

Breeds of Dairy Cattle and Buffaloes

B. Ashok Kumar

Lecturer in Zoology

KRK Govt. Degree College

Addanki-523201

9652929696,9441635264

BREED- DEFINITION

- A breed is a group of animals having similar characters like general appearance, size, features and configuration etc.
- A group of individual which have certain common characteristics that distinguish them from other groups of individuals is known as “Species”.

Tharparkar



Sindhi



Sahiwal



Haryana



Ongole



Kankrej



Gir



Baragur



Gaolao



TYPES BREEDS

Cattle breeds are classified into TWO types

- INDIGENOUS BREEDS and
- EXOTIC BREEDS
 - The breeds which are originated and domesticated in the native environment is known as indigenous breeds
 - The breeds which are originated in other countries and imported for dairying are known as Exotic breeds.

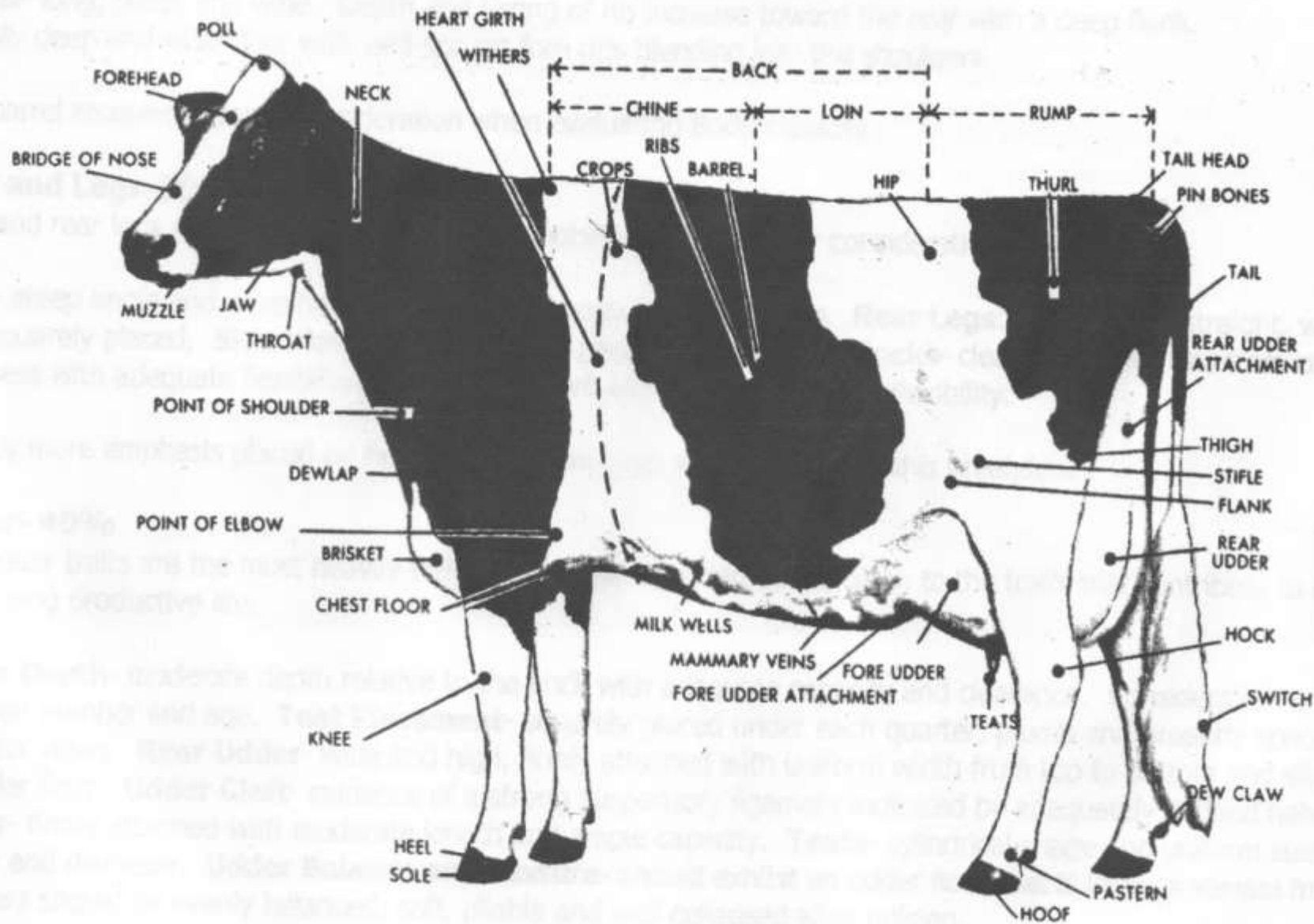
Classification of Indian Cattle Breeds

- Indian cattle breeds of cattle classified in to three types
- (a) Milch Breeds / Milk breeds
- (b) Dual Purpose breeds
- (c) Draught breeds

Milch Breeds /Milk Breeds

- The cows of these breeds are high milk yielding and the male animals are slow or poor work animals. The examples :
 - Shahiwal,
 - Red Sindhi,
 - Gir and
 - Deoni

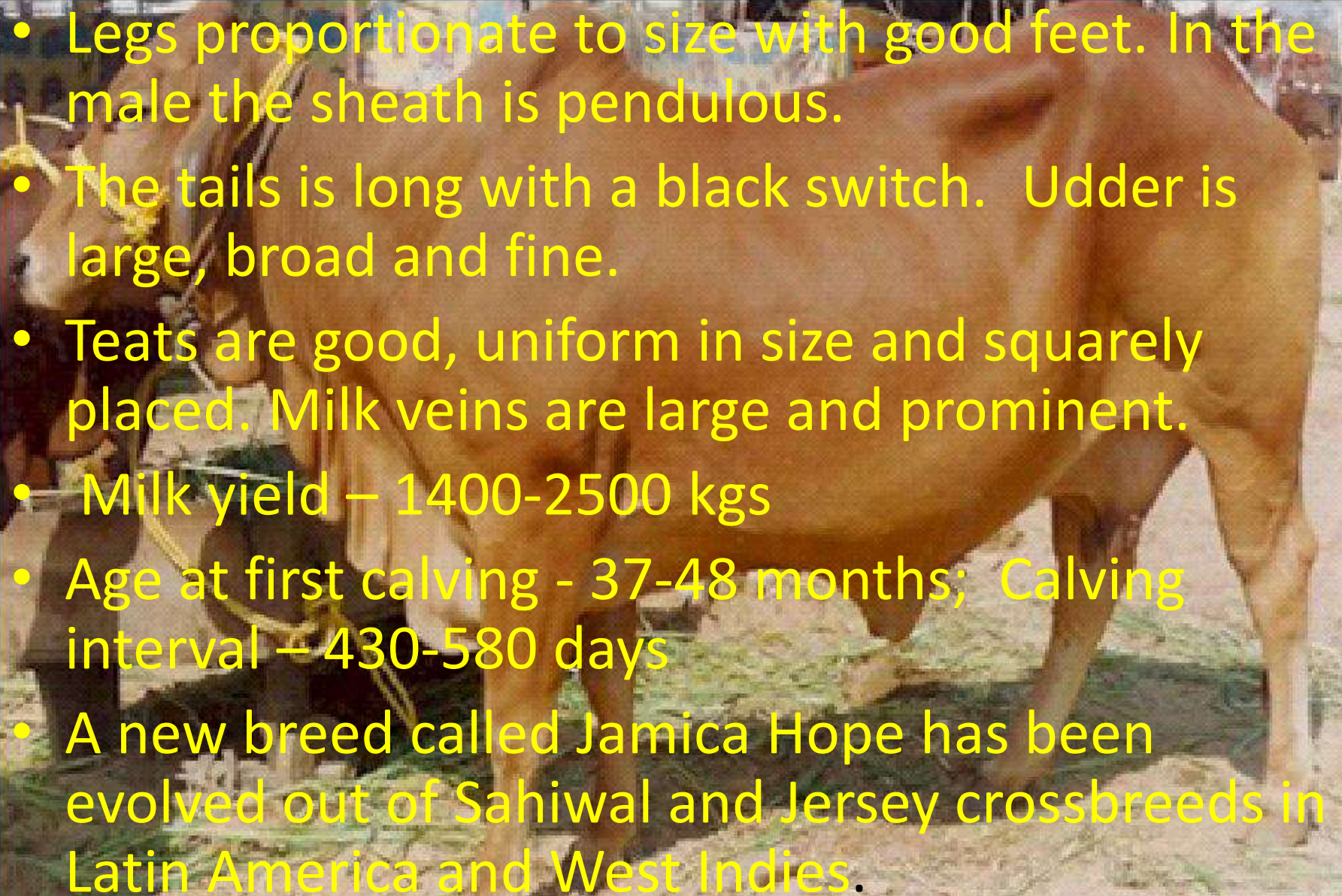
The milk production of milk breeds is on the averagemore than 1600 kg. per lactation.



- Diagram courtesy of the Holstein Association USA, Inc.

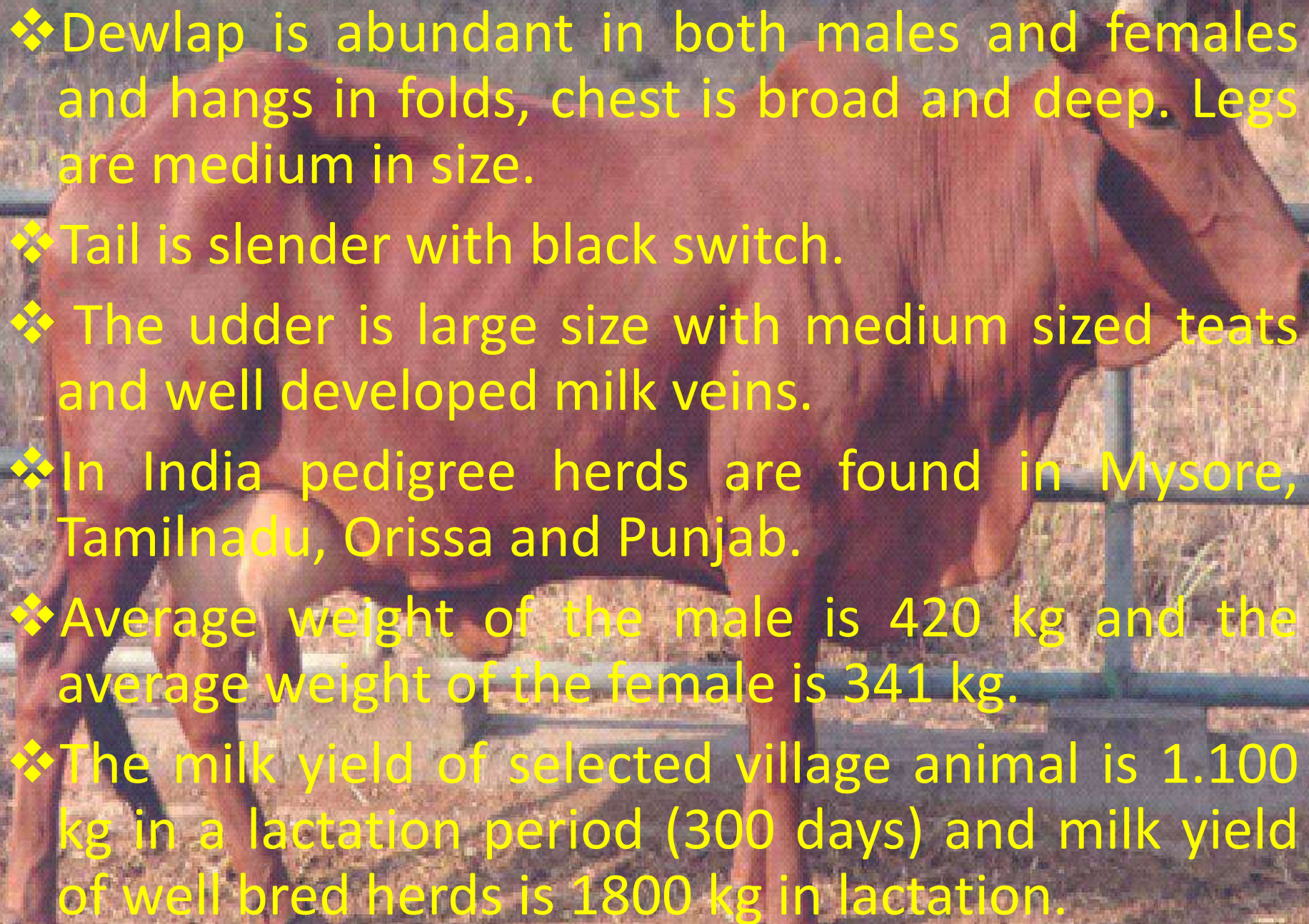
Sahiwal (Montgomery)



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- Legs proportionate to size with good feet. In the male the sheath is pendulous.
 - The tail is long with a black switch. Udder is large, broad and fine.
 - Teats are good, uniform in size and squarely placed. Milk veins are large and prominent.
 - Milk yield – 1400-2500 kgs
 - Age at first calving - 37-48 months; Calving interval – 430-580 days
 - A new breed called Jamaica Hope has been evolved out of Sahiwal and Jersey crossbreeds in Latin America and West Indies.

Red Sindhi

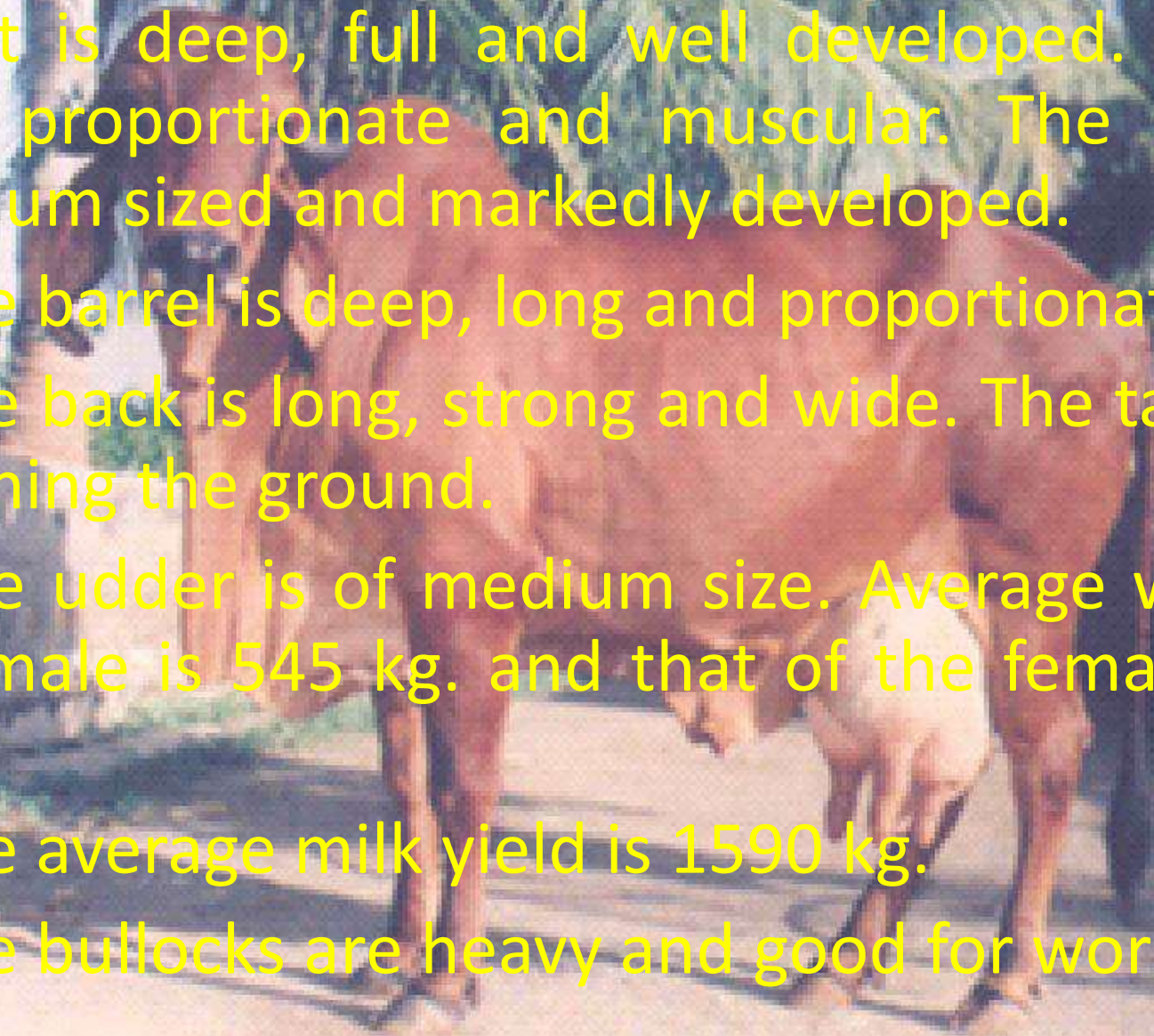


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- ❖ Dewlap is abundant in both males and females and hangs in folds, chest is broad and deep. Legs are medium in size.
 - ❖ Tail is slender with black switch.
 - ❖ The udder is large size with medium sized teats and well developed milk veins.
 - ❖ In India pedigree herds are found in Mysore, Tamilnadu, Orissa and Punjab.
 - ❖ Average weight of the male is 420 kg and the average weight of the female is 341 kg.
 - ❖ The milk yield of selected village animal is 1.100 kg in a lactation period (300 days) and milk yield of well bred herds is 1800 kg in lactation.

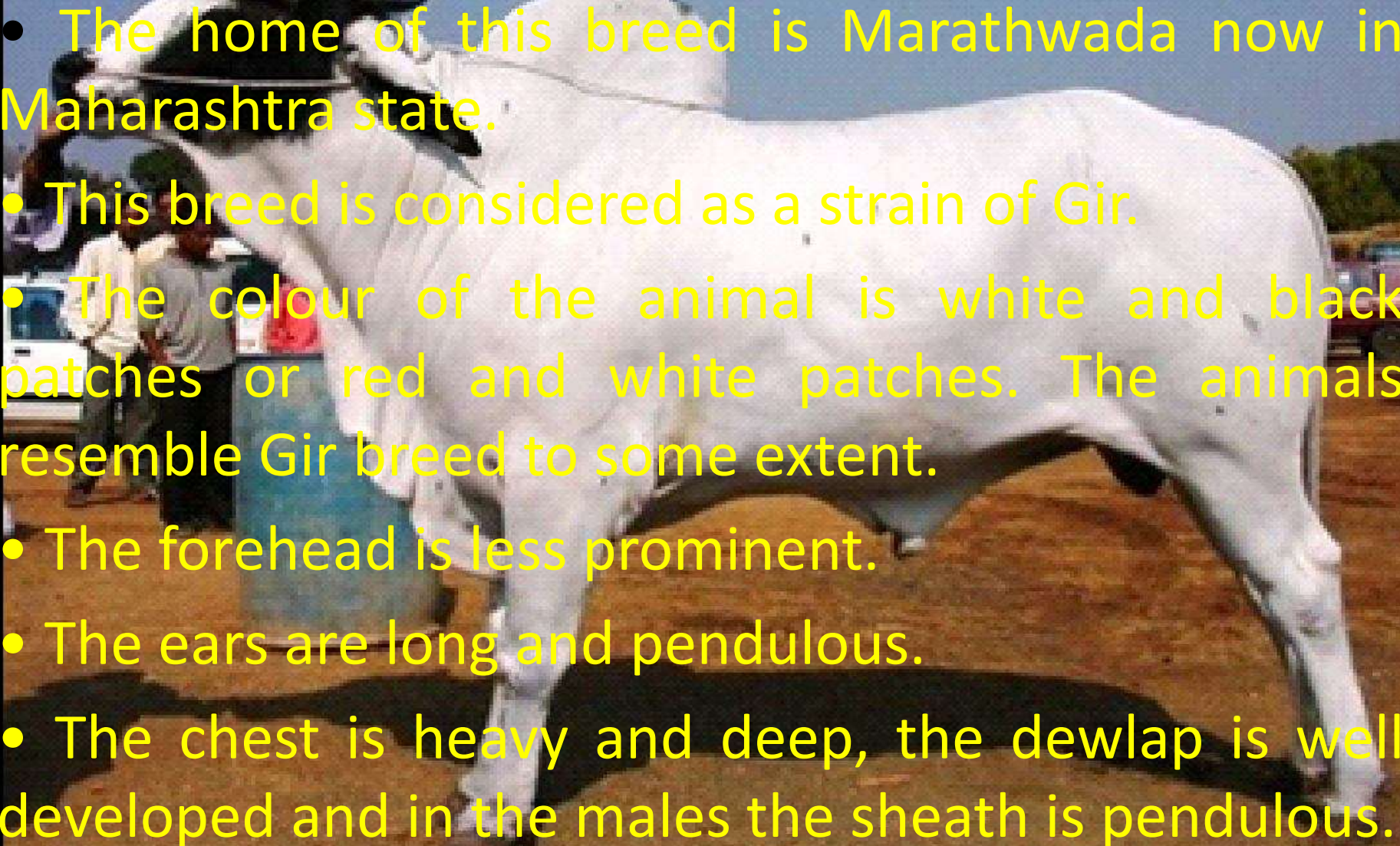
Gir



- Dewlap is thin and hanging, not pendulous. Chest is deep, full and well developed. Legs are well proportionate and muscular. The hump is medium sized and markedly developed.
- The barrel is deep, long and proportionate.
- The back is long, strong and wide. The tail is long touching the ground.
- The udder is of medium size. Average weight of the male is 545 kg. and that of the female is 386 kg.
- The average milk yield is 1590 kg.
- The bullocks are heavy and good for work.



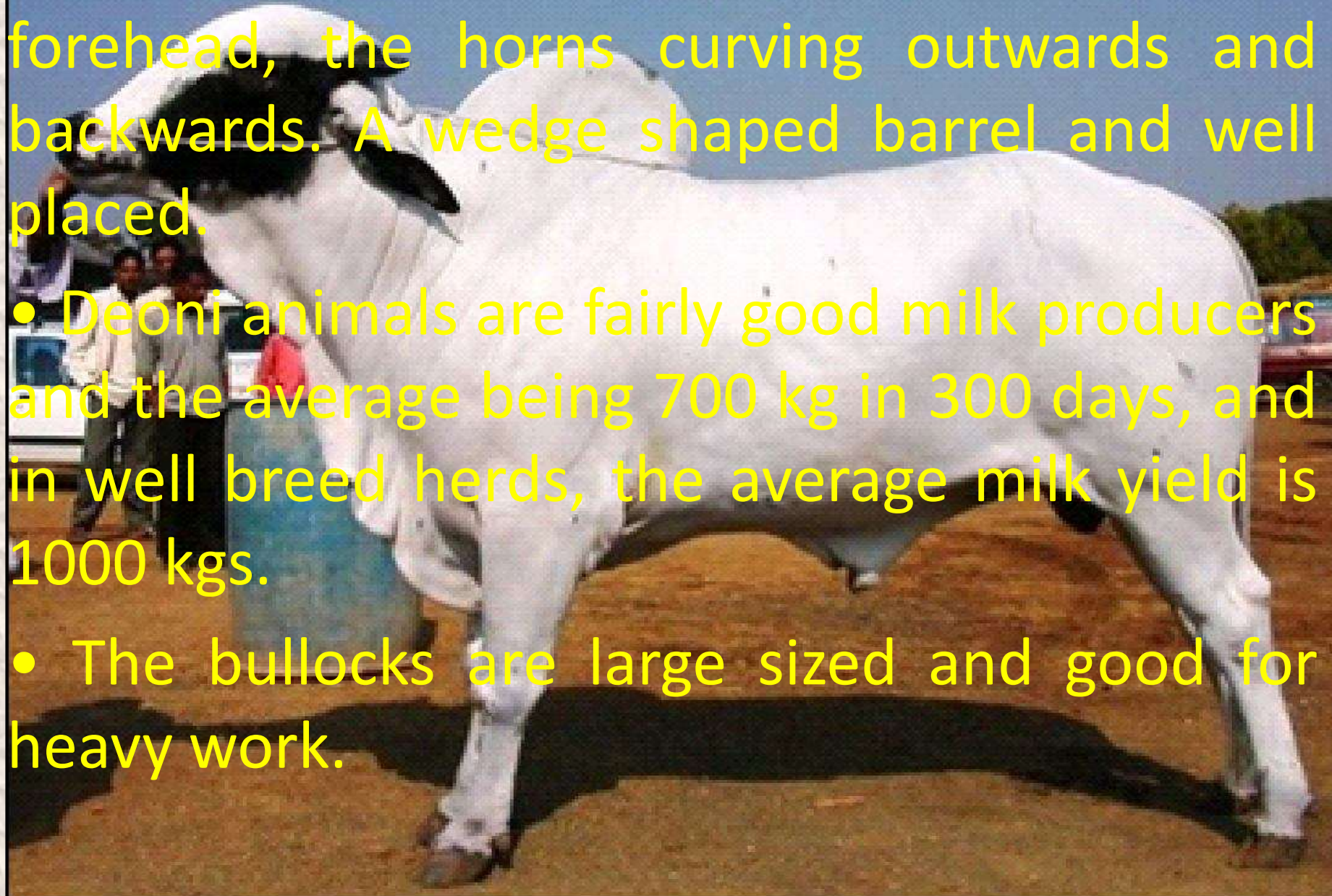
Deoni

- The home of this breed is Marathwada now in Maharashtra state.
 - This breed is considered as a strain of Gir.
 - The colour of the animal is white and black patches or red and white patches. The animals resemble Gir breed to some extent.
 - The forehead is less prominent.
 - The ears are long and pendulous.
 - The chest is heavy and deep, the dewlap is well developed and in the males the sheath is pendulous.
- 
- A photograph of a white Deoni cow with black patches on its face and neck, standing in a field. The cow is the central focus, facing left. In the background, there are several people and a blue structure, possibly a water pump or a small building. The sky is clear and blue.

- The head is medium sized, prominent forehead, the horns curving outwards and backwards. A wedge shaped barrel and well placed.

- Deoni animals are fairly good milk producers and the average being 700 kg in 300 days, and in well breed herds, the average milk yield is 1000 kgs.

- The bullocks are large sized and good for heavy work.



Dual Purpose Breeds

- The cows in these breeds are average milk yielders and male animals are good work animals.
- Their milk production per lactation is 500 kg to 1500 kg.
- The example of this group are
 - Tharparker,
 - Ongole,
 - Hariana,
 - Kankrej,
 - Mewathi etc...

Tharparkar

- Originated from Sind of Pakistan. Herds are found in Jodhpur, Jaisalmer of Rajasthan.
- Average animals of the Tharparkar breed are deep, strongly built, medium-sized, with straight limbs and good feet, and with an alert and springy carriage.
- The usual color of the cattle is white or gray.
- In males, the gray color may deepen, particularly on the fore and hind quarters.
- All along the backbone there is a light gray stripe. The color of the cattle deepens during the winter months and also when the cows are pregnant.
- The head is of medium size, the forehead broad and flat or slightly convex above eyes, the front of the horns and face are practically on one plane.
- Horns are set well apart curving gradually upwards and outwards in the same line as that of the poll with blunt points inclined inwards.
- A small portion of the skin with hairs extends over the base of the horns.



- The dewlap is of medium size and the skin is fine and mellow.
- The sheath in the males is of moderate length, and is semi-pendulous.
- The navel flap in the females is prominent.
- Shoulders are light and legs are comparatively short, but in good proportion to the body.
- The colour of the skin is black, except on the udder, under the belly, on the lower part of the dewlap and inside the ears where it is rich yellow.
- Tharparkar cows average 138 cm in height and an average weight of 408 kg.
- When left on arid pasture the milk production is approximately 1135 kg per lactation, while those animals maintained in the villages average 1980kg.

Ongole

- The home of this breed is Ongole tract comprising of Ongole, Guntur, Sathenapalli, Vinukonda and Kandukur taluqs and Nellore districts of Andhra Pradesh.
- The cows are good for milk production and the males are good for work.
- The colour of the animal is white.
- The animals are usually docile and bullocks are very powerful and good for heavy plough and cart work in India.
- The forehead is broad and prominent between eyes; Black Kazal marking around the eyes is common.
- Face is moderately long, with wide nostril and black nuzzle



provided by Dr.A.Madhusudhna Rao



- Ears are moderately long
- The horns are short and stumpy. Loose horns are common in this breed.
- Hump is well developed and erect, dewlap is well developed and folds extending to navel flap.
- Chest is deep and barrel is deep and long.
- The tail is long with black switch reaching below the hocks.
- The udder is broad, extends well forwards and high up with moderate even sized quarters and teats are average size.
- The bullocks are very powerful and good for heavy work.
- Ongole is one of the heaviest breeds in India. The weight of the male is on the average of 545 kg to 682 kg. and that of the female is 432 to 455 kg.
- The average milk yield is 1600 kg in lactation.

Haryana

- The home of this breed is Haryana state of India and distributed in Punjab, Rajasthan and Uttarpradesh.
- The colour of the breed is white or light grey.
- The head is light and the face is long and narrow, flat forehead.
- This eyes are large and bright expressive but not prominent in mature bulls.
- The horns are short and fine or moderately long, and they are generally 4 to 9 inches long and thinner in females than in males.
- Dewlap is small without flashy folds and large in males.
- The chest well developed. Hump is large in males and medium sized in females.
- Legs are moderately long and lean and feet are small, hard and well shaped.



- In the males the sheath is short and tight and in the females the navel flap is not prominent.
- Tail is short, thin, reaching below the hock and tapering with black switch.
- Udder' is capacious with milk veins.
- Teats are medium sized and proportionate.
- The average weight of males is 371 to 490 kgs and that of the females is 265 kg.
- The average milk yield of cows is 909 to 1364 kg.
- The bullocks are good for ploughing and road transport.

Kankrej

- The home of this breed is Gujarat and distributed in Ahmedabad, Bombay and kutch.
- The colour of the female is silver gray, iron or black.
- The males are darker than the females.
- It is one of the heaviest breed in India.
- The forehead is broad slightly dished in the centre.
- The horns are thick, strong and curved and slightly symmetrical.
- The base of the horns are covered with skin to a higher point than in other breeds.



- The body is powerful, with broad chest.
- Straight back, well developed hump, pendulous sheath in males and the tail is of moderate length with black switch extending below the hock.
- The gait of the animal is peculiar and impressive with long and- even strides known as 1 1/4 paces.
- Dewlap is thin and pendulous and hump is large and prominent.
- In cow the udder is well shaped and slightly developed and carried more forward than behind.
- The average weight of the male is 455 to 682 kg and of the female is 409 to 455 kg.
- The average milk yield is 1333 kg. in a lactation.
- The male are active, strong and good both for plough and cart

Draught Breeds

- The male animals are good for work and cows are poor milk yielders.
- Their milk yield on an average is less than 500 kg per lactation.
- They are usually white/grey in colour.
- A pair of bullocks can pull 1000 kg. net weight with an iron tyre cart on a good road at walking speed of 5 to 7 km per hour and cover a distance of 30 to 40 km per day.
- Twice as much weight can be pulled on pneumatic rubber tube carts.

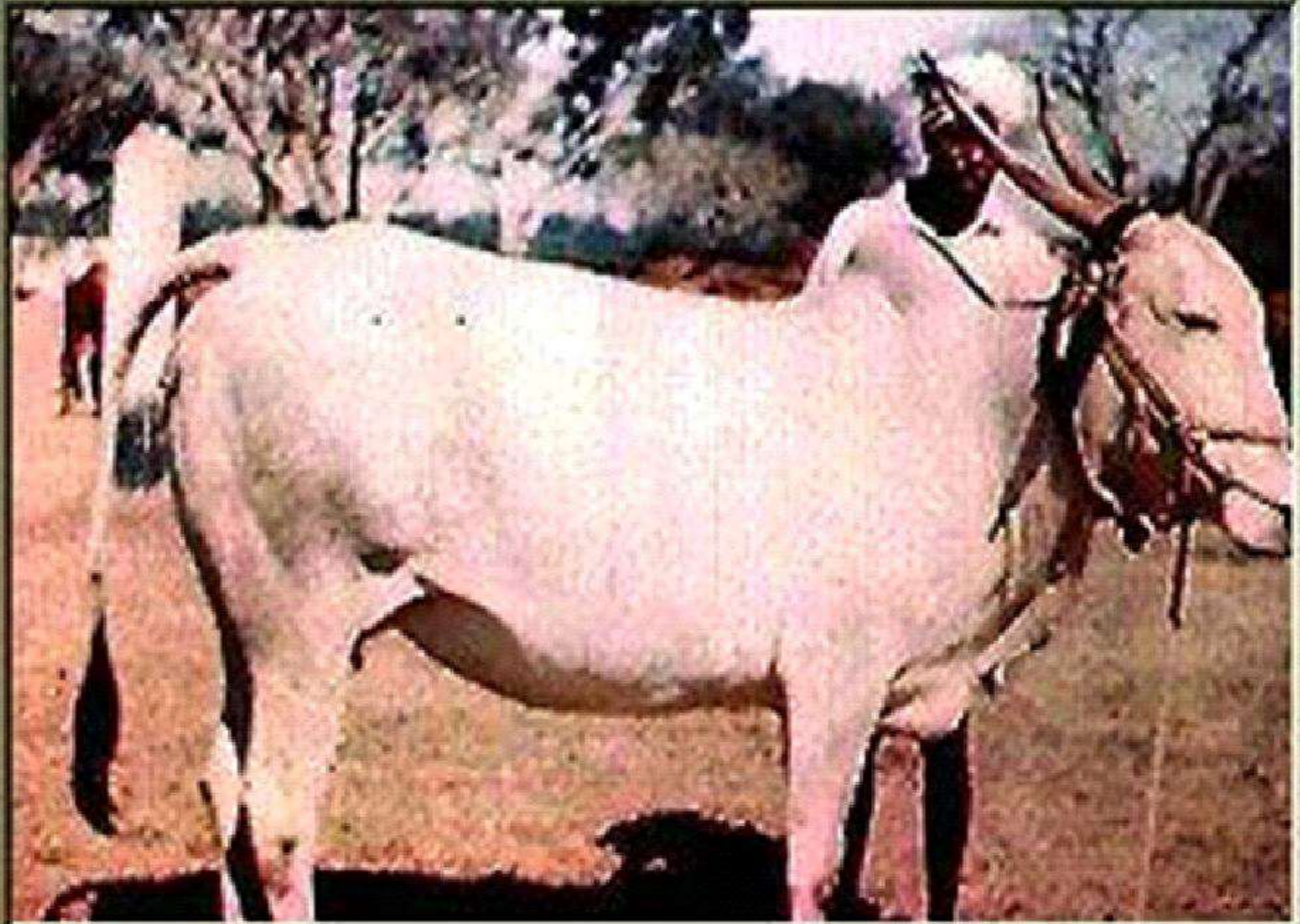
Malvi

- The breed is found in Malwa tract in Madhya Pradesh and Rajasthan.
- The bullocks are known for their draft qualities and the cows are poor milkers.
- The colour of the animals is white to light grey, with black markings on neck, shoulders, hump and quarters. The colour changes with age.
- The head is small and the face dished.
- The body is deep, short and compact with short legs and the tail touching the fetlocks.
- Ears are short and alert.
- The sheath in the male and navel flap in the female are short.
- The horns are massively built, black, upright and pointed at tips.
- Cows are poor milkers but bullocks are good work animals



Hallikar

- The home tract of this breed is Mysore, and Tumkur districts of Karnataka State, but the breed is widely distributed in South India.
- The colour of the animal is dark or light grey with white patches round the face and dewlap.
- The bullocks are good for work and the cows are poor milkers and the bullocks are suitable for both for road and field work.
- The head is long with bulging forehead furrowed in the middle.
- Horns are close together and sprung perpendicularly from the head, carried backward with a graceful sweep on each side of the neck and curving upwards and terminate in sharp point.
- The body is long and compact with long and slender legs.
- The novel flap is tucked up and tail is thin.



Amritmahal

- The home of this breed is Karnataka state.
- The colour of the animal is White and Grey.
- This is the best breed in India for drought purpose.
- The bullocks are suited for quick transport and the cows poor milkers.
- The animals are active and fine in temperament.
- The barrel is long and well rounded and the novel flap is tacked up.
- The head is well shaped, narrow, and the forehead is deeply furrowed.
- The eyes are bright.
- The legs are well proportioned and medium in length.
- The hooves are hard, black with narrow clefts.
- The tail is fine and moderate in length.
- The udder is small, compact with small hard teats.



Kangayam

- The home tract of this breed is kangayam division of Coimbatore district in Tamilnadu.
- The colour of the animals is white and grey, but the cows are having white with black markings in front of fetlocks or on knees.
- The bulls are good for hard work and the cows are poor milkers.
- This is a medium sized draft breed.
- The bullocks are strong, active and suited for heavy work and road transport.
- The head is short with a broad forehead.

- Horns curving outwards, backwards and complete a circle at the point.
- The legs are short. The sheath in the male is small and moderately long.



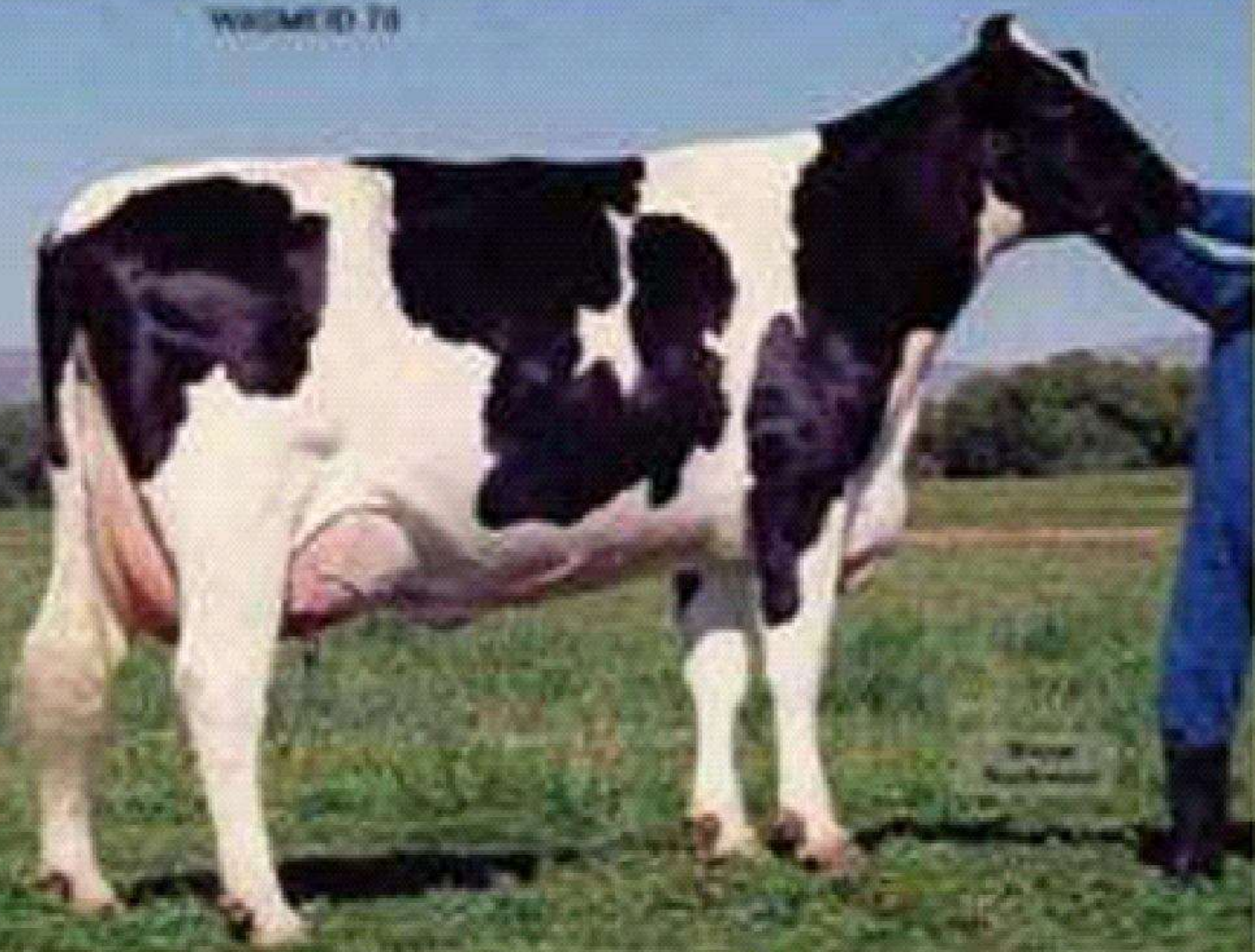
Exotic Dairy Breeds

- The European breeds of dairy cattle belong to the species of *Bos Taurus*.
- They are humpless, generally large, spread with a fine coat, short ears, without a pendulous dewlap.
- They are less heat tolerant and less disease resistant when compared to Indian cattle, but are superior in milk production.
- Hence, exotic breeds of cattle have been used in India on a fairly extensive scale with a view to improve the milk yielding capacity of the indigenous cows.
- The important European breeds of dairy cattle are Holstein Friesian, Brown Swiss, Jersey Guernsey and Ayrshire.

Holstein Friesian

- This is the world's highest milk yielding breed through the fat percentage of milk is very low.
- The home of this breed is Holland
- Animals of this breed are the largest among the European breeds.
- This breed of animals is imported by many countries in the world.
- The colour of the animal is black and white markings and the switch is always white.
- The animals are the largest with large barrel and udders

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- The head is long and narrow. The cows are docile.
- The heifers are bred at 18 to 21 months of age.
- The calves are stronger, weighing on the average about 40 kg at birth.
- Some pure bred animals may be solid black.
- The ideal body weight of a cow is 682 kg and that of bull is 1000 kg.
- The cows are heavy milkers and the average lactation yield is 4295 kg, with milk fat of 3.4 per cent.
- Individual animals touched 19,995 kg of milk in a lactation period of 365 days.
- The milk of these animals are used for cheese making as the fat percentage is low.
- This breed is also good for beef production, because of its

Brown Swiss

- These cattle were developed in mountains area of Switzerland.
- Colour varies from light brown to almost black.
- The muzzle is of light colour and along the back bone a light coloured stripe is present.
- This breed is oldest of dairy breeds.
- It is the second-heaviest to the Holstein Friesian breed.
- White or off colour spots, above the underside of the belly or white colour in the switch are not desired by the pure bred breeders.
- Brown Swiss animals are large in body size and produce calves with good birth weight.

- • The heifers mature and reach peak production at a later age than other dairy breeds.
- • Brown Swiss animals originally grazing on mountain slopes in their tract made them excellent grazer.
- • The breed was developed for cheese production and so emphasis was given for high milk production, with low fat content and the milk fat is 4 %.



Jersey

- The home of this breed is Jersey Island in the Channel Islands.
- This breed is popular and widely distributed all over the world.
- Jersey is the smallest of the European dairy breeds and the earlier maturing among them.
- The heifers are bred at an age 14 to 18 months.
- The colour of the animals is brown with variation of brown to black and vary from white spotted to solid in marking.
- The switch of the tail is white or black.
- The animal is small in size, with a good capacity for milk production.
- The milk fat is high i.e. 5.3% and milk solids are 15 %.

- Compared to other European milch breeds, Jersey milk has the highest milk fat and SNF per cent.
- Jersey milk is yellow in colour due to high carotene and is good for butter making.
- Since Jersey animals are relatively small in size, and as the body fat is yellow in colour they are not good for beef and veal production.
- Jersey animals are extensively used for cross breeding programme in India.
- The average milk yield of the cow is 2727 kg in lactation.
- Individual yielded 13,296 kg in 365 days.



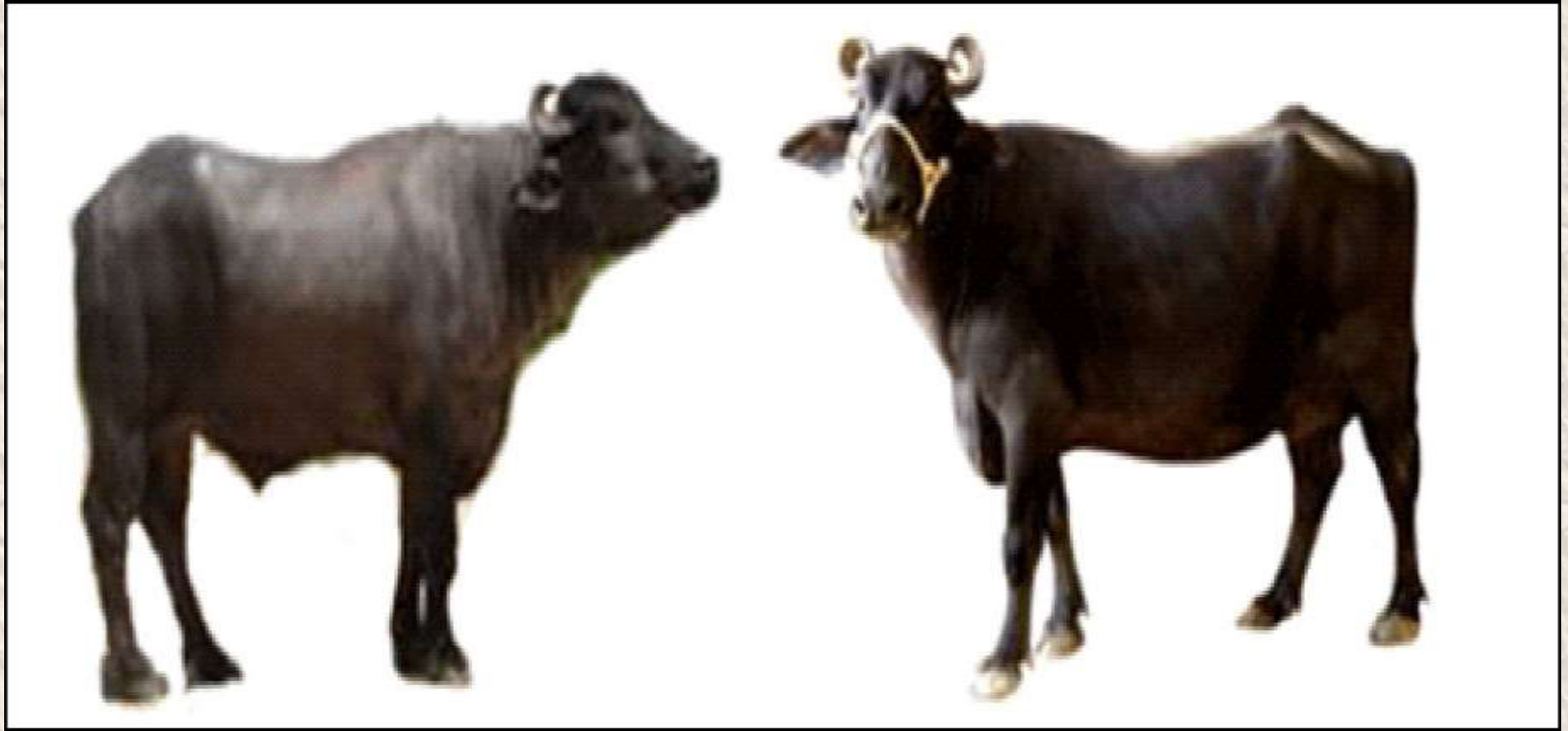
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Indian Buffalo Breeds

- The Indian buffalo is known as Water buffalo.
- There are 14 buffalo breeds present in India.
- But the most important breeds are Murrah, Jaffrabadi, Nili,-Ravi, Mehsana.

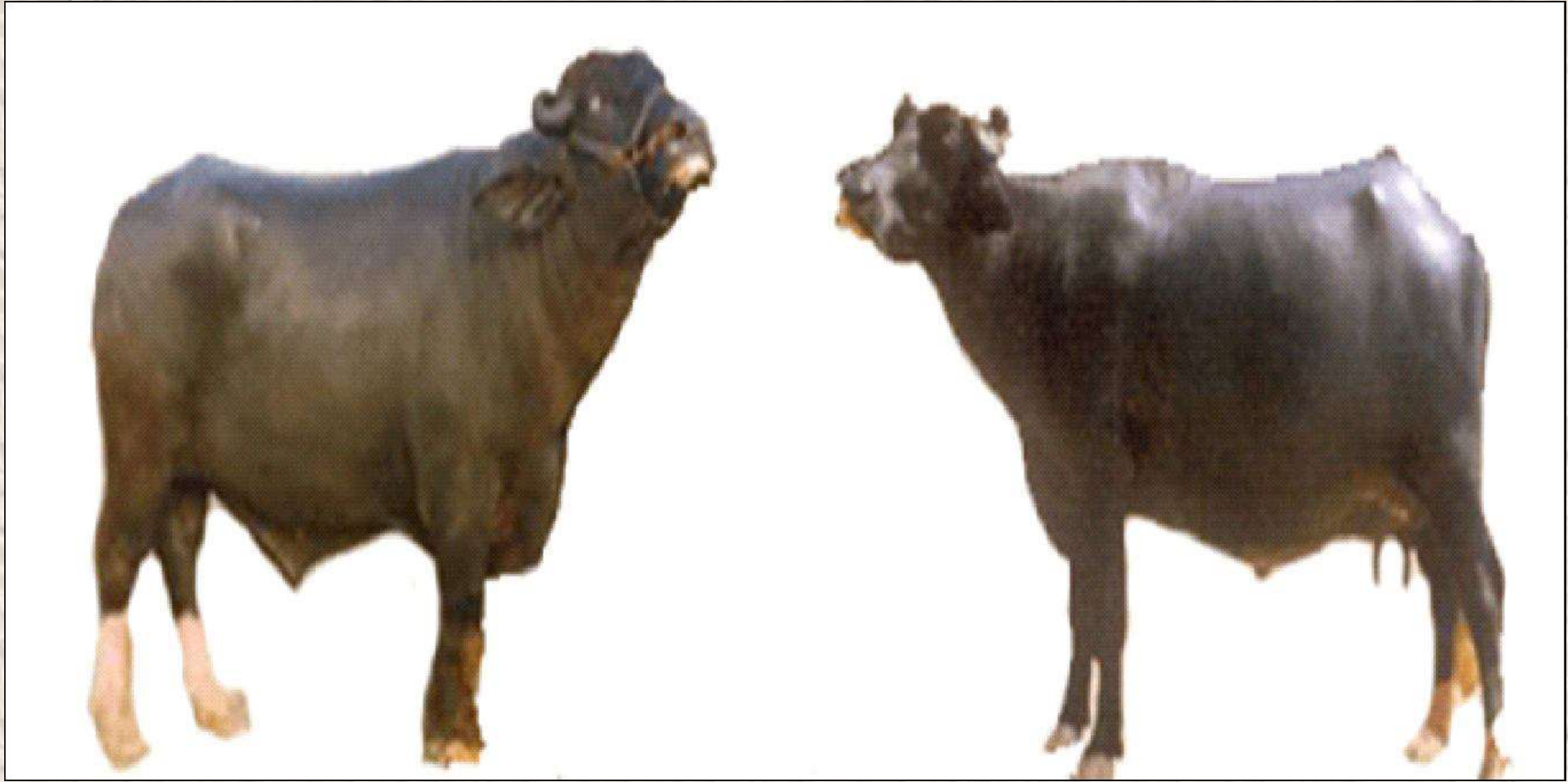
Murrah

- The home tract of this breed is Rhotak, Hissar and Jind districts of Hariyana State, Punjab and Delhi. This breed is distributed throughout India.
- The animals are noted for good milk yield and fat per cent.
- The colour of the animal is jet black with white switch of the tail which is long and reaching the fetlock. The skin is soft and smooth.
- The she buffalo had a deep massive frame with a comparatively light neck and head.
- The horns are short and tightly curled. The forehead is broad and slightly prominent in males.
- Face is fine without white markings and eyes prominent and bright in females.
- The udder is well developed with prominent milk veins and good sized teats.
- • Average weight of the buffalo is from 490 kg to 500 kg and that of a buffalo bull is 545 kg to 682 kg.
- • The average milk yield is 1364 kg to 1820 kg for a lactation period of 300 days. The milk fat per cent is about 7-9



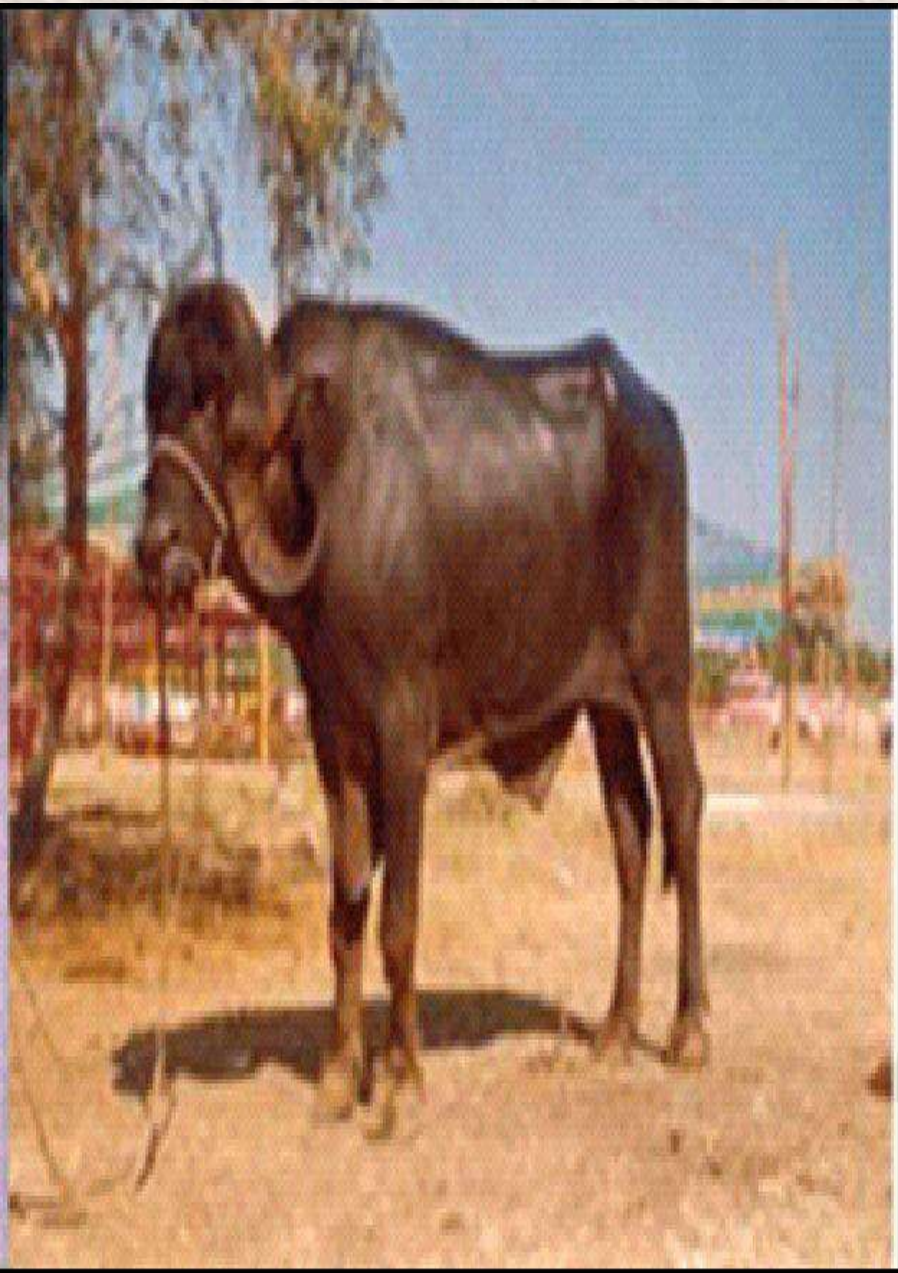
Nili Ravi

- The animals of this breed are found in the tract of Montgomery district of Pakistan and Ferozpur District of Punjab state.
- The name Nili-Ravi comes from the supposedly blue waters of Ravi and Sutlej rivers.
- Animals of this breed are distributed all over India and Pakistan.
- The colour of the animals is black with white markings on the forehead, face muzzle and legs.
- Wall eyes and white switch of the tail are the important physical features of this breed.
- The animal is large sized like Murrah and the udder is well developed.
- The average milk yield of the she buffaloes is 1600 kg in a lactation period of 250 days.
- The buffaloes are heavy miikers and the male animals are used for heavy road works.



Jaffra Badi

- The native tract of this breed is Gir forest of Kathiawar.
- They are very massive animals with large body size requiring large quantities of fodder.
- The colour of the animals is black, with white patches on face and legs.
- The forehead is prominent, with heavy horns which are inclined to swoop on each side of the neck, and then turn up at the points but not in such a tight curl as in Murrah buffaloes.
- Head and neck are more massive and the body is longer but not so compact, dewlap and udder are well developed and the body frame is loose.
- Their body is wedge shaped and the udder is large and well developed for this breed.
- On an average the females weigh 464 to 555 kg and the male weigh 545 to 750 kgs. Average milk yield of she buffalo is 1820 kg to 2275 kg per lactation.
- The bulls are good for heavy road work.



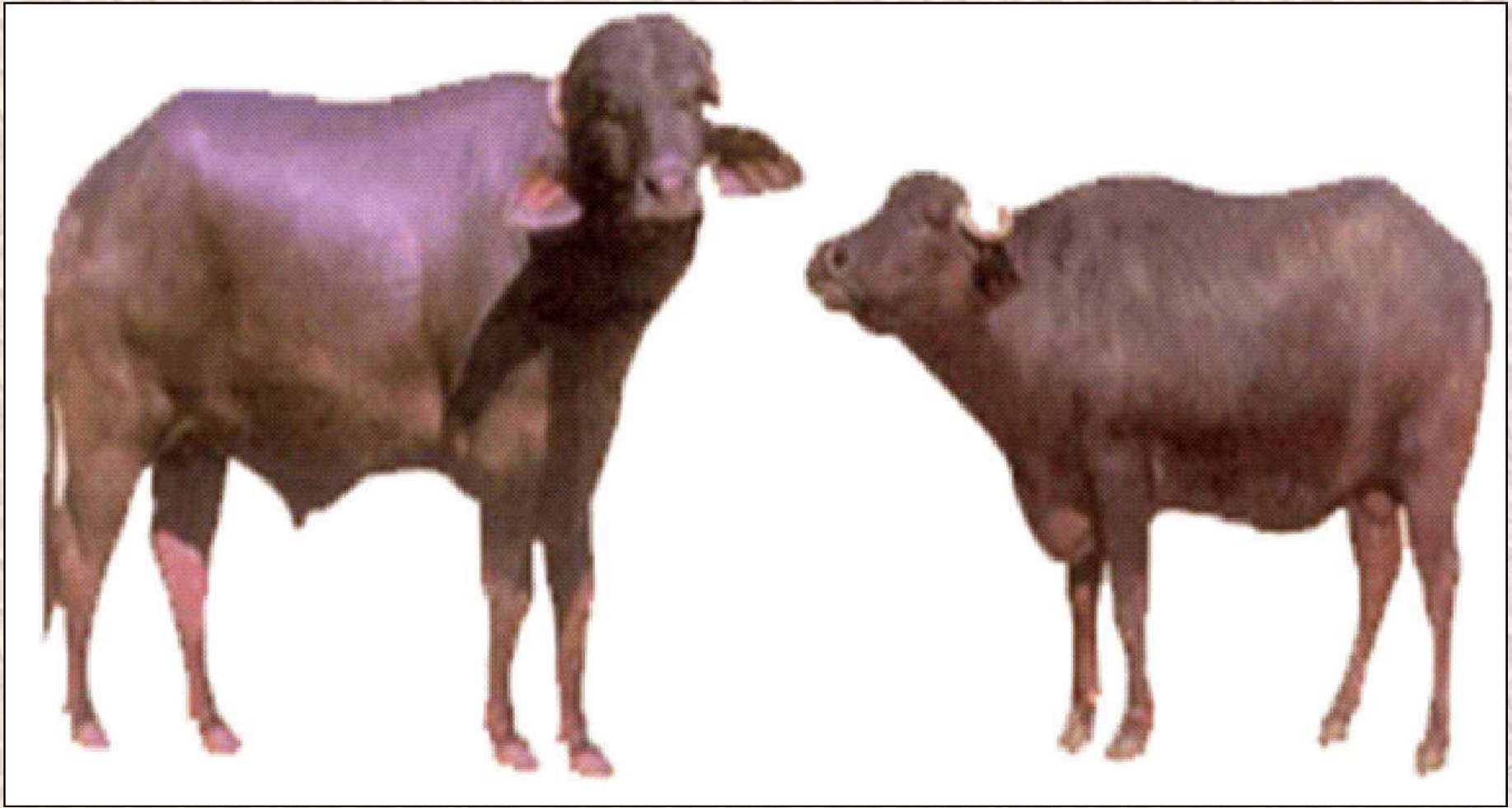
Surti

- • The home of this breed comprises of Kaira and Baroda districts of Gujarat State.
- • The average fat percentage of milk is about 7.5%.
- • Because of their medium size, Surti buffaloes are economical producers.
- • The eyes are round and bulging. Horns are of medium length and sickle shaped, taking of a downwards and backward direction and then turning upwards at the tip forming a hook.
- • The colour of the animals is black or brown with two white collars –one around the jowl and another around the brisket.
- • The body colour is black or brown and the hair is scanty and coloured silvery to brown.
- • The breed is smaller than Murrah.
- • The udder and teats are moderate in size.
- • Average milk yield of well breed animals is about 2200 kg to 2500 kg and under village conditions the average milk yield of animals is 1004kg.
- • Females weight 365 kg to 455 kg and male weight about 545 kgs.



Mehsana

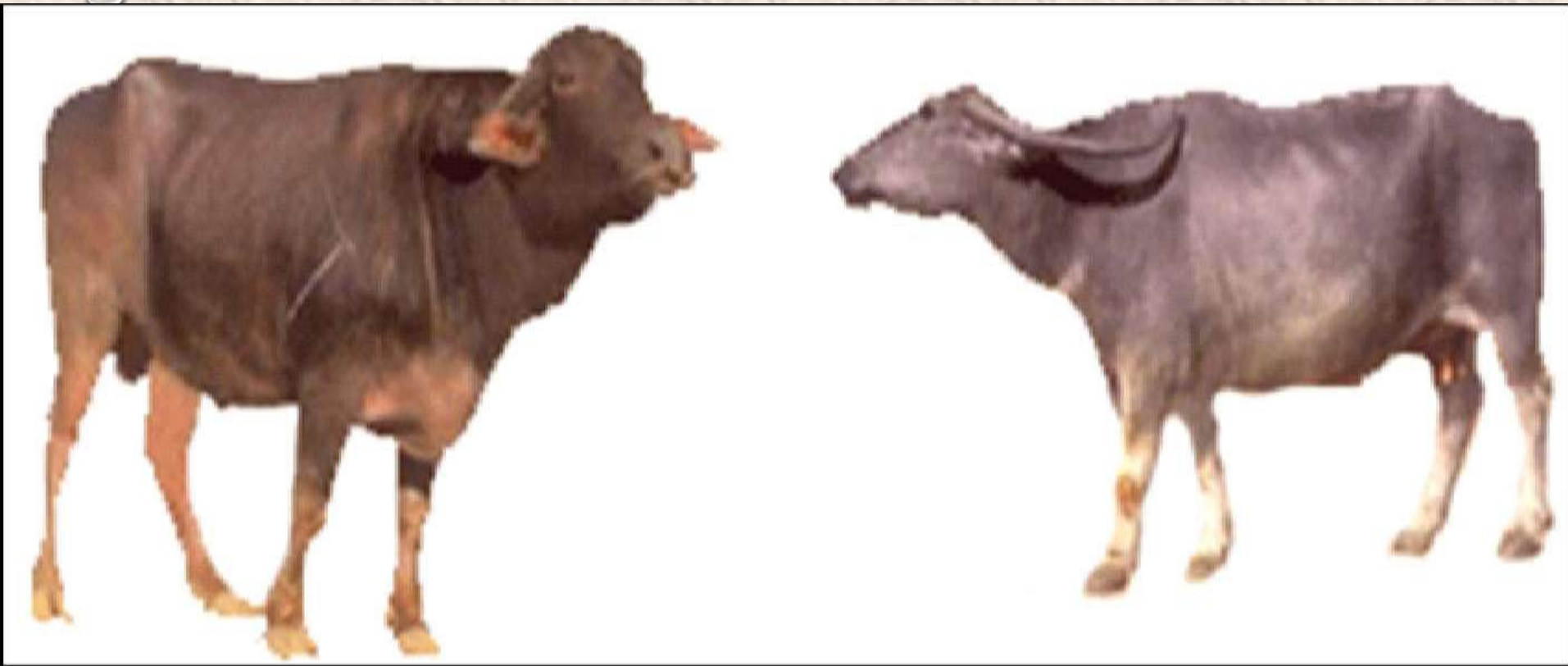
- • The native tract for this breed is Mehsana and Banaskantha Districts of Gujarat state and also found in Baroda and Rajasthan.
- • The colour of the animal is black with some white markings on the face, leg and tip of the tail.
- • The horns are curled at the tip but not so tightly curled as in Murrah.
- • The animal is of medium size, with long face, long wedge shaped body.
- • The udder is well developed, well shaped with well placed teats.
- • The she buffaloes are good milk producers with longer lactation lengths, and shorter dry periods.



- The breed is considered to have resulted from interbreeding of Surti and Murrah breeds and the animals in this breed have characteristics of both the breeds.
- The breed resembles Murrah having bulging eyes.
- Horns vary from sickle type of Surti to curled type of Murrah.
- The tail is long with black switch.
- The milk has high fat percentage.
- A white coloured hair is present round the neck and reaches the Shoulder.
- The animals are valued for early maturity and persistence in milk production and regularly in breeding.
- Average weight of the female is about 455 kg and that of male is about 545 kg to 682 kg.
- The average milk yield of the she buffaloes is about 1820 kg in lactation.

Nagpuri

- This breed is of lighter type and comes from Central India.
- The head is long with a broad forehead, and the horns-are long, curved back on each side of neck behind the shoulders.
- Barrel is long and deep with light limbs.
- The bull is comparatively short.
- The males are largely used for draught purpose and the females are fair milkers and the daily average milk yield is 5 to 8 kg.



Thanking you guys