicates important embryonic losses. **GROWTH.** *Birth weight*: 3.5 kg males, 4.0 kg females at Shika; 3.5 kg males, 3.0 kg females in traditional system. *Height for age*: 3 months-males 14.9 and females 13.9, 12-29.8 and 21.2, 18-46.9 and 30.0 kg at Shika. *Average daily gain*: 0-3 months - 148 singles and 116 twins, 0-6 - 99 and 82, 0-12 - 80 and 72 g.

**MEAT.** *Dressing percentage*: 42 at 30 kg live weight.

**Research.** National Animal Production Research Institute, Ahmadu Bello University, Shika, P.M.B. 1096, Zaria, Nigeria.

**References.** Ferguson, 1964; Ngere, Adu & Mani, 1979; Kwatu, Umunna & Chineme, 1983; Oyedipe et al, 1986; Otchere et al, 1987; N. Pathiraja, pers.comm.