

## Water Buffalo (*Bubalus bubalis*) in Europe:

	<b>General Description</b> <b>Eur.Riverine/Mediterranean</b> (source: ftp://ftp.fao.org/docrep/fao/010/ah847e/ah847e01.pdf)	<b>Carpathian</b> (Source: Michel Jacobi) <b>(Transylvanian)</b> (Source: Marcel Matiuti)	<b>Hungarian</b> (sources: texts by Imre Bodo/Bela Dunka)  <b>Romanian (Danubian)</b> (Source: Marcel Matiuti)	<b>Albanian (Med. Group)</b> (Source: Kristaq Kume)	<b>Serbian</b> (Source: Srdjan Stojanovic)	<b>Murrah</b> (source www.ansi.okstate.edu) <b>(for comparison)</b>	<b>Kosovar (Mediterranean type)</b> (Source: Hysen Bytyqi)
<b>Est. Population</b>	0.2% of global population (FAO) Italy: 265 000 (Mediterranean Italian breed); Romania: 100 000; a few thousand in Greece, Albania and TFYR Macedonia; a few hundred in the United Kingdom, Germany, The Netherlands, Switzerland and Hungary.		(1994) 500,000 Bulgaria; 200,000 Romania; 200,000 Italy; 200 Hungary (compared to 7070 in 1928) – Half current pop. In Transdanubia, rest in Great Plain	2000: 110 F: 67 M: 7 2010: 321 F. 197 M: 38 Young: 86 13 male lines	Total population: 1.000 Female: 600 Male: 30		Year 1953: > 29.000; Year 1965: > 33.000; Year 1966: 39.000; Year 1971: 45.000; Year 1973: > 45.000; Year 2000: 4091; Year 2002: 2500; Year 2005: 622; Year 2006: 273; Year 2007: 207; Year 2010: 175.  Year 2010: No. of farms = 33 Total 175; Young heifers=37; Calves 0- 6 months age M=6, F=8; Calves 7-12 months of age M=12, F=7; Milking buffalos = 72 Breeding males 22
<b>Body</b>	compact conformation with a deep and wide chest as well as a developed pectoral. The back is short. The rump is short	Breast is wide and deep; short back, sometimes dipped; well-developed front; croup is wide but short, hanging at sides and back	Stubby, stout, bony, clumsy. Strong, resistant. Withers high, back & loin broad. Breast is broad and deep with fat cushions. Barrel shallow.		Domestic buffalo in Serbia are similar to Asian wild buffalo. They have massive build, deep, barrel shaped body. Front part of body is more	Sound built, heavy and wedge shaped.	Strong, resistant, well developed

		<i>Breast is narrow; croup runs to a point; belly is large</i>	<i>Body length longer than height at withers</i>		developed than the rear, with sloping pelvis.		
<b>Head</b>		Large and stocky	Elongated forehead. Narrow, long, protruding forehead, elongated face		Long narrow head	Comparatively small.	Comparatively lean
<b>Face</b>						Comparatively long.	Comparatively long
<b>Neck</b>		Strong, stocky, wide (yoke)	Strong nape, long neck, yoke wide. Wrinkles on side of neck, muscular. No fat cushion at nape and no dewlap.		Strong, long neck.	Comparatively long	Comparatively long
<b>Body colour</b>		Black; black-brown; anthracite;  <i>white (rare)</i>	Black, brown-black or grey-black skin.		Black, balck-brown.	Jet-black.	Black, or grey-black skin.
<b>White markings</b>		On tail				on face and leg extremities may be there, but are not generally preferred.	Rarely
<b>Eyes</b>		Dark	Dark (dark-blue - Dunka)		Dark.	Should not be walled i.e. the cornea should not have whiteness	Black
<b>Ears</b>		Large and hairy	Set below horns, large, long hair.		Large. Long hair.		Large and hairy
<b>Tail</b>		<i>Fixed at low point</i>			Tail is low set.	Long reaching up to fetlock joint with black or white switch up to (maximum) 8.0 inches	Fixed at low point
<b>Horns</b>	flat at the bottom, backwards and slightly outwards pointed, and backwards straightened; the top is pointed inwards	Long, sickle-form towards the back and then upwards and inwards	Start at side, curve backwards and downwards and then upwards – sickle-like. Cross-section at base is triangular, square or oval. Surface cross-grooved. Grey-black.	Arched back and side inward bend	Horns are turned down to the side of the head sweeping back and upwards.	Different from other breeds of buffaloes; short, tight, turning backward and upward and finally spirally curving inward. The horns should be somewhat flattened. As the age advances the horns get loosened slightly but spiral curves increases.	Arched back and side inward bend

<b>Limbs</b>		Short and strong, muscular	Short and well muscled, pastern short			Comparatively short but strong built.	Comparatively short but strong built.
<b>Hooves</b>		Hard	Firm, grey-balck				
<b>Skin/Hair</b>	Black, black and brown, dark grey coat.	Thick skinned, hairy: more hair at rear-end	Calf densely hairy, adults lose hair, croup bald. Skin is tough and thick. Hair is black (calf) then red-brown (young adult). Hair thick long and dark grey (Dunka) Hind quarters practically hairless. White star on head, light legs and tail tassels (not always). Albionid/Albino rare	Black or black-grey, white spots rare.	Black, balck-brown.	Soft, smooth with scanty hairs as compared to other buffaloes	Black or black-grey, white spots rare.
<b>Udder</b>	medium size with squarely placed quarters and halves; the teats are cylindrical. Where machine milking is popular (only in Italy) udders are more regular and better shaped	Medium sized <i>Small; disappears after milking; round and with clear 1/4s during gestation; strongly fixed front, skin folds at rear</i>			Udder poorly developed.	Fully developed, drooping	Medium sized
<b>Teats</b>		Small and short <i>Thin</i>			Small.	Equally distributed over the udder but hind teats are longer than fore teats	Well developed and equally distributed over the udder
<b>Body weight</b>	The body weight of the adult female is 450-650 kg. Average slaughter weight is 250-400 kg, at the age of 12-15 month	M - 500-600kg <i>M – 510-890kg F - 410-600kg</i>	F: 400-800kg (normal 500-550kg) M: 600-700kg		M: 650 kg (avg.) F: 500 kg (avg.)	The average body weight of males, 550 Kg and the females, 450-Kg	The average body weight of males, 650 Kg and the females, 550-Kg
<b>Height (withers)</b>		<i>F – 121-143cm</i>	F: 135cm M. 140-150cm <i>F- 120-138cm</i>		M: 135 cm (avg.) F: 125 cm ( avg.)	male: 1.42 meter; female: 1.32 meter	Males:1.40 m Females:1.34 m
<b>Age at first calving</b>		After 3 years	4 years (earlier affects adult size)		After 3 years	3 years but we have also the buffaloes, which calved at 3 years with good milk production	About 38 months

<b>Inter-calving period</b>						400 to 500 days	About 500 days
<b>Lactation period</b>					261-305 days	300 days. (with minimum of ~230 days recorded under top quality Murrah	About 240 days
<b>Lactation in peak period</b>	Average daily milk yield reveals a huge variability, mainly depending on the feeding system. It can range from 3 to 4 kg milk/day for poorly fed animals to 15 kg/day in intensive management systems. In Bulgaria, Romania, TFYR Macedonia, Greece and Albania, extensive management systems are employed	Ca. 10l/Tag	1000-2000l/year (Transylvanian 950-1450l/year)	850-980kg/year	628-736 kg	14 to 15 litres but up to 31.5 Kg milk production had also been recorded. The elite Murrah buffalo produces above 18-litter milk per day. A peak milk yield of 31.5 kg in a day has been recorded from a champion Murrah.	Milk yield: 800-1000 kg/lactation.
<b>Dry period</b>						About three months.	About four months
<b>Gestation period</b>	Lactation duration 270 days	311-315 days	311-315 days		Gestation period 321 days,sexual cycle 21days,oestrus 2-3 days	310 days (average)	305 - 315
<b>Uses</b>	Milk (protein up to 4.5%; fat up to 8% - Delaval), meat, traction (advantage in wetlands but slow moving)				Milk (fat 6,7 %) Meat Draught power		Milk (Protein average 4.8%; Fat average 8.0%)
<b>Other characteristic/information</b>	Size, weight and productivity according to environment and management. Average herd size is below five	Tame, cold resistant	Timid, irritable, sensitive to cold. Only want to be milked by one person, pref. in same clothes, time must always		Milk is user for butter as the main product for human consumption to replace pork lard or		Timid, irritable, sensitive to cold and unknown persons. Preferable want to be milked by one person,

	<p>breedable buffaloes in most countries, except in Italy where it is 90. The proportion of breedable females to total buffaloes is about 45 percent except in Italy where it is 62 percent, since males have little market</p> <p>Potential Husbandry: most common system is traditional, consisting of keeping buffaloes indoors at night and confined in fenced areas during the day. no common practice to wean buffalo calves. When milking is done by hand, both male and female calves suckle from the dam. In some cases they suckle from a dairy cow. This results in a wide difference in daily gain up to weaning, as well as weaning weight and age. Males are now in greater demand as meat producers, therefore increased attention is being paid to their feeding and health.</p>		<p>be the same. Good fertility. Can live up to 30 years.</p>		<p>vegetable oil. Very good adaptability, sensitive to very high and very low temperatures. Management system is highly extensive. In summer, younger animals and non-lactating cows are on free range pasture in highlands.</p>		<p>pref. in same clothes, time must always be the same. Good fertility but strange oestrous expression, often walks several kilometres to find male for breeding. Can live up to 20 years. Difficult to be milked, lower yield and shorten lactation without the calf (especially first part of lactation). Calves suckle up to 6 months direct from the Dam.</p>
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